

# MEXICO CITY

A CITY OF CONTRASTS

**PSSD** PRODUCT-SERVICE  
SYSTEM DESIGN



**POLITECNICO**  
MILANO 1863

**A.Y. 2018-2019**

**INNOVATION STUDIO**

**HEALTH & WEALTH**

**ASSIGNMENT 1**

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# 007

## **One Group | Seven Designers | Five Countries**

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## WHY WE CHOSE MEXICO CITY

The fact that one of us is Mexican isn't the sole reason why we chose to work on Mexico City. The research we conducted at first gave us too many motives to proceed and further study this particular city. Knowing that our main target is adults leading sedentary lives in cities with their children, Mexico is the ideal choice for those specific users. On one hand, the Mexican government recognises 11 different typologies of families. On the other hand, most Mexican families struggle to maintain a healthy lifestyle due to socio economic difficulties where health and wealth are not generally considered as a priority. The problem starts with a lack of awareness and it should be approached in a way to target the mentality behind it. Mexico City also has a gap in social classes which is represented in its educational system. Families with a low-income cannot access high levels of education which affects in a way or another their perception to health and the role it plays in their lives and the lives of their loved ones. As one of the most populated cities that also suffer from air pollution and accessibility to affordable healthy food, Mexico City offers us today an opportunity to innovate in hopes of making a positive impact on the lifestyles of its families and its next generations.

# 0. 1. 2.

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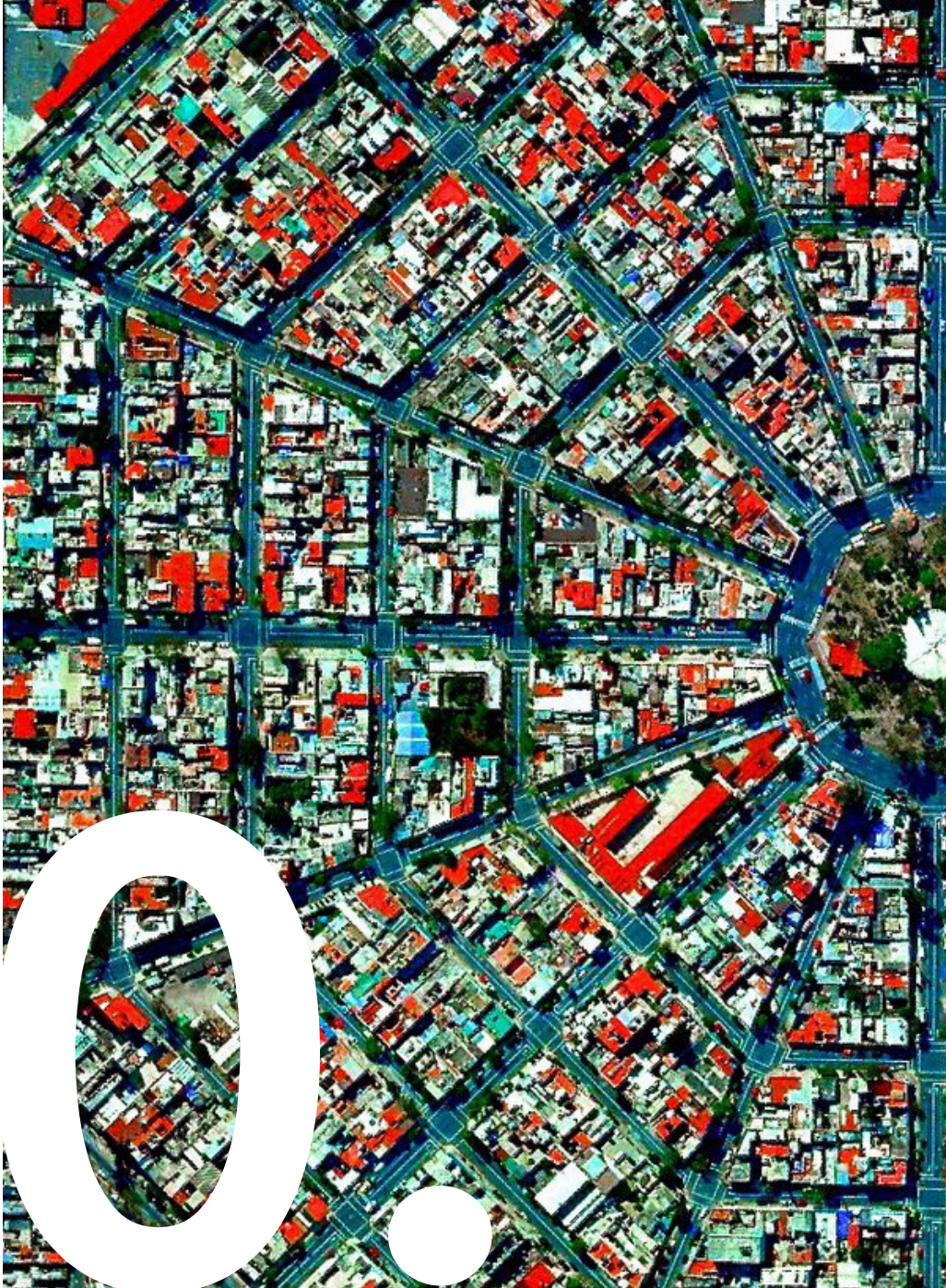
INTERPRETATION

# 8.

BIBLIOGRAPHY

*The aim of this booklet isn't to present data for the sake of data. It is a collection of research and statistics that allowed us to better understand the users we'll be designing for as well as comprehend the way they live their lives and what their core values are. Starting from a general overview of the current situation in Mexico City, we proceeded with a more in-depth study about healthcare, education, households, etc. in order to better understand the conditions in which we will design and the main difficulties we will face. We also learned about what is already available in the healthcare market and how Mexicans are reacting to that. We also conducted interviews with the locals of Mexico City in order to investigate what parenting means to them and what they understand by "healthy lifestyle". The complexity of the topic in question promises a challenging yet stimulating design journey.*









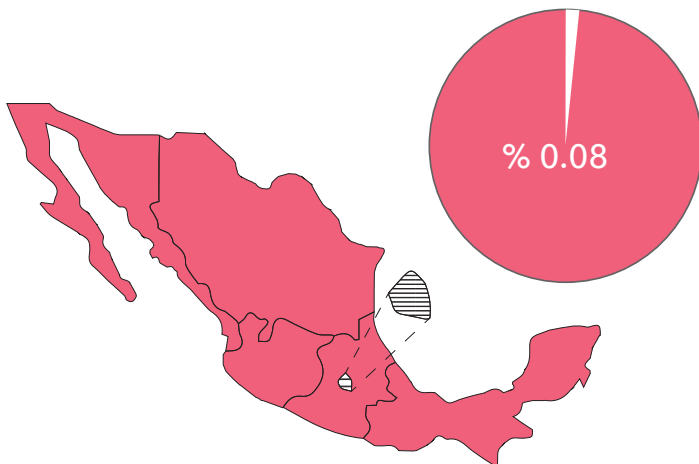
## MEXICO'S OVERVIEW

Mexico City is the capital of the Mexican Republic and the **most populated** city in the country.

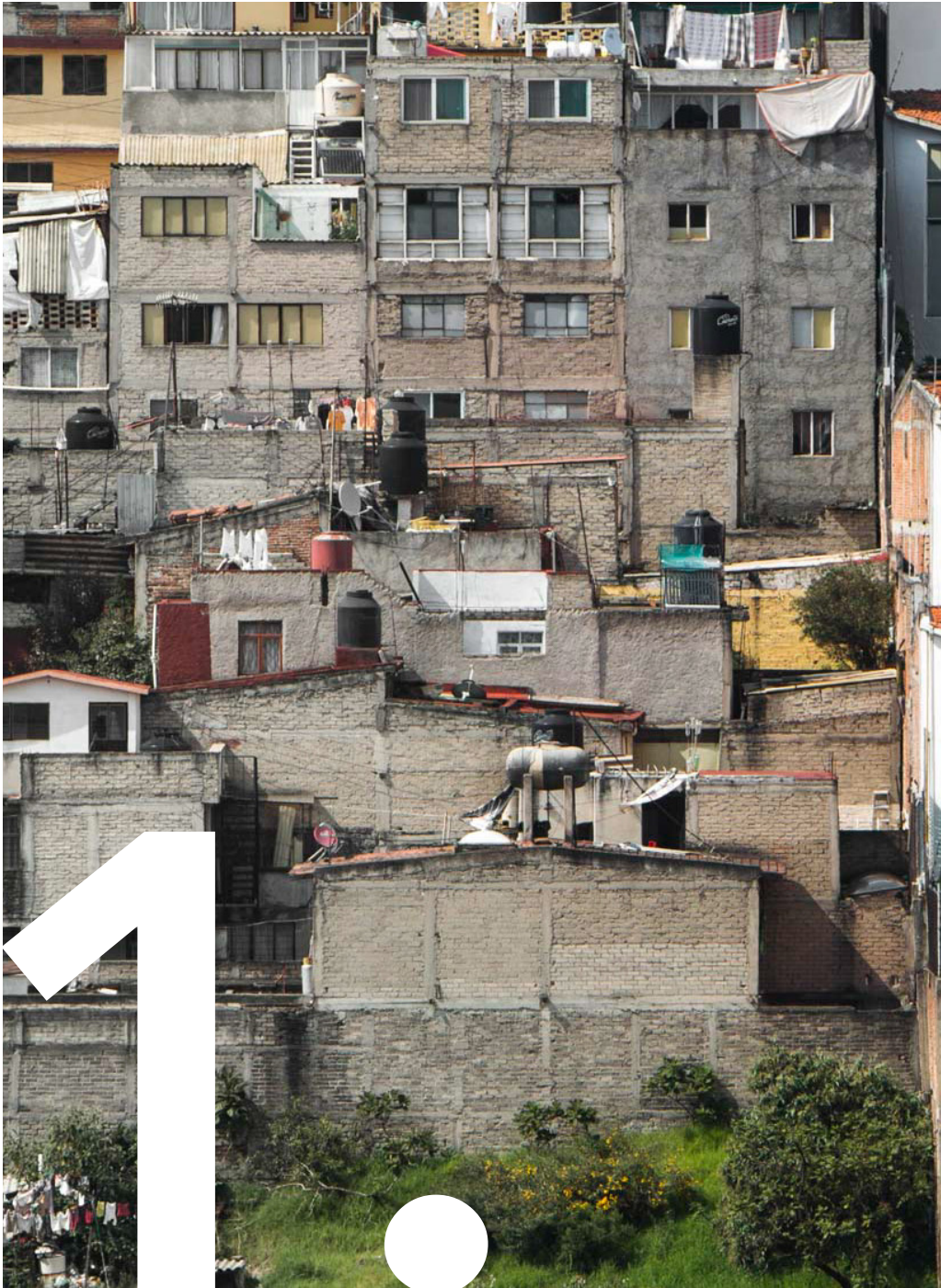
Mexico City represents **0.08%** of Mexico's territory.

With 1485 km<sup>2</sup>, Mexico City is consolidated as one of the most important financial and cultural centers of the American continent and the world by receiving distinguished recognitions such as “# 1 Travel Destination to travel in 2016”, by the New York Times, and “World Capital of Design 2018” by the International ICSID (International Council of Societies of Industrial Design).

The surface Mexico City represents of the country











## 1.1 GEOGRAPHY

Mexico City lies in an upland basin 2240 meters above sea level surrounded by a ring of mountains and active volcanoes.

Once confined to an area of almost 1569 km<sup>2</sup> , referred to as the Federal District of Mexico City (DF), it has since spilled over into the states of Mexico and Hidalgo, more than doubling its size in the process. As such, it's officially known as the Metropolitan Zone of the Valley of Mexico (ZMVM).

A megalopolis of well **21,3 million people**, the city spreads over 1485 km<sup>2</sup> .

Surrounded by mountains and volcanoes that soar to 488m, Mexico City sits on what used to be Lake Texcoco. Since the beginning of the 20th century Mexico City has sunk as much as 9 meters in some areas.

The Valley of Mexico also has no natural drainage outlet for the waters that flow from the surrounding mountains, making the city vulnerable to floods.

The Mexico City metropolitan area is the ninth largest in the world and has the world's largest Spanish- speakers population. It includes 16 municipalities and 18 additional municipalities in the Valley of Mexico.

Nezo-Chalco-Itza is the world's largest slum, with about four million impoverished people living in it. The residents of this Mexican slum account for almost 10 percent of the population of Mexico City.

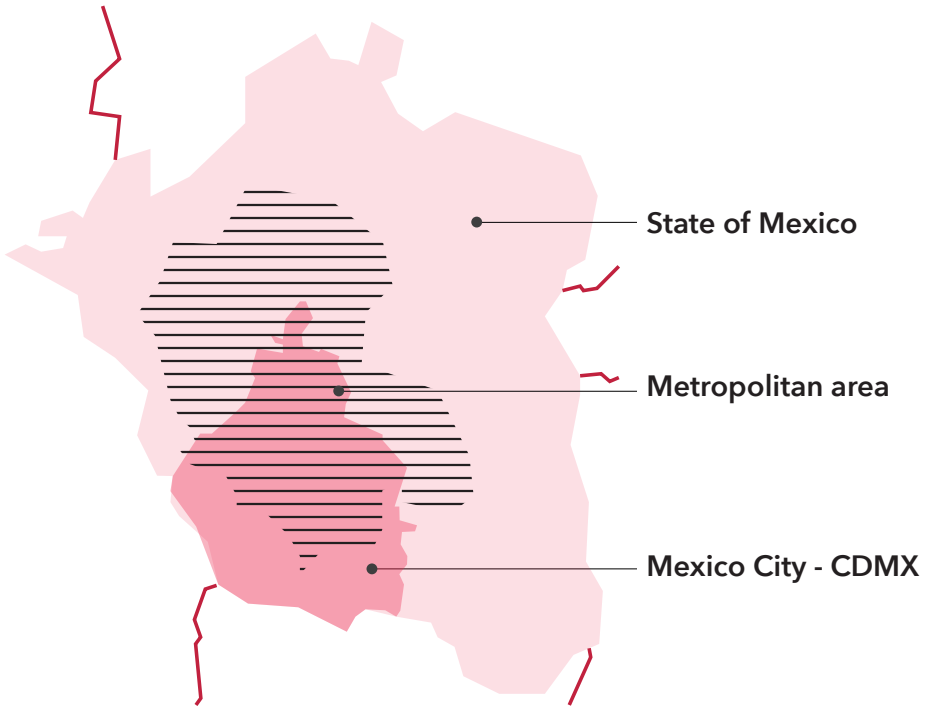
### ALTITUDE

Minimum: 2,240 meters above sea level

Maximum: 3 930 meters above sea level

Latitude: 19.27689 ° 36 ' - 19 ° 2' N

Length: -99.13941 ° 56 ' - 99 ° 22' W

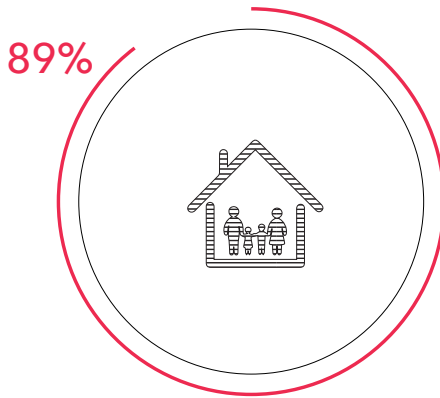


**Mexico City division in 16 municipalities**

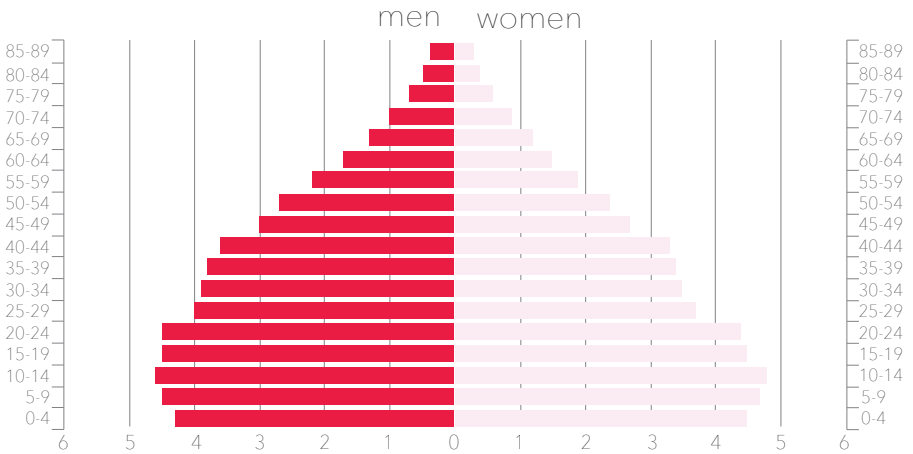


# 1.2 DEMOGRAPHY

## HOUSEHOLD WITH FAMILY





## POPULATION BY AGE AND SEX



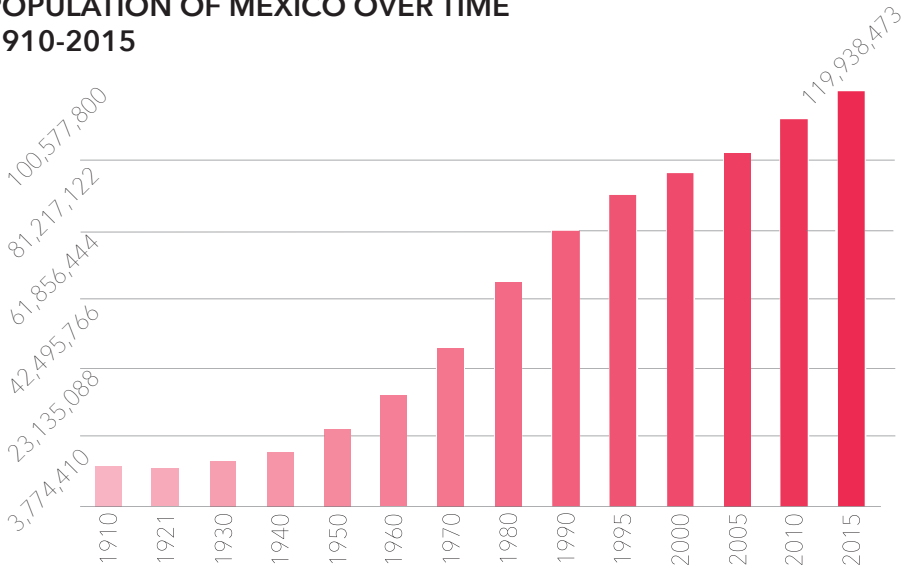
Instituto Nacional de Estadística y Geografía (INEGI), Cuéntame de México para niños, National population census, 2015.  
Instituto Nacional de Estadística y Geografía (INEGI), Cuéntame de México para niños, Censo de Población y Vivienda 2010.

## CHILDREN

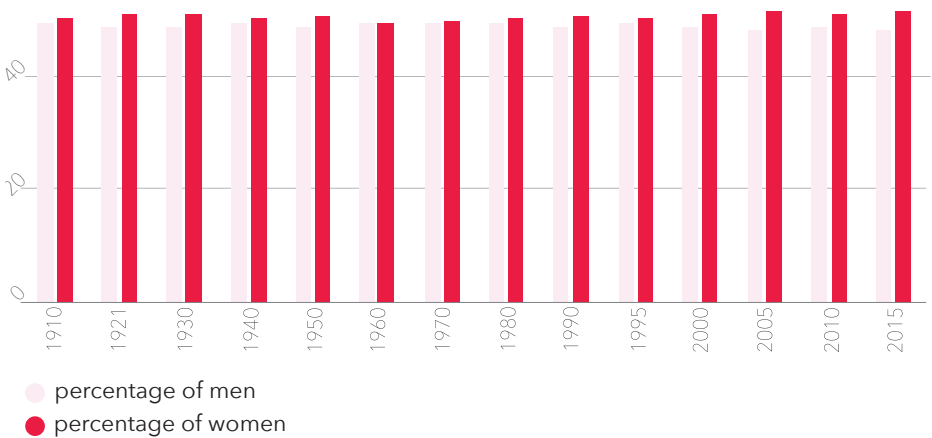
In Mexico City there are 1 937 538 children from 0 to 14 years old, representing 22% of the population of that entity.

Age			 (2016)
0	57 597	55 187	112 784
1	59 723	57 276	116 999
2	64 798	62 809	127 607
3	65 896	63 970	129 866
4	66 687	64 302	130 989
5	66 451	63 780	130 231
6	67 214	65 080	132 294
7	65 763	64 361	130 124
8	69 021	66 338	135 359
9	66 436	64 504	130 940
10	71 442	67 800	139 242
11	63 732	62 422	126 154
12	66 924	65 298	132 222
13	65 521	64 075	129 596
14	67 055	66 076	133 131

## POPULATION OF MEXICO OVER TIME 1910-2015



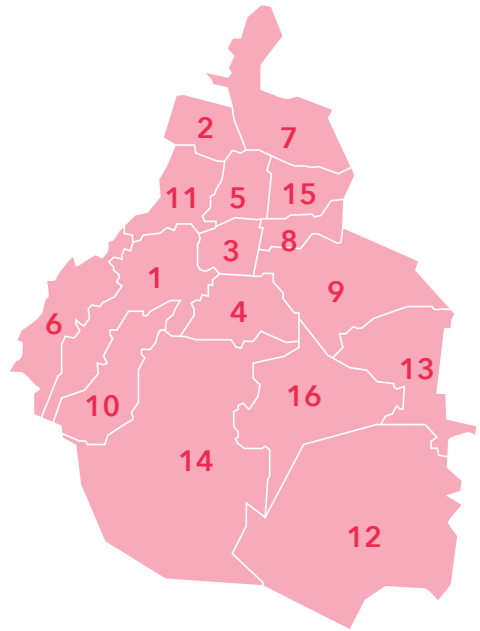
## TOTAL POPULATION FOR SEX OVER TIME 1910-2015



## 1.3 POLITICAL DIVISION

Delegations are the 16 territorial demarcations in which City of Mexico is divided. Each of them is headed by a delegational chief, who is elected by democratic vote.

1. Alvaro Obregon
2. Azcapotzalco
3. Benito Juarez
4. Coyoacán
5. Cuahutémoc
6. Cuajimalpa
7. Gustavo A. Madero
8. Iztacalco
9. Iztapalapa
10. Magdalena Contreras
11. Miguel Hidalgo
12. Milpa Alta
13. Tlahuac
14. Tlalpan
15. Venustiano Carranza
16. Xochimilco



## 1.4 POVERTY DISTRIBUTION

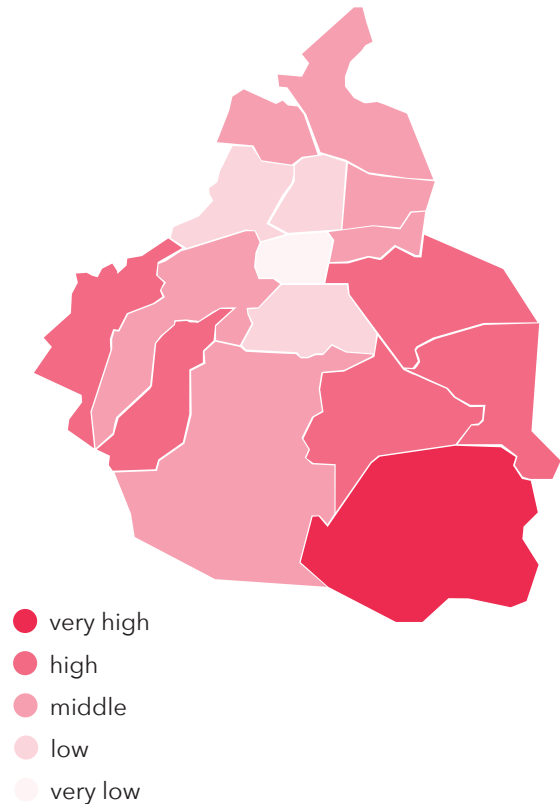
Despite Mexico City being home to rich neighborhoods, another reality exists in which almost half of the city's inhabitants are poor. An article published by the BBC in 2006 argues that 40 percent of the city's population lives below the line of poverty.

It is estimated that approximately 15,000 children live on the streets of Mexico City. To make some pesos here and there, children would dress like clowns and entertain traffic at stoplights.

BBC states that, "at least 40% of the economy in the city is informal: people who do not pay taxes, and who make a living based on selling small amounts of things, from children's books to luminous stars."

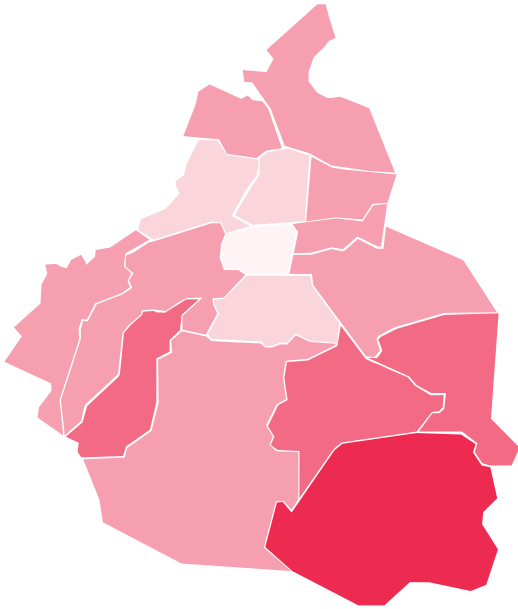
In the end, despite Mexico's progress throughout history, poverty is still one of the many social issues that the country struggles to defeat.

2000

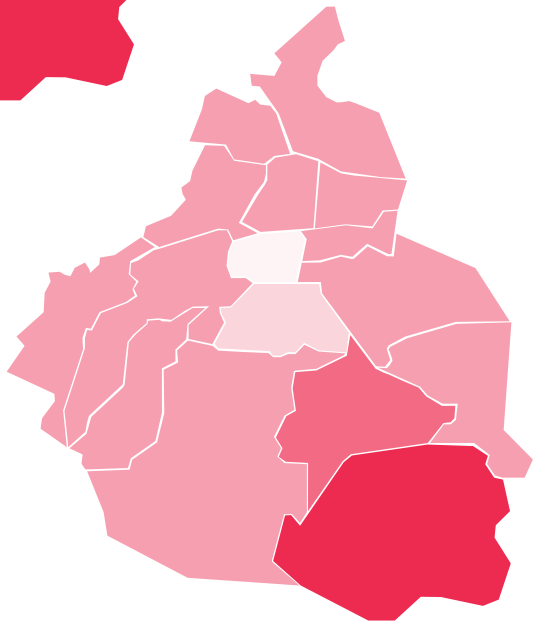




2010



2020



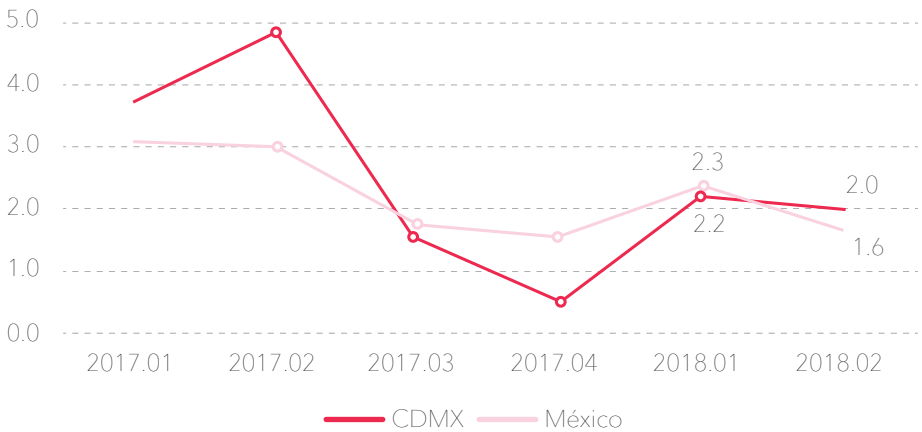
# 1.5 ECONOMY

## ECONOMIC GROWTH

The CDMX economy grew at an annual rate of 2.0%, while the economy of the country grew 1.6%.

In México City, the economic dynamism is based mainly on the sectors of construction and commerce. While at the national level, the growth of GDP was sustained by the manufacturing industry and the tertiary activities.

## ECONOMIC GROWTH IN CDMX AND IN MEXICO (Annual % variation rata)

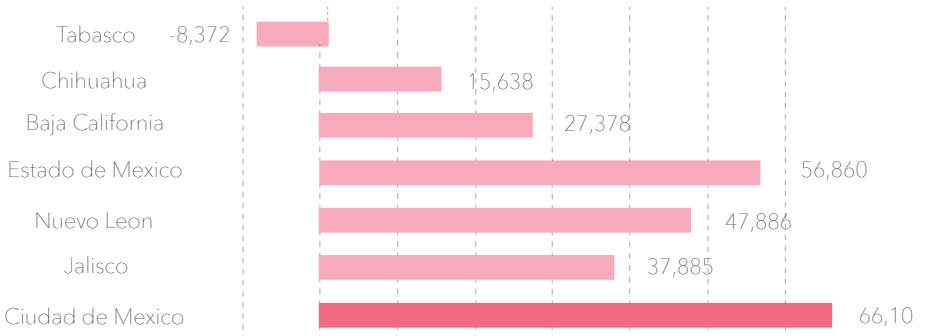


## EMPLOYMENT

México City is the entidad federativa that generates the most formal employment throughout the country. From January to June of 2018, IMSS (Mexican Social Security Institute) created 66,102 job roles, the equivalent to 14% of the formal employment generated in all the country.

## GENERATION OF FORMAL EMPLOYMENT

January - June 2018

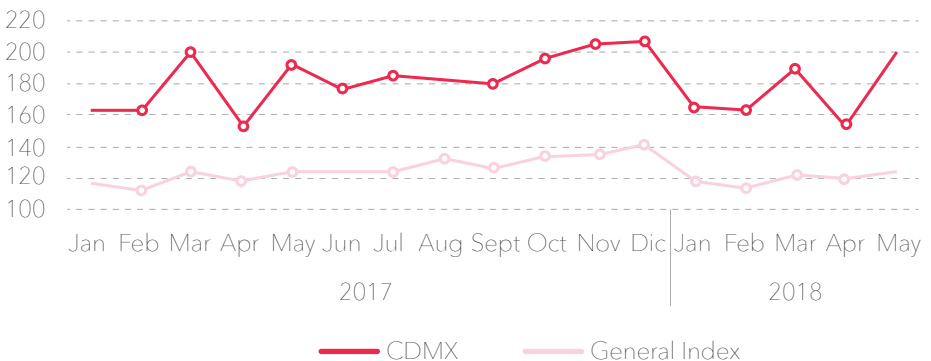


## COMMERCE

For the second quarter of this year, the index of retail trade in México City, maintained values higher than national's one.

This indicator reflects popular trade, which is one of the main strengths of the economy of the capital, its contribution to the state GDP is 8.0%.

## RETAIL TRADE IN MEXICO AND CMDX (monthly index, 2008=100)



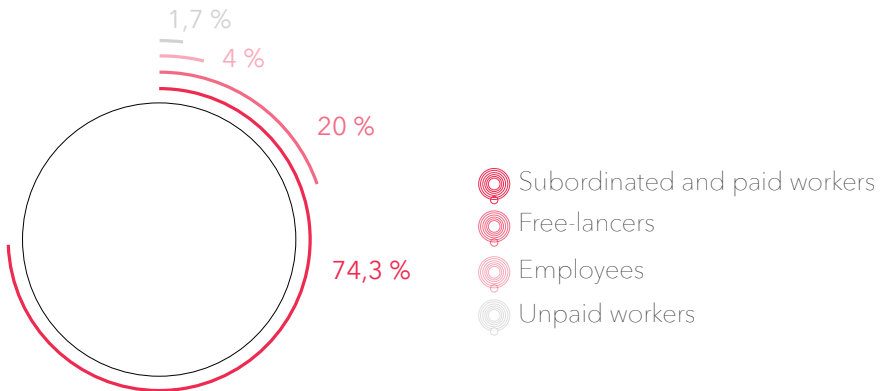
## WORKERS

During the second quarter of this year, the economically active population in México City was 4,511,258 people, of which 4,279,410 was employed (94.9%) and 231,848 was unemployed (5.1%). Of the total of occupied in the capital, 74.3% are subordinated and paid workers, this means they have a boss.

The structure of the labor market in the CDMX is in fact composed mostly of workers who have an employer and receive a payment.

Of the total employed in México City, 13.5% declared earning up to a minimum wage, this is \$ 88.36 pesos per day.

### WORKING POPULATION IN CDMX BY OCCUPATION POSITION (2° trimester 2018 (%))

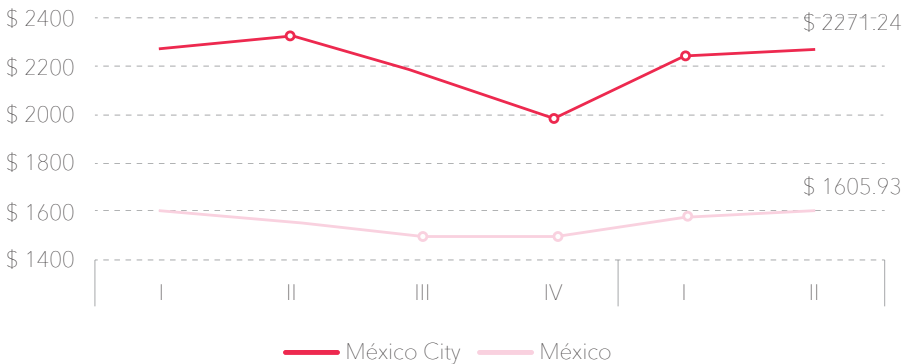


## LABOR INCOME

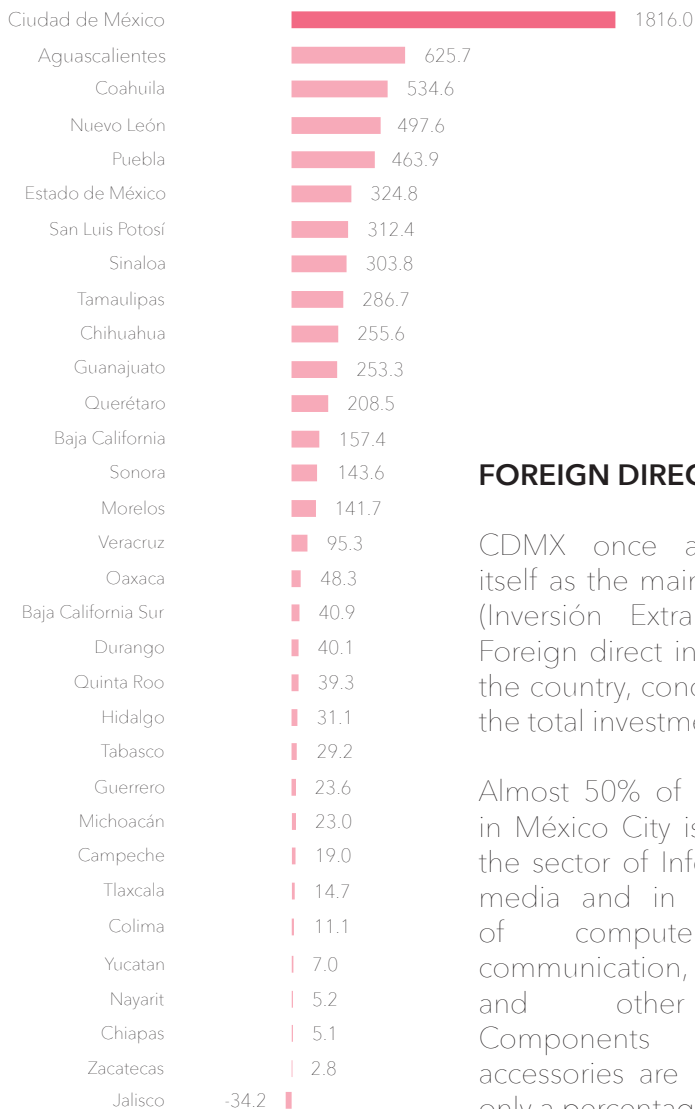
The labor income measured by the National Council for the Evaluation of Social Development Policy (CONEVAL) in terms of the canasta alimentaria has been increasing. On average, during the second quarter, the labor income was \$ 2,271 pesos per month in México City, while in the country it was \$ 1,606.

In both cases, it represents an increase compared to the previous quarter. In México City, it increased 1.2% and in the 2.2% country. However, even if labor income has increased, it still does not allow a worker to acquire the canasta alimentaria for him and his economic dependent, since the cost of two canastas alimentarias in urban areas is \$ 2,955 pesos on average during the second quarter.

### LABOR INCOME PER CAPITA IN MEXICO AND CDMX 2017 to second trimester 2018 (pesos from 1° trimester of 2010 deflated with the canasta alimentaria)



## FOREIGN DIRECT INVESTMENT BY ENTIDAD FEDERATIVA 2° trimestre 2018 (millions of dollar)



### FOREIGN DIRECT INVESTMENT

CDMX once again positioned itself as the main recipient of IED (Inversión Extranjera Directa = Foreign direct investment, FDI) in the country, concentrating 27% of the total investment.

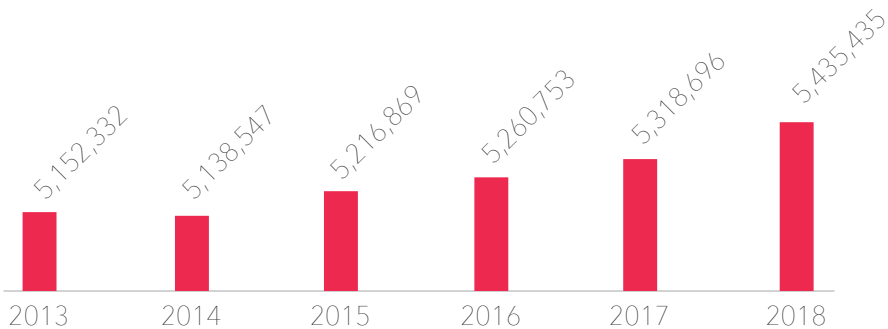
Almost 50% of the FDI received in México City is concentrated in the sector of Information in mass media and in the Manufacture of computer equipment, communication, measurement and other equipment. Components and electronic accessories are participating with only a percentage of 23.6 each.

## TOURISM

The arrival of national and international tourists to México's capital continues to rise, from January to May the number grew 2.2%.

The economic income of tourists staying in hotels was 1,847 million dollars, that means an increase of 3.7% compared to the economic spill registered from January to May 2017, as reported by the Secretary of Tourism of México City.

### TOURISTS STAYING IN HOTELS IN CDMX January to May 2013-2018



### FUTURE PREVISIONS

Several analysts believe that México's economy will accelerate its growth during the second half of the year.

If the positive trend of the indicators of employment generation, construction and trade continue, it is estimated that the economic growth of México City by the end of 2018 will be 2.3%.

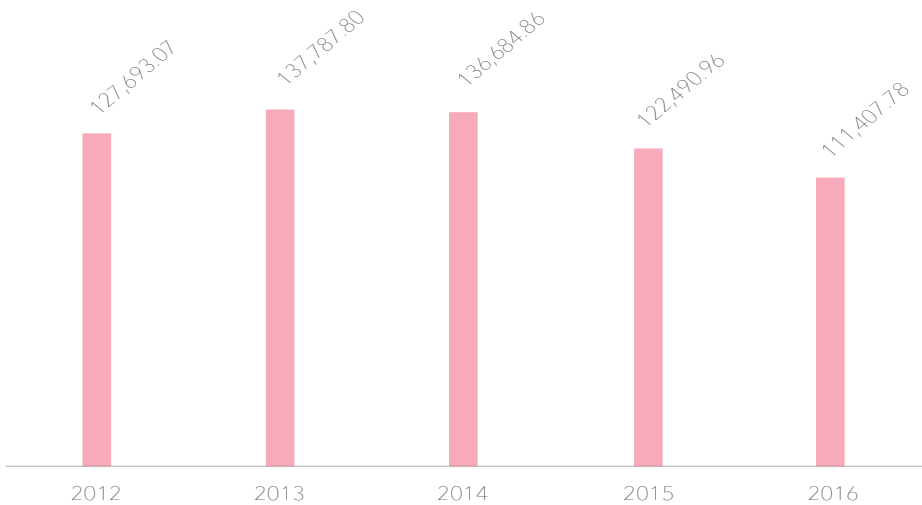
## 1.6 FOOD INDUSTRY

There are 792,758 people employed in the industry of food in México. The 187,123 economic units (offices and distribution centers) working in this field, are located mainly in the México state, Puebla, Oaxaca, Veracruz and CDMX.

Just to understand México is the second supplier of processed food in the United States (2016) and 9 of the 10 most important global companies working in this industry are in México.

In 2016, in México the processed food industry reached a production value of 111.4 billions of dollars.

### MEXICAN PRODUCTION OF PROCESSED FOOD (billions of dollars)





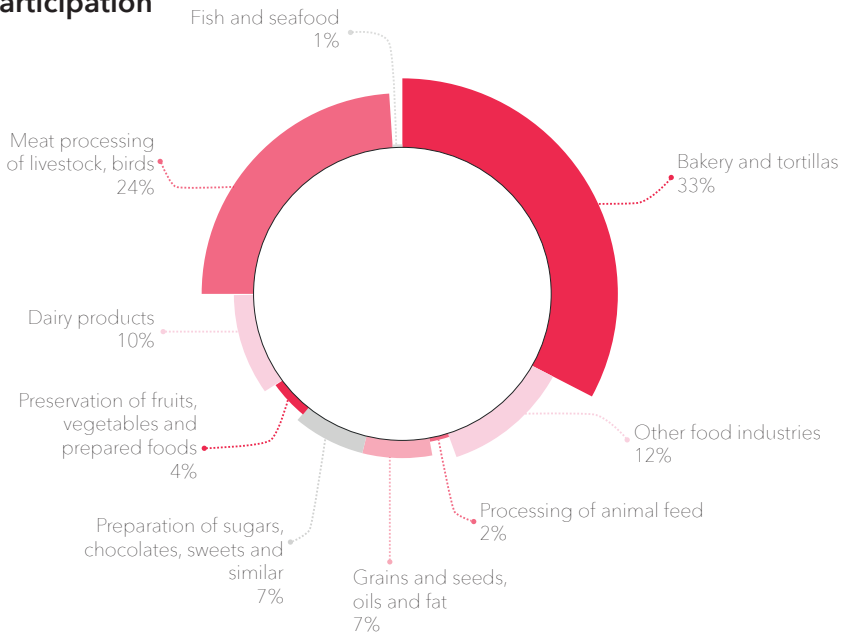
The industry represented the 23.4% of manufacturing GDP and 3.9% of total GDP.

54% of the production for the industry was concentrated mainly in the categories of bakery-tortillas and meat processing.

The main inputs that the industry requires for the production of its products come from the national market: 85.9%, which consist of fruits, vegetables, beef, cardboard, glass, plastic and tin cans.

Furthermore in 2015 the categories with the highest sales in the Mexican market were bakery, dairy and confectionery.

## MEXICAN PRODUCTION OF PROCESSED FOOD INDUSTRY IN 2016 % participation

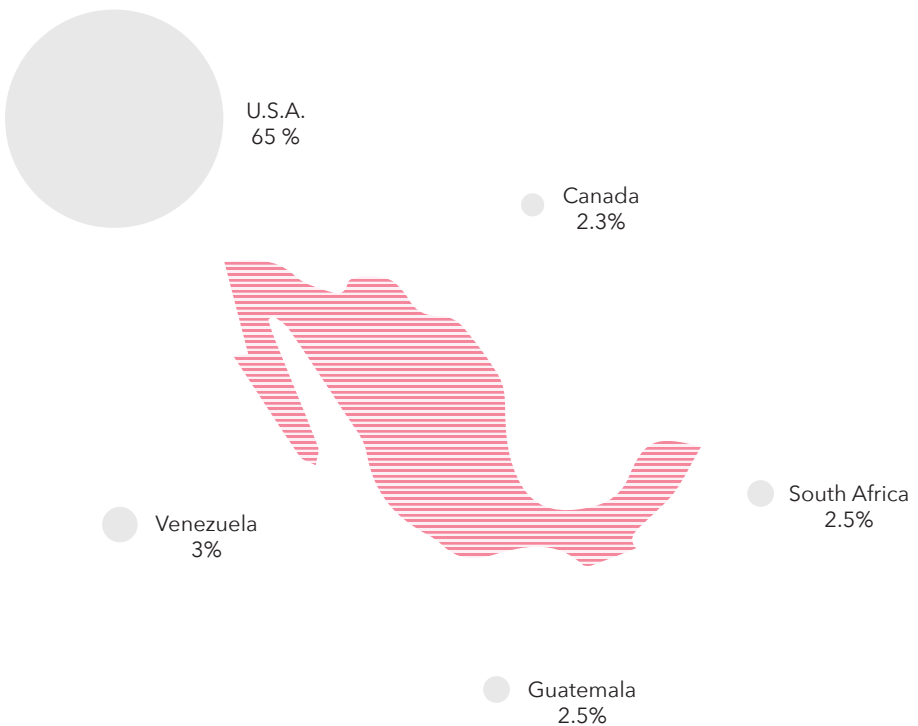


In 2016, the Mexican exports of the industry reached a value of 8.324 billion of dollars.

The main destination was the United States, with 65% participation, followed by Venezuela (3%), South Africa and Guatemala (2.5%) respectively and Canada (2.3%).

For its part, México imported in 2016 a value of 14.106 million of dollars, mainly from the US and Canada.

### EXPORTS DESTINATION OF THE INDUSTRY OF MEXICO, 2016



México is a profitable country to locate the units for the production of the food industry, in 2015 the net profits in Mexico reached a value of 35 millions of dollars, which represented 9% of the global indicator of the industry.

México also offers 11.1% of savings in manufacturing costs in the industry of processed foods, compared to the costs of the United States and other countries.

## COST SAVING INDEX FOR THE PROCESSED FOOD INDUSTRY, 2015



## 1.8 CONSUMPTION PATTERNS

With a population of more than 112 million people and an area about three times the size of Texas, Mexico is a vast country. As the second most populous country in Latin America and the most populous Spanish-speaking country in the world, it is a vital market for marketers and consumer packaged goods companies to understand.

But to view Mexico's consumers as uniform in their shopping habits and trends would be a mistake: consumption patterns vary widely based on where people live.

On a national basis, the average Mexican consumer belongs to a medium sized

family (between 4-5 members) with low to modest purchasing power largely exercised by a head of household who has no formal job outside of the home. However, there

are clear and important regional differences in both household composition and consumption behavior throughout the country.

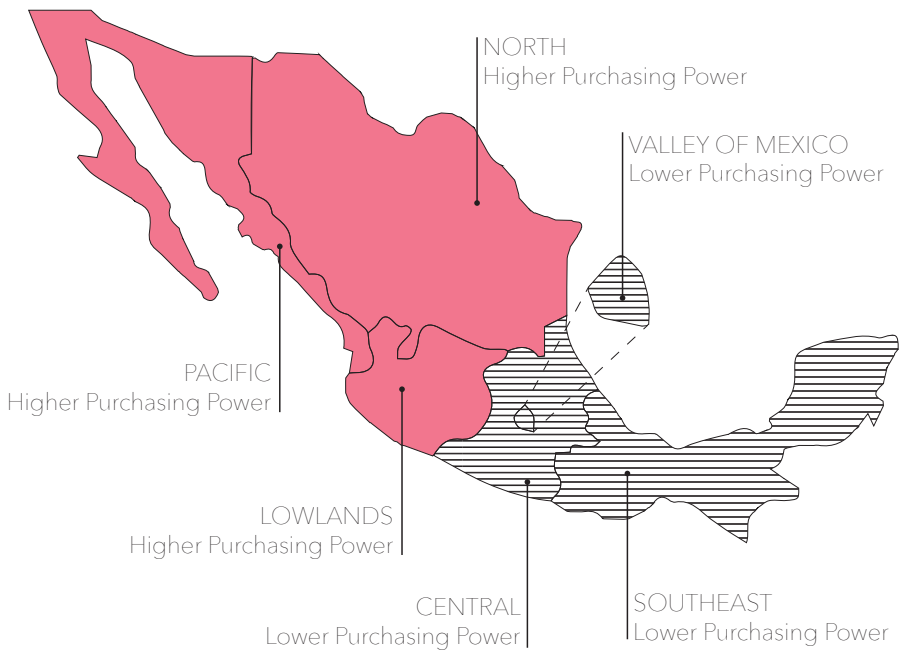
When it comes to income, there seems to be a great divide: The northern half of the country has higher income and in turn, purchasing power, since women tend to work outside of the home in addition to raising families; in the southern half, income levels are generally lower.

Consumers in the North, Pacific, and Lowlands regions of Mexico tend to have above-average purchasing power and live in households where the homemaker generally has a formal job. In the Valley of Mexico and in the Central and Southeast regions, consumers have much lower levels of income and purchasing power.

A Nielsen research and analysis recognized certain resemblances in consumption behaviors between certain areas with geographical proximity to one another.

Consumption patterns in both the Valley of Mexico and the Southeast, meanwhile, tend to show significant differences compared to the rest of the country.

## MEXICO'S REGIONAL PURCHASING POWER



While the majority of the country's population is concentrated in the Valley of Mexico region – which is dominated by Mexico City – consumers in the Pacific, North and Southeast regions tend to spend more money per household than the average consumer in the Valley.

**Retail Channels and Shopping Frequency** With respect to retail channels, traditional stores remain resoundingly prominent in the Valley of Mexico with 44% of the market compared to the country's average of 42.9%.

Convenience stores and small-format supermarkets are less popular in the Valley with 3.1% compared to 8.2% of the country's average. Large-format supermarkets, on the other hand, play a bigger role with 30% compared to 26% of the country's average.

In all regions, traditional stores are visited on a daily basis—and sometimes twice a day. The typical consumer in the Valley of Mexico visits the supermarket on Sundays.

Yet the choice of places to shop is changing significantly. 15% of Mexico's consumers, citing the desire for lower prices and greater convenience, say they have changed where they buy groceries. This hurts traditional and informal grocers but expanding modern-trade retailers like supermarkets and hypermarkets benefit from the change. From 2009 to 2011, however, 825 new discounters and more than 3,000 convenience stores opened for business.

The survey clearly reflects these trends—Mexican consumers say they are shopping more in modern retail channels, less in traditional ones. Mexican consumers have been hit hard by the 2008 crisis, but they stay hopeful about their country's projections.

Over 70% of Mexicans said they have cut down their spending. Mexican consumers reported that they had changed their purchasing habits and, in particular, had significantly decreased their expenses in the travel and leisure activities.

Regarding eating habits, 66% of Mexican consumers said they were eating out less, 63% ordering in less, and 60% picking up prepared food less.

Education is one important exception in Mexico: more than 66% of Mexican consumers have augmented their spending on school supplies, and almost 45% of those consumers are spending more on extracurricular activities and 39% of them are investing more in remedial classes.

The food sector illustrates how Mexican consumers have, overall, stayed loyal to their brands. About 25% of them said they would buy less food rather than trade down to save money and buy what they saw as inferior products.

Only 4% of them reported switching to less expensive brands during the previous 12 months. Only 2% of Mexican consumers traded down in food-related products.

Those who do trade down, however, may very well never go back to their original brands. They almost always report that the new one is better than expected and that they are quite satisfied with it: their expectations are surpassed in 90 to 100% of trade-downs.

Not surprisingly, 46% of Mexican consumers say they have no intention of trading back up when their economic situation improves; a similar percentage say they no longer prefer the previous brand. This shows that more expensive brands are vulnerable.

Regarding the Mexican retail landscape, consumers normally have relatively few options for products. In addition, housewives generally have limited disposable income and when making purchases they cannot afford to buy something to replace a product they do not like.

Faced with such choices, consumers tend to stay with what they know—a phenomenon also reflected in the Mexican consumer's preference for staying with trusted brands but reducing the level of purchases.

# 1.9 HEALTH

## MEXICO HEALTH CARE SYSTEM

Mexico's healthcare system is underfunded and inadequately organized to meet the needs of its population in light of increasing longevity and the growing challenges created by the prevalence of noncommunicable diseases such as diabetes, obesity, heart disease, and cancer.

The healthcare system has not changed substantially since the Health Ministry was established in 1943, yet the profile of Mexican patients has changed dramatically.

Coverage has been expanded since that time and now all Mexicans have access to basic healthcare services, at least on paper. Yet the quality of said services, and in some cases access at all, varies considerably.

Those who can do so rely on private services to augment, if not replace, services provided by the state institutions.

The quality, scope, and approach to healthcare vary across the six different institutions. Each has its own independent network of doctors, clinics, hospitals, pharmacies, treatment centers, and unions.

The Mexican healthcare system does not allow for "portability," which means that patients cannot access the facilities belonging to any institution except their own.

The duplication of facilities in some areas and the shortage of facilities in others is a result of the independent nature of the systems and the absence of a single planning mechanism across the healthcare system.

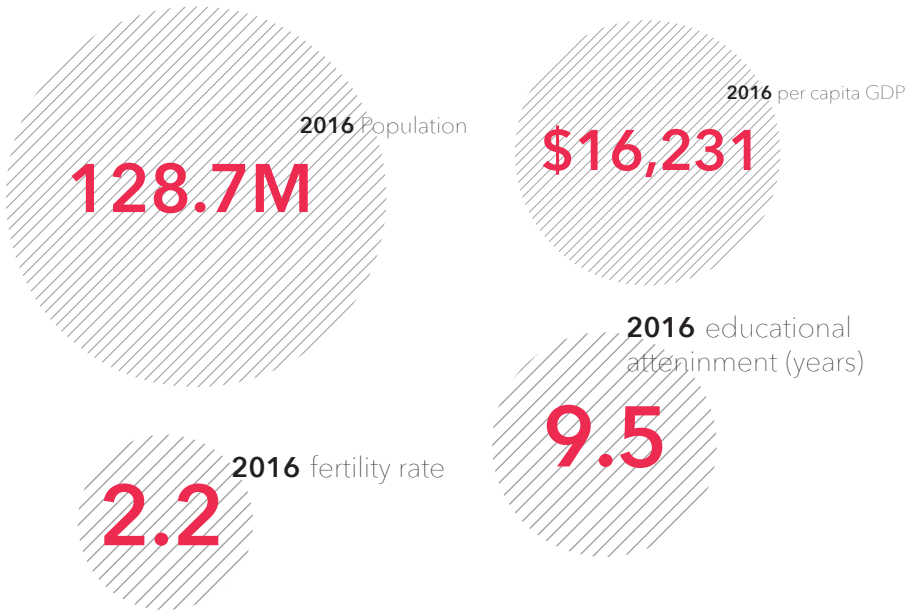
Each of the institutions maintains its own drug and device formularies and develops its own standards of care, which can vary considerably.

The net result, for the system, is that persons covered by different institutions have access to different medicines and devices despite having equal right to access to healthcare.

Institute for Health Metrics and Evaluation (IHME), 2016

ManattJones Global Strategies, Mexican Healthcare System Challenges and Opportunities, USA and México City, 2015





## HISTORICALLY DIVIDED SYSTEM

Since its inception, coverage under Mexico's public healthcare system has been based on employment status. Salaried or formal-sector workers are covered under one of two programs.

Nonsalaried or informal-sector workers were excluded from formal social insurance schemes and the healthcare needs of this "residual" group were addressed by the Ministry of Health. The system was thus segmented between insured, formal, and salaried employees and their families with the right to social security, and the rest of the population.

In April 2003 the Congress approved a new insurance scheme, the Sistema de Protección Social en Salud.

Institute for Health Metrics and Evaluation (IHME), 2016

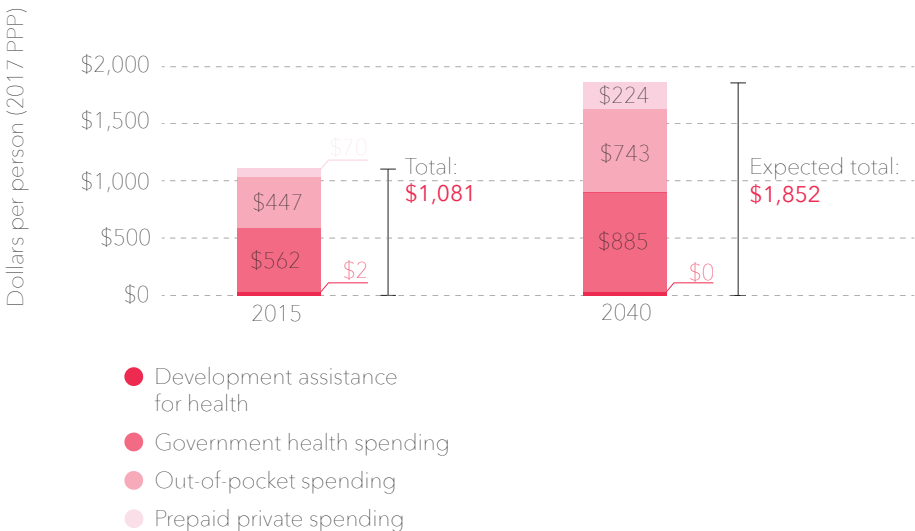
ManattJones Global Strategies, Mexican Healthcare System Challenges and Opportunities, USA and México City, 2015

Formal, private-sector employees and their families are covered by IMSS, whose over 57 million beneficiaries make it one of the largest insurance providers in the Western Hemisphere. Public-sector employees and their families are covered by ISSSTE (roughly 12 million persons).

The state oil company (PEMEX), the armed forces (SEDENA), and the navy (SEMAR) have their own, smaller, institutions. The self-employed, unemployed, nonsalaried and informal-sector workers, and those who do not work are covered by one of several federal programs managed by the Ministry of Health, which in total cover roughly 55 million persons. A small number of persons are eligible for coverage under multiple institutions, hence the number of beneficiaries exceeds the national population of 112 million.

The system includes a private-sector component with insurance companies and service providers that maintain their own clinics and hospitals, including providers of alternative medicine.

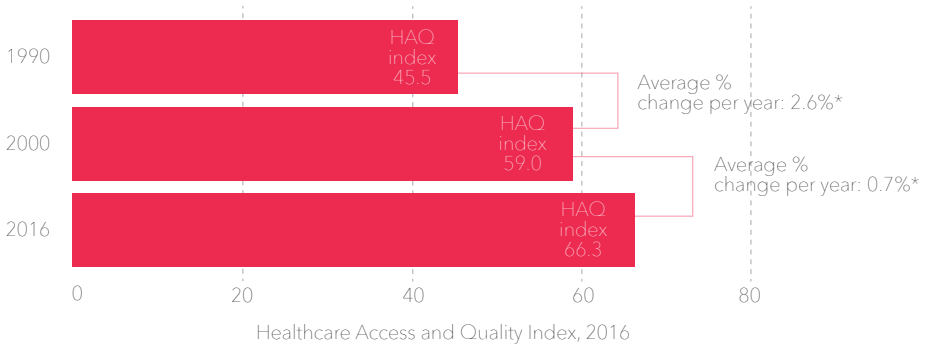
### HOW MUCH IS SPENT ON HEALTH NOW(AND IN THE FUTURE) AND FROM SOURCES?



Institute for Health Metrics and Evaluation (IHME), 2016

ManattJones Global Strategies, Mexican Healthcare System Challenges and Opportunities, USA and México City, 2015

## HOW DOES PERSONAL HEALTHCARE ACCESS AND QUALITY MEASURE UP?



\* stars indicate the average rate of change was statistically significant for that time period  
 Source: [bit.ly/HAQ-GBD2016](http://bit.ly/HAQ-GBD2016)

The Healthcare Access and Quality (HAQ) Index provides a summary measure of healthcare access and quality for a given location. This measure is based on risk-standardized mortality rate or mortality-to-incidence ratios from causes that, in the presence of quality healthcare, should not result in death- also known as amenable mortality

## PEÑA NIETO'S REFORM PLAN

During his 2012 campaign, President Enrique Peña Nieto ran on a platform of instituting healthcare reform to establish a truly universal healthcare system that would provide security and stability for all citizens. The National Development Plan and the National Development Plan's Program for the Health Sector both issued in early 2013, included proposals to emphasize prevention, rather than focusing only on curative medicine, and the importance of ensuring that the poorest of the poor gain access to adequate healthcare. Peña Nieto proposed to strengthen the authority of the Ministry of Health and to promote stronger cooperation between the state-run medical programs and private institutions.

Institute for Health Metrics and Evaluation (IHME), 2016

ManattJones Global Strategies, Mexican Healthcare System Challenges and Opportunities, USA and México City, 2015

For those living in extreme poverty, Peña Nieto pledged to intensify training and supervision of maternal and prenatal caregivers, to augment vaccination marketing campaigns within poverty stricken areas, and to focus on prevention, diagnosis and treatment of diseases, as well as a comprehensive strategy for combating epidemics and malnutrition.

## **HEALTHCARE ECONOMY**

While increased lifespans are good for individuals and for society, they do tend to place additional demands on the healthcare system and on its budget.

Mexico currently spends roughly 6.2% of its budget on healthcare, one of the lowest rates in the OECD and well below the average of 9.6%.

This low rate of government spending places a greater burden on out-of-pocket expenditure. At present, roughly 45% of healthcare expenditures in Mexico are paid out of pocket. As a result, long-term illness can be catastrophic for the lower and even middle classes.

One concrete proposal related to improving the health of Mexican citizens was the imposition of new sales taxes on sugared beverages and foods considered to be excessively high in calories, with the proceeds from the tax to be directed to improvements in healthcare. Recent reports, however, indicate that consumption has not declined dramatically.

Although the reasons for this are not entirely clear, soft drinks are often consumed in areas lacking access to clean water. This suggests that a price increase would not reduce consumption, but rather shift consumption to less expensive alternatives such as local brands or to reductions in other expenditures.

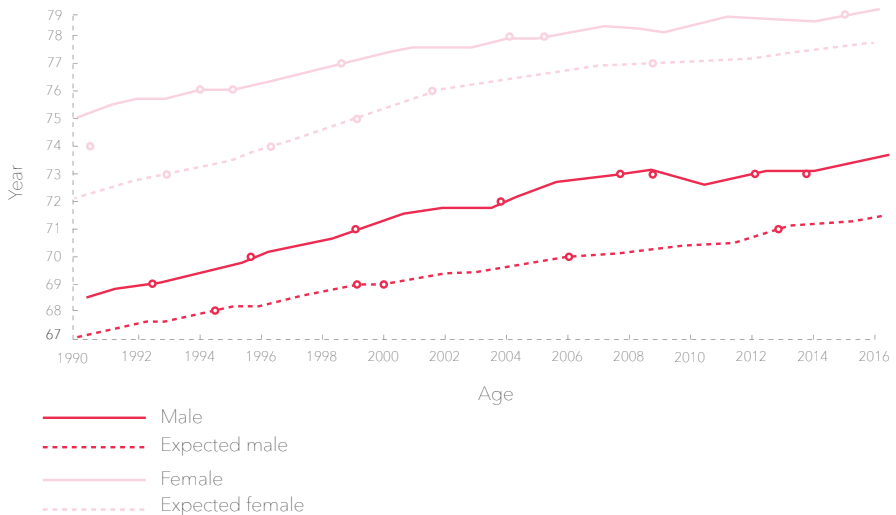
# 1.9 MEDICAL CONDITIONS

## MEDICAL ISSUES

The incidence of noncommunicable diseases (NCDs) has increased in Mexico, and the country now has one of the highest diabetes rates in the world.

Peña Nieto's National Development Plan emphasized promotion of state-led disease prevention programs, which could reduce the burden of morbidity and mortality of chronic noncommunicable diseases, mainly diabetes and hypertension.

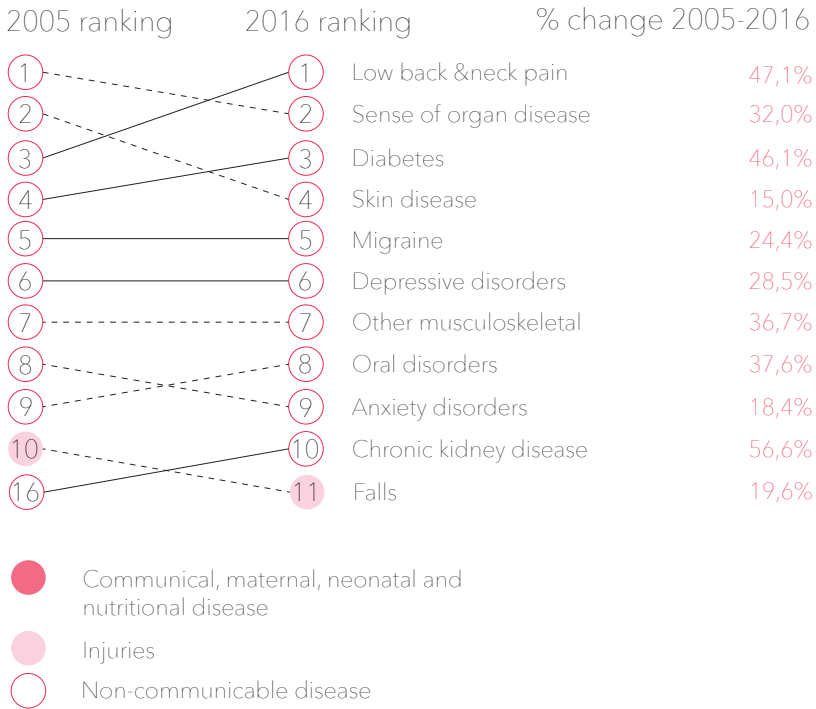
## HOW LONG DO PEOPLE LIVE?



Obesity is another area in which Mexico has the unfortunate distinction of being a world leader, even surpassing U.S. rates. In addition, heart disease and cancer rates have also grown, partly as a result of longer lifespans stemming from improvements in the quality of life over the past decades. Average life expectancy has increased from 70 years in 1990 to 75 years in 2011.

### WHAT HEALTH PROBLEM CAUSE THE MOST DISABILITIES?

Top ten causes of years lived with disability (YLDs) in 2016 and percent change, 2005-2016, all ages, number



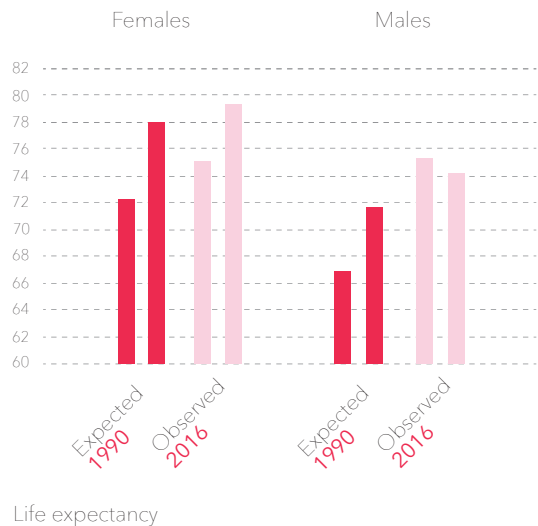
## AIR POLLUTION PROBLEMS

Air pollution issues involved particularly children who, if chronically exposed, show marked deficiencies in lung growth and function and not just short-term breathing.

In addition, early lung deficits may increase the risk of developing chronic obstructive lung disease later in life, as well as cardiovascular morbidity and general mortality.

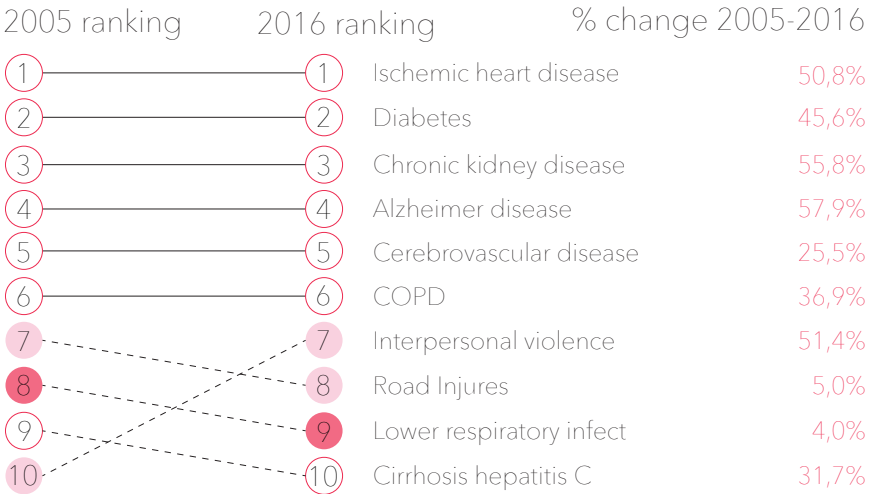
These conclusions are the result of a three-year, multi-site prospective study that measured lung function growth in 3,170 eight-year-old children at 39 schools in Mexico City and analyzed it with respect to the children's exposure to common urban pollutants: ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), and particulate matter under 10µm (PM<sub>10</sub>).

## LIFE EXPECTANCY



## WHAT CAUSES THE MOST DEATHS?

Top ten causes of death in 2016 and percent change, 2005-2016, all ages, numbers

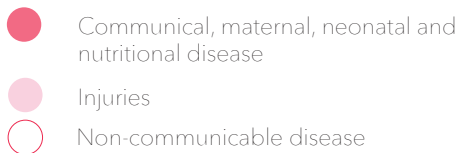
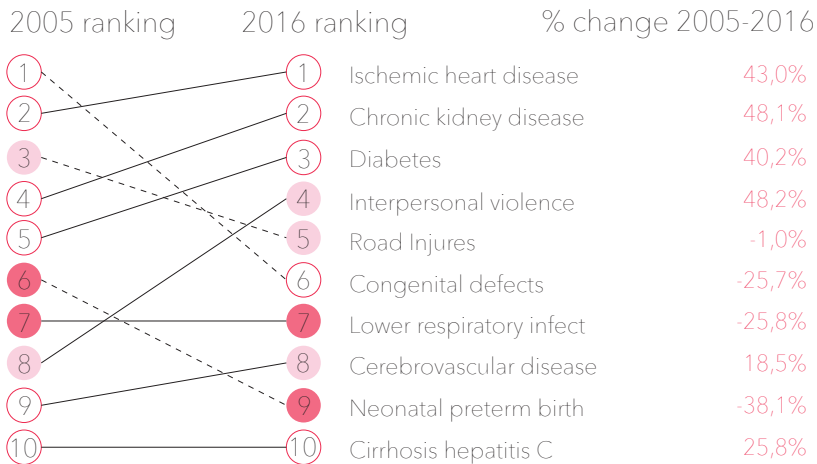


- Communicable, maternal, neonatal and nutritional disease
- Injuries
- Non-communicable disease



## WHAT CAUSES THE MOST PREMATURE DEATHS?

Top ten causes of years of life lost (YLLs) in 2016 and percent change 2005-2016, all ages, number



## 1.10 EDUCATION

To give a general overview about education in CDMX the percentage of population aged 15 years and over with upper secondary education, in 2015, was 26,6.

While the percentage of the population aged 15 years and over with higher education, in 2015 as well, was 32,1.

### ENROLLMENT

In México access to education for 5-14 year-olds is universal, but it has one of the smallest proportions of 15-19 year-olds enrolled in education (53%) among OECD (Organisation for Economic Co-operation and Development) and partner countries, despite having the largest population of this age group in the country's history.

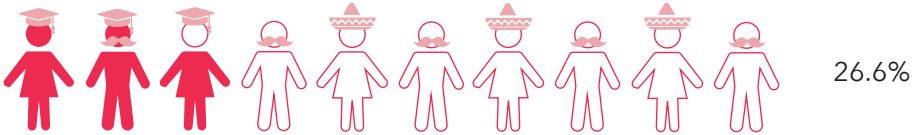
Even if the proportion of 15-19 year-olds who are enrolled in education grew by 11 percentage points since 2000, it is still smaller than the OECD average of 84%, and smaller than the proportion observed in other Latin American countries, such as Argentina (73%), Brazil (78%) and Chile (76%). Students in México tend to leave education early.

This is also because, 15-29 year-olds are expected to spend 6.4 years in employment and 5.3 years in education and training, one year more in employment than the OECD average (5.4 years) and two years less in education (the OECD average is 7.3 years). These young adults are at high risk of disengagement from both education and the labour market.

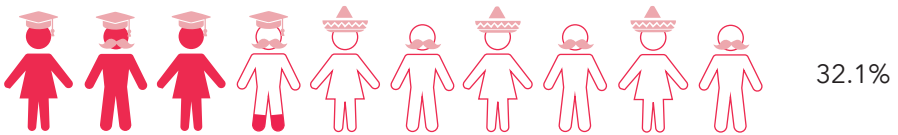
The proportion of young adults who are neither employed nor in education or training (NEET) is larger than 20%.

The proportion of NEETs in Mexico increases with age: 17% of 15-19 year-olds, 23.6% of 20-24 year-olds, and 27.1% of 25-29 year-olds are NEET. However, as in most countries, the proportion of 15-29 year-old NEETs shrinks with educational attainment.

### % OF POPULATION AGED 15 YEARS AND OVER WITH UPPER SECONDARY EDUCATION , 2015

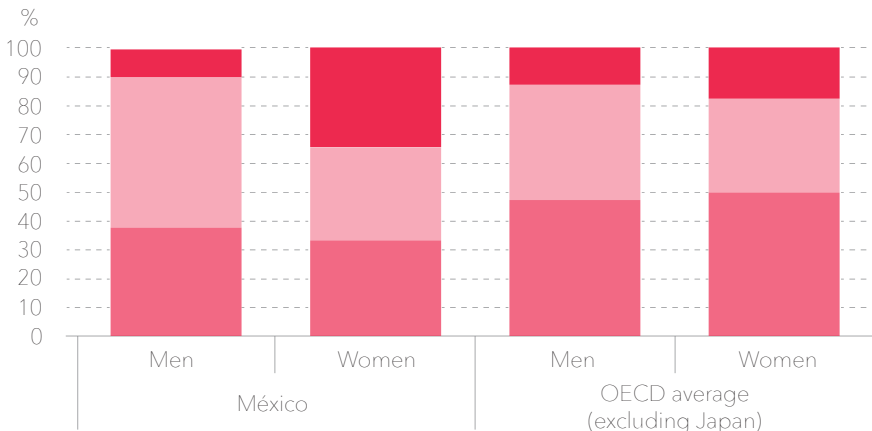


### % OF POPULATION AGED 15 YEARS AND OVER WITH HIGHER EDUCATION , 2015



### % OF 15-29 YEARS OLDS IN EDUCATION AND NOT EDUCATION, EMPLOYED AND NOT, BY AGE, GROUP AND GENDER

■ In education    ■ Not in education, employed    ■ Not in education, not employed



## **PUBLIC AND PRIVATE SCHOOLS**

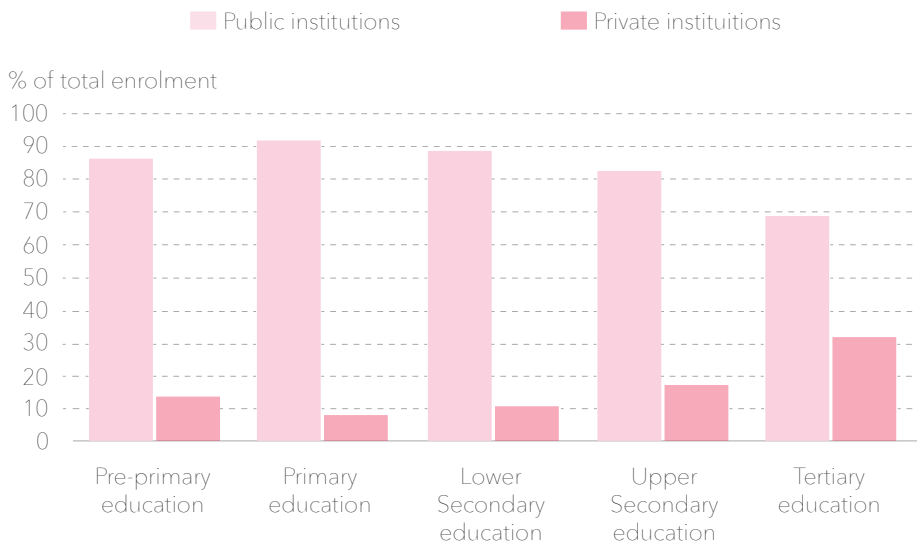
México has the largest proportion of students enrolled in public institutions, at nearly all levels of education, compared with other Latin American countries.

But on the other hand, the higher the level of education (primary through secondary) the larger the proportion of students enrolled in private institutions.

Public education in Latin America, as in much of the world, is characterized by strong disparities in quality. In many cases, governments invest heavily in a small group of elite or flagship schools, while the rest receive far less funding and governmental attention. With that being said the child of a college school graduate is about ten percent more likely than the child of an elementary graduate to request an elite school as first choice.

The most common explanation given by students is that those who do not plan to go to college after high school actively avoid elite schools. While these subsystems provide comparatively good academic preparation, such skills are not perceived to have much value for employers of high school graduates. Instead, students prefer to attend a school that gives them technical or vocational schools that can be used to obtain a specific career directly after high school.

## STUDENT ENROLMENT IN PUBLIC AND PRIVATE INSTITUTIONS BY LEVEL OF EDUCATION, 2012



## COST OF EDUCATION

A good proxy for measuring actual expenditure on education is the spending per student. In México, average annual expenditure per student from primary through tertiary education is 19% of per capita GDP – the second lowest percentage among OECD and partner countries, just above Turkey.

México spends an average of 15% of per capita GDP per primary student and 17% of per capita GDP per secondary student.

Compared with all other OECD countries, México has also the highest student-teacher ratios in primary and secondary education: 28 students per teacher in primary education (compared with the OECD average of 15 students per teacher), and 30 students per teacher in secondary education (compared with the OECD average of 13 students per teacher). In early childhood education, instead, there are 25 pupils per teacher, far higher than the OECD average of 13 pupils per teacher.

## EMPLOYMENT AFTER SCHOOL

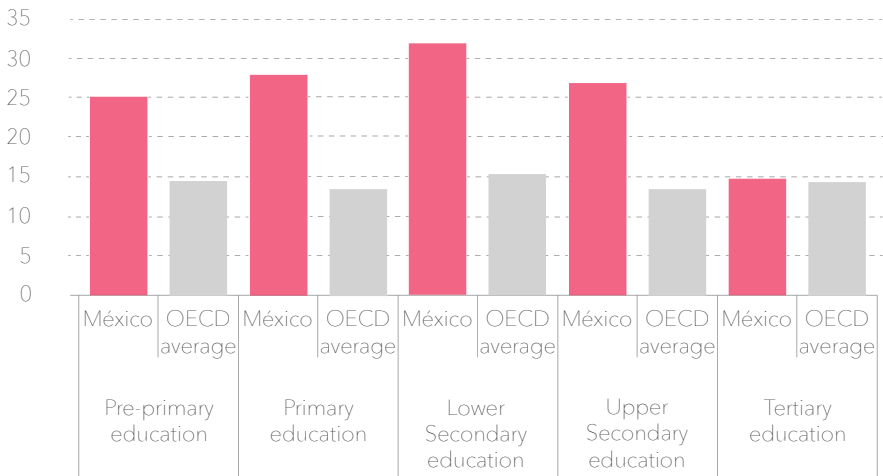
Employment rates in México tend to be above the OECD average for people with below upper secondary education (64% in México compared with the OECD average of 55%), and below the OECD average among people with higher levels of education.

In 2012, México was one of the countries where unemployment rates were higher among tertiary-educated adults, 2.9%, than among adults without upper secondary education, 2.6%. In México, the difference is even more marked among younger adults between 25-34 year-olds: 6.7% of tertiary graduates and 4.5% of young adults with below upper secondary education are unemployed.

Even if younger Mexicans have higher levels of educational attainment, data suggests that they are more vulnerable to unemployment.

## RATIO OF STUDENTS TO TEACHING STAFF IN EDUCATIONAL INSTITUTION BY LEVEL OF EDUCATION, 2012

Number of students per teacher in full-time equivalents



## 1.11 PHYSICAL EDUCATION AT SCHOOL

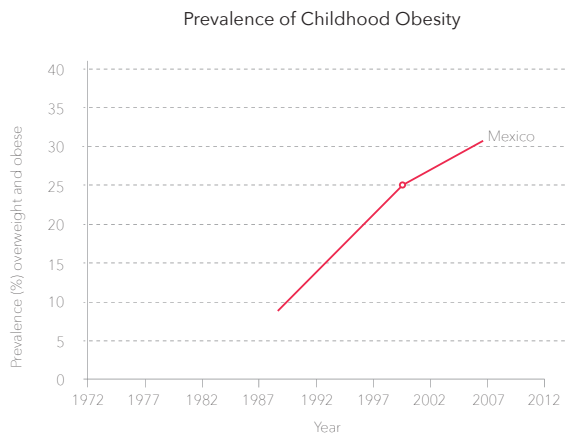
As of right now México is having public health problems regarding the high prevalence of diabetes and hypertension, it is one of the countries in the world with the highest prevalence of overweight and obesity.

New policies, based on behavioral changes on nutrition and physical activity, need to be developed. Applying new tailored techniques, promoting cultural and behavioral changes are the biggest challenges. More than ever, the vision of the physical educator only as an instrument to develop games and play in schools must change; his mission should be broader, more complex, and connected to health and the community.

The amount of Moderate to Vigorous Physical Activity (MVPA) in the class of physical education, is less than 12% of the time of the class period. Summing up to this sad panorama is the fact that: in México, most schools do not have an indoor gym or a place to perform physical activity and also the lack of professors of physical education.

It is well known that, in general, less than 50% of all elementary schools in the country have a physical educator.

Adding to this problem is the fact that in the curricula of 80% of the schools that forms physical educators are not implementing any kind of change in the curricula to attend the growing problem of inactivity and chronic disease that is affecting our population.



## HISTORY

Specific “pedagogic” trends influenced the way in which Physical Education was taught in México. These pedagogic trends were, in 1940, the military trend which was characterized by the constant strictness in teaching; in 1960, the sportive approach, a teaching-learning system centered in sports and back in 1974 great concern was put in psycho-motor skills that contributed to the student’s physical and intellectual development.

By the year 1988 the trends in Physical Education shifted to a more functional organic model in which it was necessary that the student found a relationship between the acquired knowledge and his or her body. The approach used in 1993 was called “dynamic motor integration model”. In this model the student’s body movements are necessary for them to acquire significant learning, skills, habits and attitudes.

Since 2009, an educational reform based in “competences” appeared. This type of approach demands that education must be based and focused on subjects. In 2011, without changing the curricular orientation of 2009, some adjustments were made to give more freedom to the professor in making decisions related to the didactic and pedagogic planning of the P.E. class.





## **CURRENT CURRICULAR MODEL**

México's levels of physical inactivity are amongst the highest in the world. The sessions of P.E. in elementary school are of only once per week for one hour-session and two sessions at junior high. Unfortunately there is the persistence that many schools and children don't have the benefit of a P.E. teacher.

The external coherence of the learning of the PE objectives and the promotion of healthy lifestyles is not one of the main preoccupations.

The environment has also an influence on the physical activity of children, it was found that the opportunity to be active inside and outside schools is limited by infrastructure and economic challenges or 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.

## **NEW CURRICULAR MODEL**

The new design of the curricular programs for the basic Education System which includes kinder, elementary and junior high school (from 3 to 14 years of age), states that physical education is above all, education, whose uniqueness lies in that it operates through the movement; therefore it is not education of the physical but education through the motricity. In this sense the movement is understood not as a mere mechanical mobilization of the segments of the body, but as the expression of perceptions and feelings in such a way that the conscious and voluntary movement is a significant aspect of human behavior.

The big change in the new conception of physical education is that while movement was conceived in a mechanical way, currently motor behavior places the individual at the Centre of all process as manifestation of his personality. The components of the new program of education are: the conceptualization and context of physical education, the characteristics and interests of the child for physical education, these include: games, sports, physical training, exercise and health.

## 1.12 FIRST STEPS TO A HEALTHIER LIFE

### COMMUNITY PROGRAMS

#### "PROGRAMA DE ACCIÓN EN EL CONTEXTO ESCOLAR"

It promotes a new culture of self-care and the creation of healthy school environments so that children and young people are offered better tools to promote their well-being.

The objectives of the program are the development of competencies in educational stakeholders such as students, parents, teachers and principals, to modify the causes which affect the health of students, with an emphasis on a healthy nutritional status through various actions.

The program has a formative sense and a holistic approach, which takes the form of three components: promotion of health education, promotion of access to regular physical activity and finally, promotion of foods and beverages that will facilitate a proper diet.

The program consists in achieving at least 30 minutes of moderate intensity physical activity every day in school in addition to the physical education class, engaging children in activities during any of the three periods of the school day: at the beginning of the school day, on a massive scale; inside of the classroom, as a leisure activity that is part of the pedagogical process in support of the plans and programs of study; and in the "recess period".

## **"MUÉVETE"**

The program aims to reduce sedentary lifestyle, obesity and addictions, through the massification of physical activity and the proper use of public spaces, generating options for the proper use of free time, both as individual and as a family.

The modality of "Muévete Escolar" seeks to generate in girls and boys of basic level and young people of middle and upper secondary education a culture that guides them to a healthy lifestyles, through Physical Activation routines as part of their school day, with the participation of teachers, mothers and fathers.

## **"PONTE AL 100"**

Ponte al 100 is a program developed by a physical education teacher and training coach, Professor Juan José Palacios, and a sports medicine specialist, Dr. Juan Manuel Herrera-Navarro, with the purpose of systematically prescribing individualized exercise schedules to children and adolescents attending official elementary schools throughout the entire Mexican territory.

The program has developed its own methods to evaluate and measure physical fitness and it also includes nutritional and dietary supervision.

## **“THE FIVE STEPS FOR HEALTH” PROGRAM**

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: be active, drink water, eat vegetables and fruits, measure yourself and share with others.

The program, headed by the Ministry of Health, is a nationwide initiative. Due to the major role of physical activity in this national strategy against overweight and obesity, the Federal Government has assigned substantial economic resources to the State Governments to develop a coordinating office for the promotion of physical activity programs and also for the hiring of at least one physical activity professional by health zones.

## **“NATIONAL PHYSICAL ACTIVATION PROGRAM”**

The National Physical Culture and Sports Commission (Comisión Nacional del Deporte, CONADE), the National Sports System (SINADE) and the Ministry of Public Education (Secretaría de Educación Pública, SEP) launched a National Physical Activation Program (PNAF) that intends to promote physical activity as a life habit.

The message is related to doing 30 minutes of daily physical activity in people's everyday settings (at home, work, schools, leisure time, etc.). The main strategy has been carrying out massive nationwide events through the different state sports institutes.

## **"ELEVEN FOR HEALTH" PROGRAM F-11**

This program is an initiative by FIFA named as "11 for Health", held in schools, run by physical educators, physical activity promoters and supported by the Mexican Football Organization.

It consists of basic messages related to health among young people, particularly aimed at improving the prevention of certain diseases. The program is based on the handling of three factors that are undermining children's health: "fast food, soft drinks, and inactivity". The FIFA program attacks, at the same time, "communicable and non-communicable diseases, and improves the attitude and knowledge that children should have about diseases.

The program consists of implementing group games carried out in eleven sessions, through which schoolchildren will learn eleven simple messages about disease prevention, all of them based on scientific facts and correlated with a specific well known soccer player. The appeal of the program is that it disseminates health messages relying on soccer football players who are "models to be followed throughout the world".

## **USE OF TECHNOLOGY**

Some of the strategies included in schools are the use of multimedia to promote physical activity in classrooms and massive physical activity in the schools.

The use of sessions of music and videos during the schools hours, such as dance sessions and the "Karate Kids Program" (Tallack, 2009), which is an interactive video about physical activity and fitness, will help improve the physical activity of the kids.

Physical activity professionals are needed, those who have the knowledge on how to develop the health perspective; persons who know how to use devices to promote physical activity, such as the one mentioned above, in children and adults and use interactive sports and physical activity videos.

## **PROFESSIONALIZATION OF PHYSICAL EDUCATION**

México is developing graduate programs regarding the topic of Physical Activity and Health in order to increase the amount of researchers that will promote the new physical education trends, innovations in sports, and physical activity and health.

Because physical activity in México is not only an individual need but a social one, the vision of the role of the physical educator need, among others, to have the leadership in the promotion of physical activity in Mexican children and chronic disease management.

Therefore the academic curriculums besides empowering the classical objectives of P.E should also help create professionals who can work in the field of health promotion and disease prevention through physical activity.

Finally the professional role of the physical educator must be fortified by the use of other professional elements such as Marketing in order to reach the community, apply physical activity programs in different aspects of rehabilitation medicine (such as cancer, addictions, etc) apply behavioral and motivational interview techniques to promote physical activity, change behavior, health behaviors and health education, the challenge to apply theories, research and practice, and finally, the connection with the family as a nucleus of the society.

## 1.13 DIGITAL HABITS

The Study of Media and Device Consumption among Mexican Internet Users carried out by IAB Mexico aims to explore and learn about the uses and habits of people who connect to the Internet in Mexico through the various devices, as well as to understand their experience.

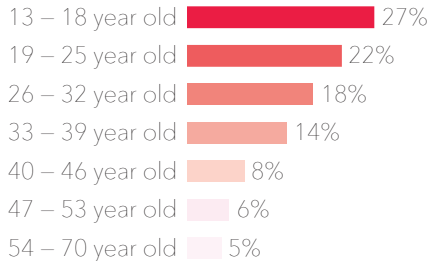
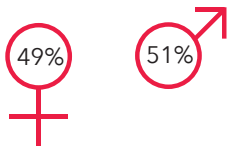
Highlighting insights such as:

- Mexican Internet users are increasingly connected and in constant movement, opening up great opportunities for digital advertising.
- In 2015, 68 million Mexicans are Internet users, with 57% of the population.
- 36% of Mexican Internet users cannot leave their home without their mobile devices when feeling incommunicado.
- Internet is present in the daily life of Mexican Internet users, keeps them updated (89%), enjoys using it (87%) and is part of their daily life (84%).

### METHODOLOGY

1,024 interviews were carried out during December 2015 through a panel of Internet users representative of the total population of users at the national level conformed by: Women 49% and Men 51% from 13 to 70 years of age; with national representation.

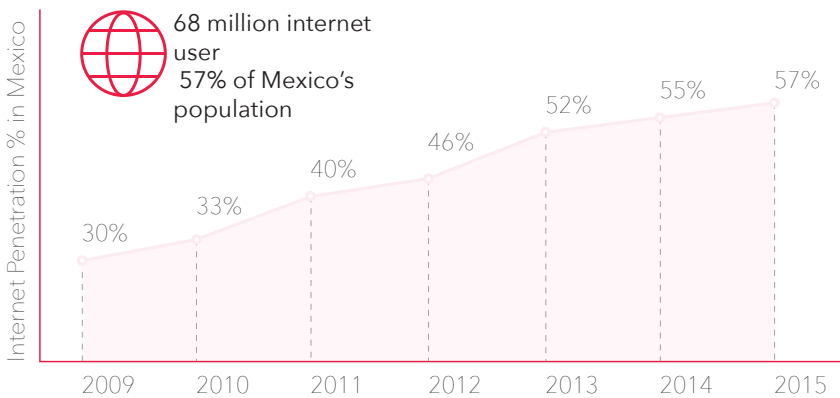
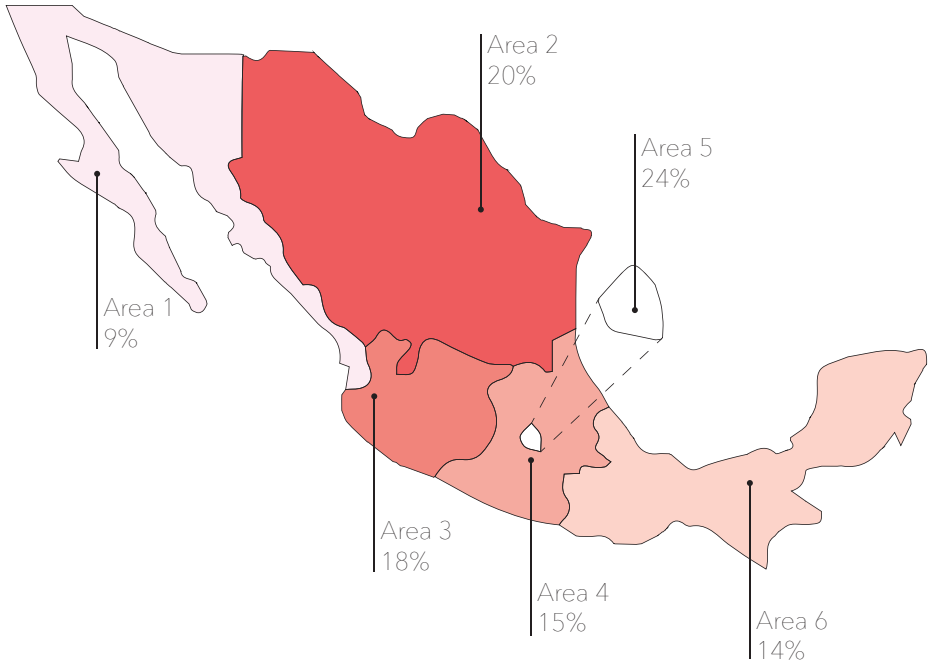
1024 interviews carried out in December 2015





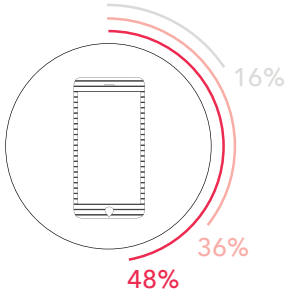
## STUDY SAMPLE AND INTERNET PENETRATION

Distribution of the interviewees



## USE AND HABITS

How indispensable are mobility devices to you?

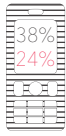


- "I take them with me but if I forget them, nothing happens."
- "I cannot leave my house without them because I don't like being incommunicado. If I forget them, I return back home to get them."
- "I don't always or almost never take them."



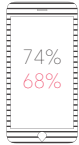
Portable Device

10%  
6%



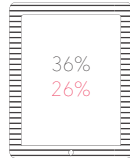
Cellular

38%  
24%



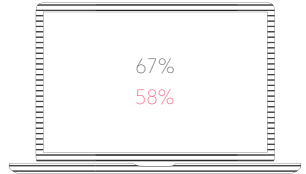
Smartphone

74%  
68%



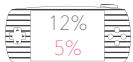
Tablet

36%  
26%



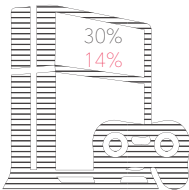
Laptop

67%  
58%



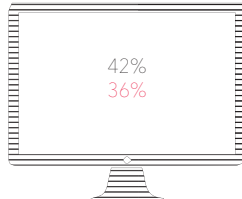
Portable Video Gaming Console

12%  
5%



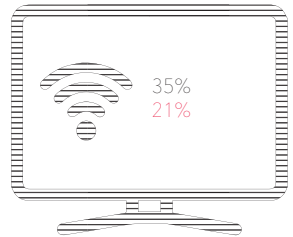
Video Gaming Console

30%  
14%



Desktop

42%  
36%

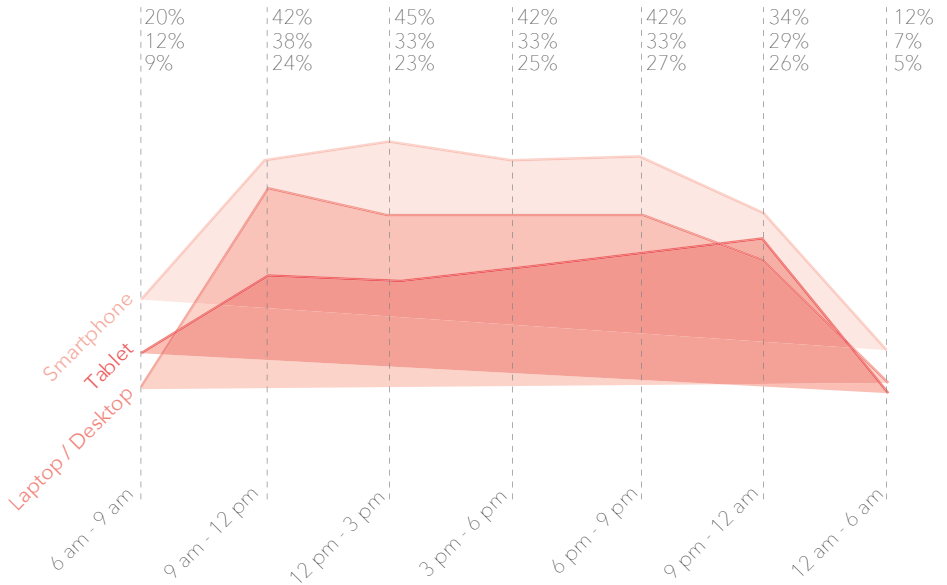


Smart TV

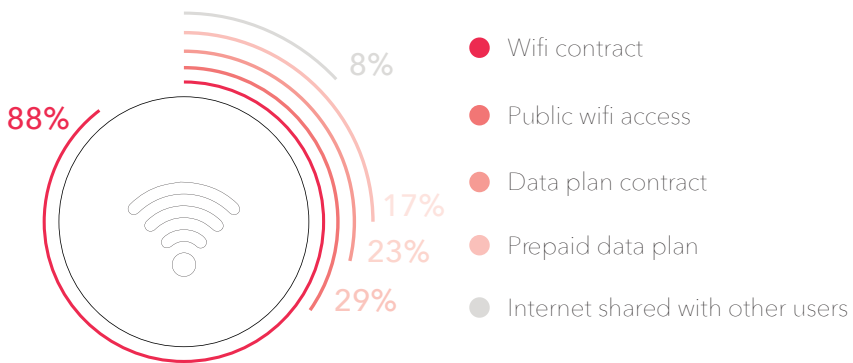
35%  
21%

- Devices owned
- Devices used for internet connection

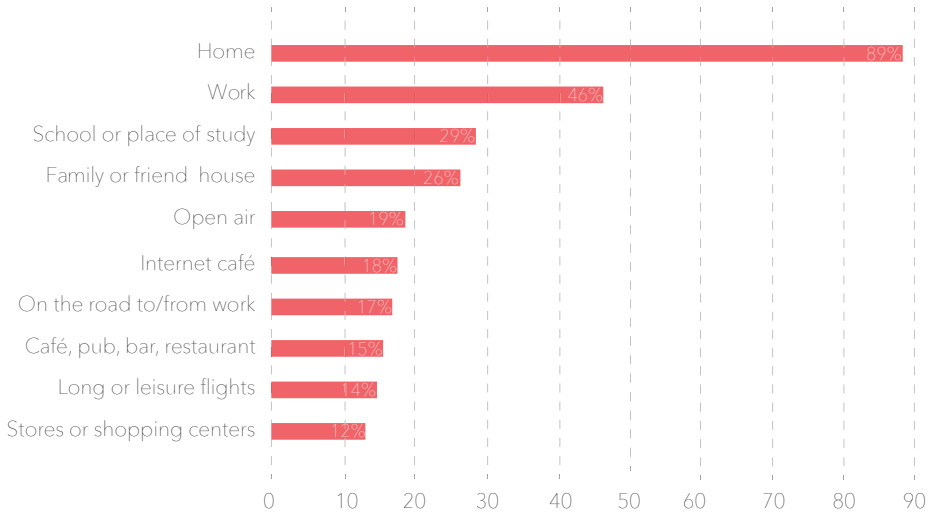
### Connectivity by device through out the day



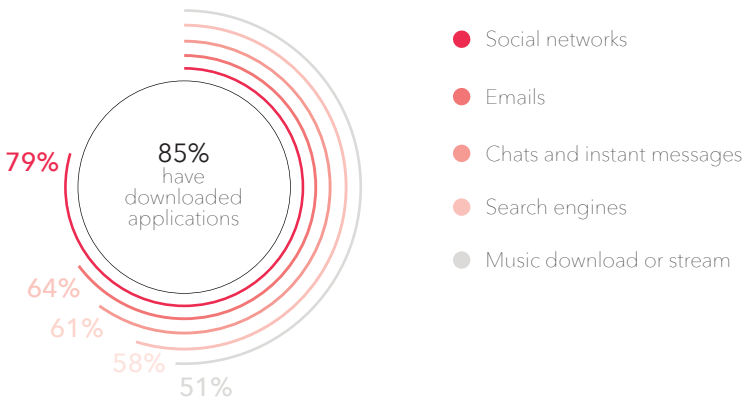
### Different ways of connecting to the internet



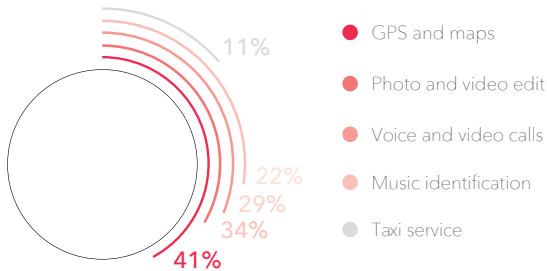
### Places where internet is regularly used



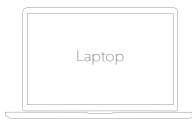
### Top 5 frequently used applications



### Other frequently used applications



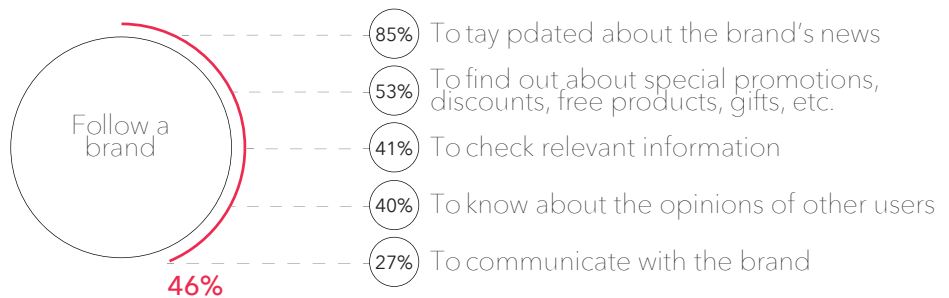
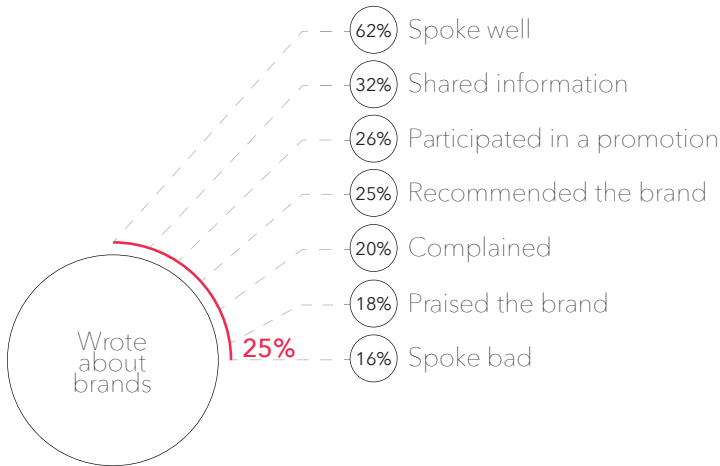
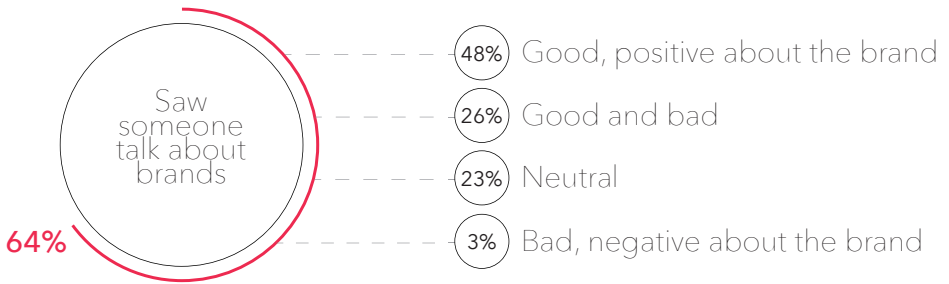
### Preferred activities for each device



- |                             |                              |                           |
|-----------------------------|------------------------------|---------------------------|
| ① Information search        | Chat / send instant messages | Read books and magazines  |
| ② Send or read emails       | Download applications        | Download applications     |
| ③ Share documents           | Use social networks          | Watch videos or online TV |
| ④ Download videos           | See maps with GPS            | See maps with GPS         |
| ⑤ Watch videos or online TV | Make voice and video calls   | Use social networks       |

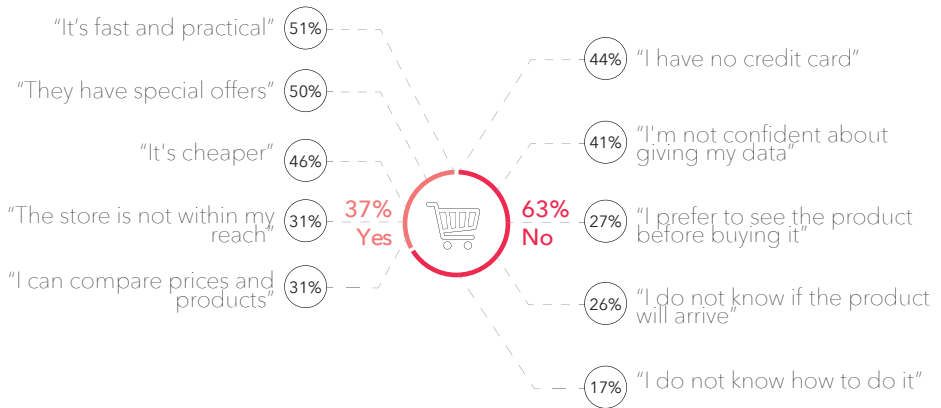
### Preferred format to look for information

	Reading	Seeing images	Seeing videos	Listening
Health	55%	29%	32%	13%
News	47%	28%	40%	17%
Technology	42%	41%	52%	12%
Entertainment	41%	36%	43%	14%
Brands	34%	38%	26%	7%
Sports	20%	24%	45%	12%



TRANSACTIONS

"Have you made online purchases in the last 6 months and why?"

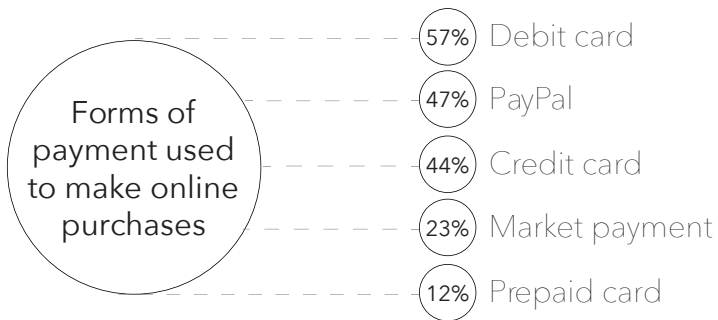
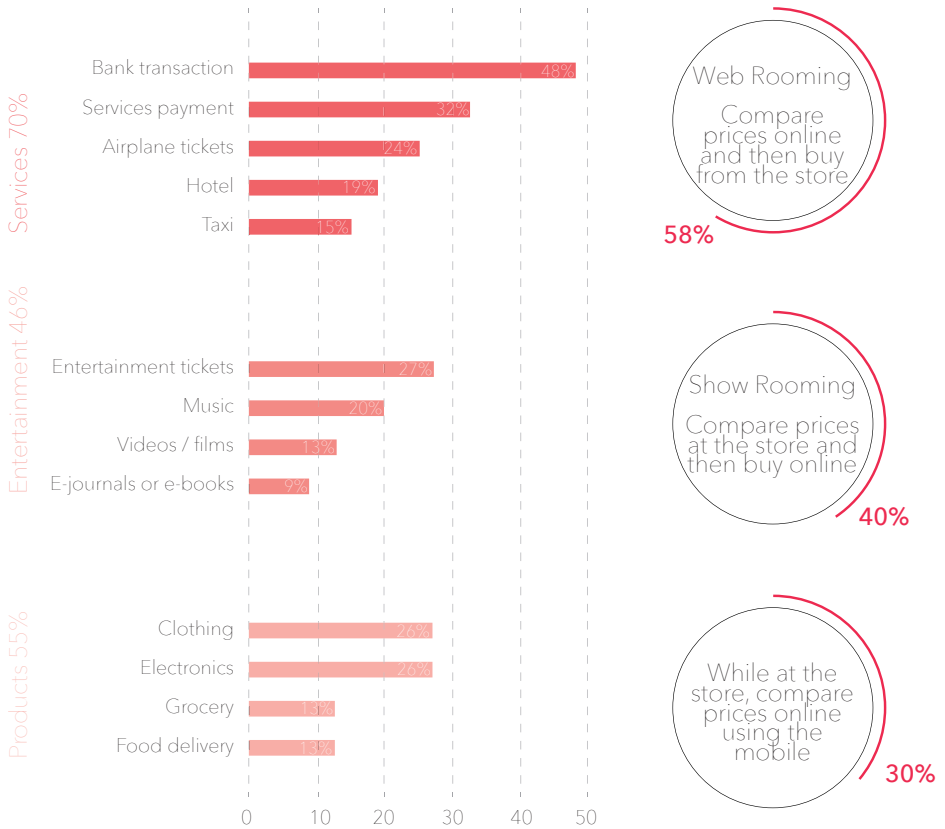


Online purchases by device



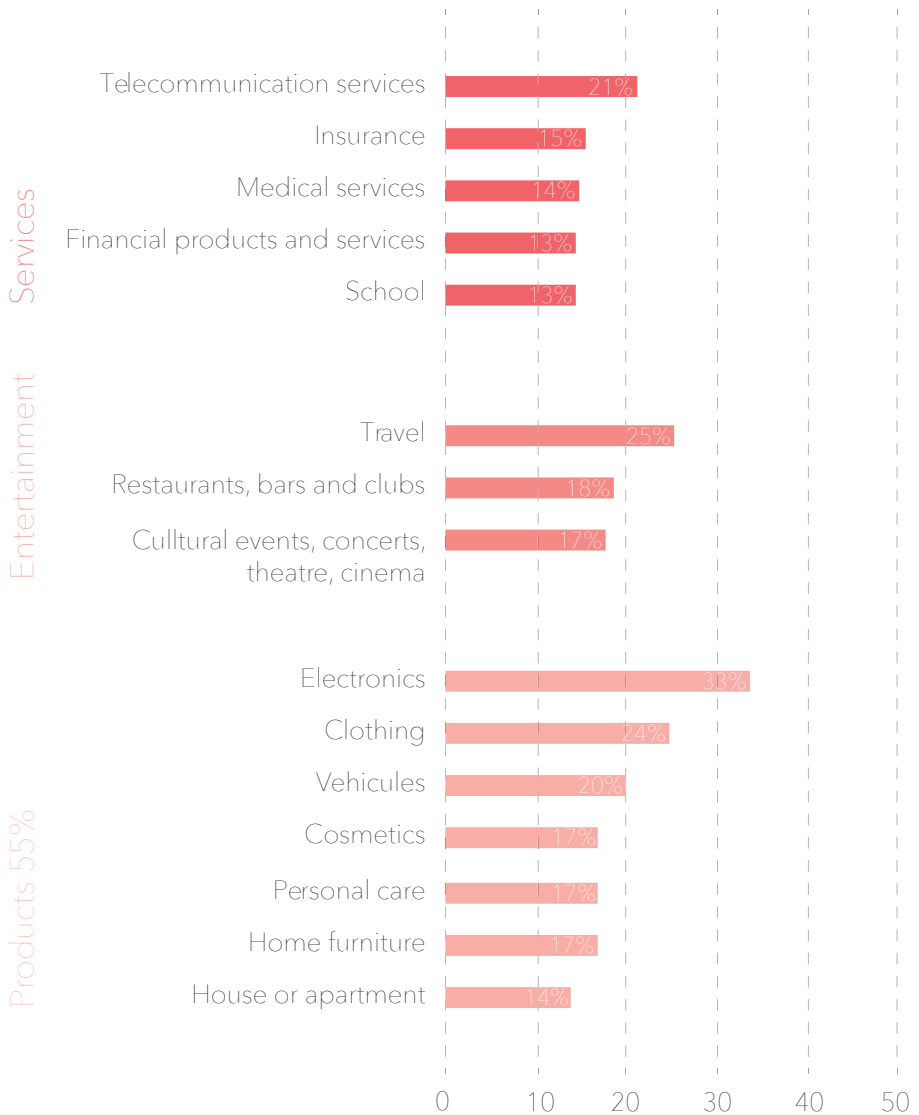
- |   |                                |                       |                       |
|---|--------------------------------|-----------------------|-----------------------|
| ① | Bank transaction               | Taxi                  | E-journals or e-books |
| ② | Airplane tickets               | Music                 | Videos / films        |
| ③ | Hotel reservation              | Food delivery         | Entertainment tickets |
| ④ | Grocery and/or household items | E-journals or e-books | Music                 |
| ⑤ | Clothing                       | Entertainment tickets | Food delivery         |

## Types of online purchases made





## “What kind of products or services you do not acquire without first consulting information about them on the internet?”

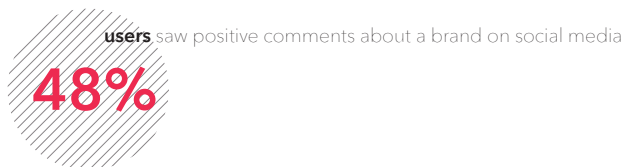
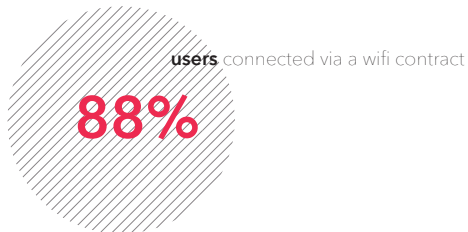
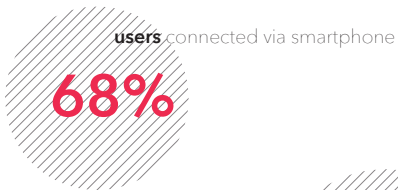
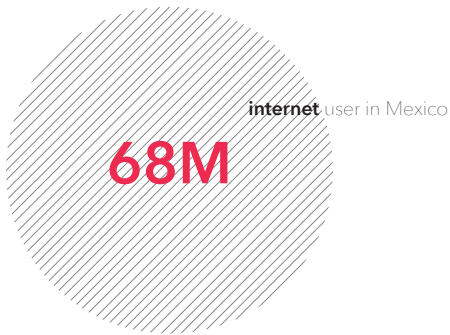


## INTERNET VS. OTHER MEDIA

Preferred ways to do certain activities + personal impression

	Traditional	Traditional + Internet	Internet
Listen to music	22%	28%	39%
Read books	42%	18%	18%
Listen to the radio	38%	18%	16%
Read periodicals	33%	13%	16%
Read magazines	32%	15%	14%
Speak on the phone	58%	18%	12%
Watch TV	56%	17%	10%

	"Keeps me updated"	"I enjoy using it"	"I use it more than any other means"	"Forms a part of my daily life"
Internet	89%	87%	86%	84%
Television	39%	48%	27%	55%
Radio	23%	23%	11%	28%
Press	21%	21%	6%	19%
Advertisement in public areas	5%	3%	1%	13%



## **LIVING WITH THE INTERNET**

Internet is present in the daily lives of Mexicans; they use it throughout the day and hold a strong bond to it. They enjoy using it as it increasingly satisfies a great number of their needs. It doesn't only keep them connected and informed but also supports them in different activities of their lives.

## **LIVING WITH SMARTPHONES**

Smartphones are surpassing all the other devices when it comes to use and connection. Mexicans spend more time on their smartphones since they allow easier connection from multiple places. If the Internet user is mobile, marketing and advertising should also be.

## **LIVING WITH MULTIPLE SCREENS**

Internet users coexist naturally with multiple screens, incorporating them into their media consumption, prioritizing them in different moments of the day and according to their needs. This means that capturing the Internet user's attention is increasingly complex and vital for brands. Communication strategies should cover all sorts of multiscreen, multiplatforms and multimedia.

## **LIVING WITH E-COMMERCE**

The barriers to not buying on the internet are mainly not having a bank card as well as distrust in the process of online purchases. This is why it's important to develop different forms of payment that are more accessible while giving a more sense of trust to the users.

## **LIVING WITH INTERNET ADVERTISING**

Internet advertising requires to be attractive while giving reliable and interesting information to the average Mexican user. It should show something new in the format and content while prioritising interaction and generating a more personalised experience. This type of advertising contributes to the proximity of consumers with brands through the creation of links between the information that they receive and the relevance that they associate with it. This deeply affects the user's decision making with regards to any brand.

## **LIVING WITH SOCIAL MEDIA**

There is an intense and deep interaction between the Internet user and the platforms of social media. Social media will continue to be a space of interest for products and services.

## **LIVING WITH ONLINE HEALTH**

Mexican users prefer to read about health rather than see related images or videos or podcasts.

# 1.14 MOBILITY

## GENERAL SITUATION IN MEXICO CITY

Mexico City is the city with the most vehicular traffic in the world. The city has more than 23 million trips daily and 5.5 million automobiles in circulation. It also suffers from an insufficient and deteriorating pedestrian infrastructure.

The trip back and forth in public transport typically takes up between four and six hours a day and eats up more than a third of a typical salary. Only 31% of public transportation trips are made in mass transport system like the metro or the metrobus.

The large majority (50.8%) of the trips made by public transport are still characterized by low service quality, poorly regulated and highly polluting minibuses.

CDMX has long suffered from high levels of air polluting contamination well above maximum levels recommended by the World Health Organization which are mainly attributed to cars.

Moreover, cars account for 81% of the vehicles involved in deaths and pedestrians account for 52% of road traffic deaths.

Several strategies have been set to control these issues including car bans.

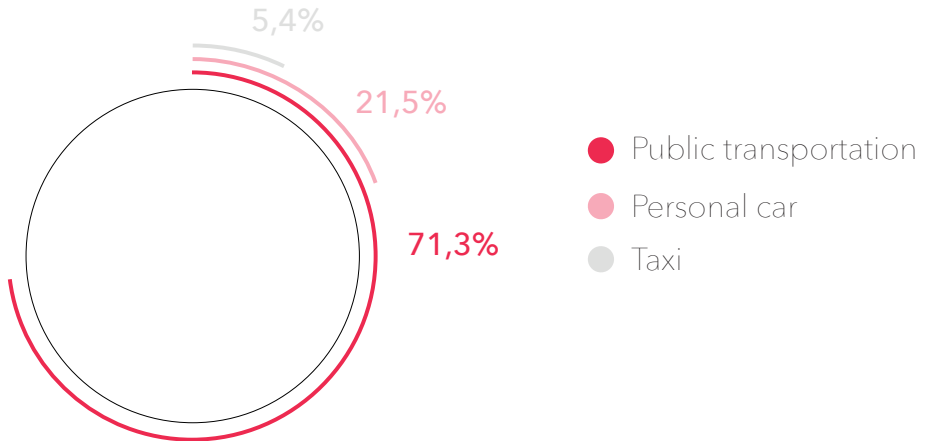
The legislation in Mexico City provides guidelines to promote sustainable mobility, improve road safety and invest in a transportation system that focuses on moving more people than moving automobiles.

A further barrier to the expansion of public transport is the cultural and class-based preference for private cars.

Differences in everyday transport usage reinforce deeply rooted social divisions and segregated practices jeopardize the inherently urban experience of establishing contact, albeit for a brief period of time within one's daily schedule, with others different from oneself.

## HOW PEOPLE USUALLY COMMUTE

30% reduction in GHG emission by 2020  
(2014-2020) Mexico City's Climate Action Program (PACCM)



The percentage of walkers, bikers and motorbikers is less than 2%

## GOVERNMENT REGULATIONS

The 2014 Mobility Law of Mexico City states the following key points:

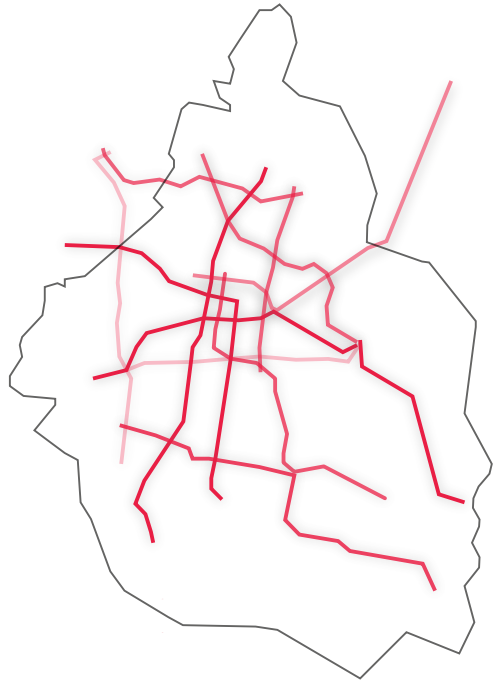
- Change the legal framework towards people oriented mobility to change the budget.
- Redefine parking lot regulations.
- Care for the modal share and road safety of the people who travel in the city.
- Create and review specialized areas for public policies aimed at mobility.
- Planning instruments to ensure more mobility with fewer cars

# 1.15 MEANS OF TRANSPORT



The subway is built underground (115 stations), surface (54 stations) and elevated viaduct (26 stations), 184 stations are located in the Federal District and 11 in the State of Mexico. Its rate is \$ 5.00.

- LINE 1** (pink)  
Observatorio-Pantitlán
- LINE 2** (blue color)  
Cuatro Caminos-Taxqueña
- LINE 3** (olive green)  
Indios Verdes-Universidad
- LINE 4** (color cyan)  
Martín Carrera-Santa Anita
- LINE 5** (yellow color)  
Politécnico-Pantitlan
- LINE 6** (red color)  
El Rosario-Martín Carrera
- LINE 7** (orange)  
El Rosario-Barranca del Muerto
- LINE 8** (green flag)  
Garibaldi-Constitution of 1917
- LINE 9** (brown)  
Pantitlán-Tacubaya
- LINE A** (purple)  
Patitlán-La Paz
- LINE B** (green leaf-gray color)  
Ciudad Azteca-Buenavista
- LINE 12** (golden color)  
Mixcoac-Tlahuac



Mexico City Public Transportation Density |





## METROBUS

It is a high floor bus rapid transit system with defined stops and scheduled times. It has a total of 239 stations and its rate is \$ 6.00.

**Line 1** (red color) Direction Caminero-Indios Verdes (Corredor Insurgentes).

**Line 2** (purple color) Address Tacubaya- Tepalcates (Corredor Eje 4 Sur).

**Line 3** (green color) Direction Tenayuca-Ethiopia (Corredor Eje 1 Poniente).

**Line 4N** (yellow color) Address Buenavista-Aeropuerto T1-T2

**Line 4S** (yellow color) Address Buenavista-Puente de Alvarado

**Line 5** (navy blue) Direction San Lázaro-Río de los Remedios (Corridor Eje 3 Oriente) and the San Lázaro - Glorieta de Vaqueritos extension.

**Line 6** (pink) Address El Rosario-Villa de Aragón (Corredor Eje 5 Norte)

**Line 7** (dark green) Field Mars-Green Indians (Reformation Corridor)



## ELECTRIC TRANSPORTATION SERVICE

### Trolleybus

The Service Network has 8 trolleybus lines in service with an operating length of 203.64 kilometers. Current trolleybus routes cost \$ 2.00, light rail costs \$ 3.00, and zero-emission brokers cost \$ 4.00; all of which are subsidized by the city government.

The scheduled vehicle fleet is 290 trolleybuses, which operate at an average passage interval of 4 minutes, all within Mexico City. The Trolleybus Electric Transportation System allows modal interchange with the Metro, buses and buses RTP.

## Light train "Tren ligero"

The light train is part of the Electric Transportation Service network of Mexico City, it operates from the south of the city, providing an electric and non-polluting service by the delegations: Coyoacán, Tlalpan and Xochimilco. It has 16 stations and 2 terminals. As all the previously mention the capacity offered by this mode of transport has been exceeded.



### SUB URBAN TRAIN

On of the most recent mean of transport added to the current network was made in 2006, the construction of the first suburban passenger rail system, called the Suburban Train, began, which reduces the three hours a person spends in transportation from Cuautitlan to the Buenavista station in just 25 minutes.



### URBAN BUSES

The city has a significant number of urban bus routes, the offer has changed over time due to deficiencies (alliance of truck drivers from Mexico), political-particular dyes (route 100) and current restructuring for which the city has an important number of companies that cover the service.

It is a decentralized public body administered by the Government of Mexico City that offers the service of urban buses in 94 routes in 83 colonies of Mexico City and moves an average of 260 thousand passengers every day.



## COLLECTIVES (MINIBUSES AND COMBIS)

This is a public transport system of a smaller proportion than trucks or buses. These are also known as micros or peseras. There are 106 routes throughout Mexico City, with 163 thousand routes, covering primary and secondary roads. There are no official maps with the routes. The rates start at 5 pesos and increase according to the gas increase. These are organized into almost a hundred routes.



## TAXI

According to the Department of Transportation and Roads of the CDMX (SETRAVI), taxis are divided into five different types, each with a different price rate (banderazo).

Free | Site | Radio Taxi Site | Touristic place | Terminals



## ECOBICI

Ecobici is the shared public bicycle system of Mexico City that has integrated the bicycle as an essential part of mobility, it is a mode of transportation aimed at the inhabitants of the capital, its surroundings and tourists. It allows Registered users take a bike from any cyclestation and return it to the nearest to its destination in unlimited 45 minute journeys. Those who want to access the Ecobici System may pay a subscription for one year, one week, three days or one day.

Ecobici started operations in 2010 with 84 cycle stations and 1,200 bicycles. In just 6 years the demand has driven the expansion of the system by 400%. Currently has 452 cycles, more than 6,000 bicycles and provides service from Monday to Sunday to more than 100,000 users in 43 colonies of three delegations, giving coverage in certain areas, they are mostly use by tourist and short distances.







## 2.1 HOUSEHOLDS

dad, mum & children



mum only with children



dad, mum & young people



reconstituted family

% 11,1



one-person household

% 9,6



parents, children & other relatives

% 6,2



empty nest

% 4,7



young couple without children

% 4,1



co-residents

% 3,8



dad only with children

% 2,8



same-sex couple % 0,6





## GENERAL HOUSEHOLDS KEY FACTS

In Mexico City **65.3 %** households involve children

89 out of 100 households are families and the rest are **non-relatives**

The population is estimated at 123.6 million people and, on average, there are **3.6 members per household**

23.2% reside in rural localities and 76.8 % in urban localities

## HOUSEHOLD TRADITIONAL STRUCTURE

Aztec, Mayas, Olmecs, Zapotecs all had well-organized societies where the family was a vital component. Family in pre-Columbian times dictated the society structure and played an important part in maintaining order in communities. Now indigenous Mexican family structure tends to be:

- Patriarchal: A father or grandfather would be the head of the household. He would be in charge of its organization, proper functioning and spiritual rituals.
- Patrilineal: The men in the family carry the family name and lineage.
- Extended: Two, three or more nuclear families (father, mother, children) lived together in one household.
- Organized: Everyone had a role. The men taught boys their roles and responsibilities. Girls learned from women.
- Spiritual: Family life revolved around frequent rituals, ceremonies and celebrations.
- Structured: Extended households formed communities. Strict hierarchies and order were vital for the proper functioning and survival of the family and the community.



## HOUSEHOLDS DESCRIPTION



### NUCLEAR FAMILY (TWO-PARENT)

The nuclear family is what we know as a typical family, that is, a family formed by a father, mother and their children. Societies generally encourage their members to form this type of family.



### SINGLE-PARENT FAMILY (MOTHER OR FATHER)

It is when only one of the parents takes care of the family unit, and, therefore, in raising the children. It is more common for the mother to stay with the children, although there are also cases where the children stay with the father. When only one of the parents takes care of the family, it can become a very big burden, which is why they usually require the help of other close relatives, such as the grandparents or other family members.



### ADOPTIVE FAMILY

This type of family, the adoptive family, refers to parents both, female and male who adopt a child.



### FAMILY WITHOUT CHILDREN

This type of families does not have descendants. In more recent times, a pet has become third member (mostly dogs).



In this type of family, the parents have separated. Although they refuse to live together, they must continue to fulfill their duties as parents. Unlike single-parent, in which one of the parents carries the full household and raising, the separated parents share functions and responsibilities, although the mother is, in most cases, the one who lives with the children.



This type of family is characterized by having two homosexual mothers or fathers who adopt a child.



This type of family, is characterized because the raising of children is in charge of a different family member or several members of the family (parents, cousins, grandparents, etc.) in the same house. It can also happen that one of the children has his own child and they all live under the same roof.



Older children whose children no longer live in their home, or better called the "empty nest".



Household held by one person, it can be permanent or temporary.



## YOUNG COUPLE WITHOUT CHILDREN

Usually they look for comfortable spaces, provided with everything necessary to live very well; they are big consumers of technology, appliances and furniture, as well as devices to exercise. They have no soon interest in having children.



## CO-RESIDENTS

So called "roomies", they are not blood related, however, they live together and share common spaces.

## 2.2 FAMILY ROLES

### CATHOLIC INFLUENCE

Spanish colonization brought Catholicism, but didn't bring great changes to the existing family, mainly because the values were similar. After the colonization the family was still patriarchal, extended, organized and structured. The only changes included the restriction in polygamy and the replacement of native rituals with Catholic ones.

### HOUSEHOLD TRADITIONAL OVERVIEW

The average Mexican household structure varies between social classes. Most households consist of the nuclear family alone, but multi-generational living is still common in both rural and urban areas. In cities, this usually occurs among lower classes due to economic necessity. Traditionally, couples seek as many children as possible in accordance with Catholic standards.

The Christian proverb says, "you must have as many children as God sends you". However, this has changed in contemporary times, especially in urban areas and among the middle and upper class, as contraception has become more socially acceptable and popular.

Today, the standard nuclear family size is between three and five people. Children are not always expected to move out of home when they come of age. The high costs of independent living and tertiary education means that only children from more privileged classes tend to leave their parents' home to study.

Most children stay in their parents' households until they get married or a job opportunity requires them to move/leave. For families in the lower class and rural areas, a child's departure for study or a job is seen more as a sacrifice on their behalf than a rite of passage.

Mexico has traditionally been home to a patriarchal family structure. There are defined roles for mothers, fathers, brothers and sisters in Mexican families.

## **MEN AND WOMEN**

Men and women have different roles according to Mexican culture: Marianismo is the term for wives while machismo regards the traditional role of men. Machismo is generally not as strong in Mexico as it can be in other Latin American countries, but anyway men are expected to be masculine, self-reliant and dominant under these cultural standards. Fathers are usually the head of the house, called jefe de familia, and is the primary income earner and decision maker (even if the all family is consulted) of the household. Meanwhile Mexican women are expected to be self-denying, so they can dedicate themselves to the family.

A mother is the heart of the family, they cook, clean and care for children, regardless of whether they are also employed. Daughters are expected to do the same. Today parenting roles are a bit more egalitarian, but it mainly depends on the upbringing of both parents and the roles they agree to take on within the family.

## **MULTIGENERATIONAL HOUSEHOLDS**

“Familismo” is the value of family over individual needs. Multigenerational families living in one household were common in Mexico, but today several changes led to generations separating households, like general urbanization, out of country migration and lengthier life expectancy.

Although extended families may live in separate households today, family is the number one priority among many modern Mexicans.

## **MODERN MEXICAN FAMILIES**

While some Mexican families still follow the traditional family set up, many others follow family trends similar to nuclear families to those in U.S. and Europe.

The main notable changes include a shift from extended families to nuclear families, an increase of female household leaders and more varied composition of families (including same-sex couples and their children). Also the number of children is decreased through time: once families could have 10-12 children and in the 70s having five children was considered modern.

## **MEXICAN WOMEN IN THE FAMILY**

The major changes in family structure over the last 50 years come from the empowerment of Mexican women.

Although gender inequality is still an issue, the fact that many women are now household leaders is evidence of progress in this area. Changes that made this newfound empowerment possible include wider access to contraception, increased opportunities in education and the workforce, and the need of the workforce to make use of its women.



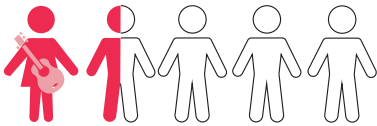
## 2.3 MIGRATION

### MIGRATION AND FATHER ABSENCE: THE DISRUPTION OF FAMILIES' VALUES

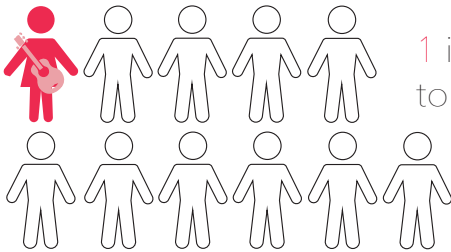
Mexican children's family structure has been most affected by rising migration rates. Since 1976 migration has shifted to the most common form of father household absence.

-More than 1 in 5 children experience father's migration by age 15

-1 in 11 experiences his departure to the United States.



More than 1 in 5 children experience father's migration by age of 15



1 in 11 experiences father's departure to the United States

The proportions are significantly higher among those children born in rural communities and those born to less-educated mothers. Migration is a family process with implications for children's living arrangements and attendant well-being, particularly in resource- constrained countries. The stability of children's family life in these regions constitutes a substantial but poorly measured cost of worldwide increases in migration.





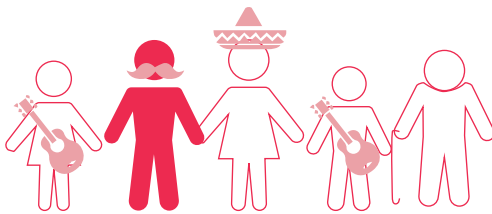
Between 1970 and 2005 (the Great Mexican Emigration) the flow of migrants from Mexico to USA increased more than 700% and the interstate migration flow within Mexico increased by 20%, with implication for both sending and receiving communities.

Mexican migration is not limited to the young, unmarried and childless people and more than 30% of migrants are older than 35 at departure (above the mean age at childbearing). In fact, among married couple births increase the probability of men's migration. Sometimes children ultimately move to join migrant parents, but most of the times parents and children can be separated for years.

Some studies suggest that the migration of Mexican parents constitutes a disruptive family transition with significant health and education costs for children who remains at home. Father's migration is associated with increased illness, reduced vaccination coverage, lower educational aspirations, lower probability of attending high school and fewer completed years of schooling.

### Migration, Parenthood, and Changes in Father Absence From 1975 to 2009.

The main destination among Mexican migrants are the United States, and from 1970 to the late 2000 the rise of migration was unprecedented and also the number of fathers living their families.



Fathers with children under 15

**30%** Migration to the USA

**34%** Migration within Mexico

From 2002 to 2005

Between 1976 and 2005 the percentage of children living apart from migrant fathers increased. In 1992 1 in 100 children had a father in the united states, by 2005 1 in 22 children had a father in the United States.

Thus, the increase in the proportion of adult men migrating during the “Great Mexican Emigration” produced an even larger increase in the proportion of Mexican children living apart from emigrant fathers. Notably, the change between 2005 and 2009 in the proportion of children with a father in the United States is consistent with data on post-recession declines in Mexican emigration. Migration now is the most common form of father absence in Mexico, while mortality and the percentage of children living with a widowed mother declined.

Eighteen percent of children born in two-parent homes are expected to experience a fathers’ migration by age 15. Because some children are born apart from migrating fathers (4 % to domestic migrants and 4.5 % to U.S. migrants), the proportion of all children with migrating fathers is even larger.

As a temporal burden over childhood, migration is also comparable to divorce in Mexico. Surveys unmask significant regional and socioeconomic heterogeneity. Among children born in two-parents homes the probability of having a father migrate either domestically or to the United States is higher in rural regions and among children with less-educated mothers. In both subgroups more than 20% of children who reside with their mothers are expected to experience a father’s absence at some point during childhood because of migration. By contrast, educational patterning is not observed in fathers’ U.S. migration.

This is consistent with previous research on the educational selectivity of internal migrants in Mexico and the relative lack of educational selectivity among international migrants.

In rural regions, 14 % of childhood years are lived apart from migrating fathers; in these areas, migration outpaces divorce, death, and nonmarital fertility combined as a contributor to children’s time apart from fathers. Similarly, children of less-educated mothers spend significantly more time with fathers migrating, either to the U.S. or domestically, than do children of mothers with at least some secondary schooling.

Children who remain in origin households are rarely incorporated into debates about the economic ramifications of migration systems. Yet, a large number of children will be affected by the process; the worldwide population of international migrants now exceeds 200 million, and the worldwide population of internal migrants exceeds 700 million.

The results here indicate that at least 4 % of children under 15 in Mexico—1.3 million children—have fathers living in the United States at present. More than 6 million children will experience a father's domestic migration by age 15.

Given the well-documented effects of family stability for children's later-life outcomes, one link between migration and socioeconomic change in origin communities will operate through the parenting investments made in the next generation.

Undoubtedly, remittances present is an opportunity to offset the costs of instability and father absence. Nevertheless, remittances are not universal, and the capacity of financial transfers to offset these costs lacks strong empirical support, although this line of inquiry is still relatively new.

The few studies on children's outcomes test for the net effects of fathers' departures over the short run; these effects appear to be negative.

The traditional conception of family transitions must be extended to include parental migration as a form of household instability for children in middle- and low-income countries. In Mexico, migration accounts for nearly the same percentage of childhood spent apart from fathers as divorce. In rural areas, migration dwarfs other demographic processes as a driver of father absence.

Documenting the effect of migration on children's family structure thus serves as an important counterpart to similar undertakings in cohabitation research, which showed that children who appeared to be raised by single parents were actually living with two.

The opposite argument must also be considered: in developing countries, many children who appear to be living in homes with two married parents are actually living with one.

The magnitude of the migration findings is notable because the estimates almost certainly constitute lower bounds on the proportion of children affected by migration. Children whose parents are divorced may also have fathers in the United States. And although not emphasized here, the number of migrating Mexican mothers appears to be growing (Dreby 2010).

The national estimates also mask further regional heterogeneity. Targeted samples from historically important sending states have noted an even larger proportion of children with absent parents.

Parental migration likely generates new opportunities for some children. At the same time, the effects of household instability on children's subsequent education, mental health, employment, and negotiation of adult relationships are increasingly well established.

Whether children of migrants, now a substantial proportion of the Mexican population, reach adulthood ultimately advantaged by remittances and regional development gains remains an important subject for future research.



## 2.4 FAMILIES AND OBESITY

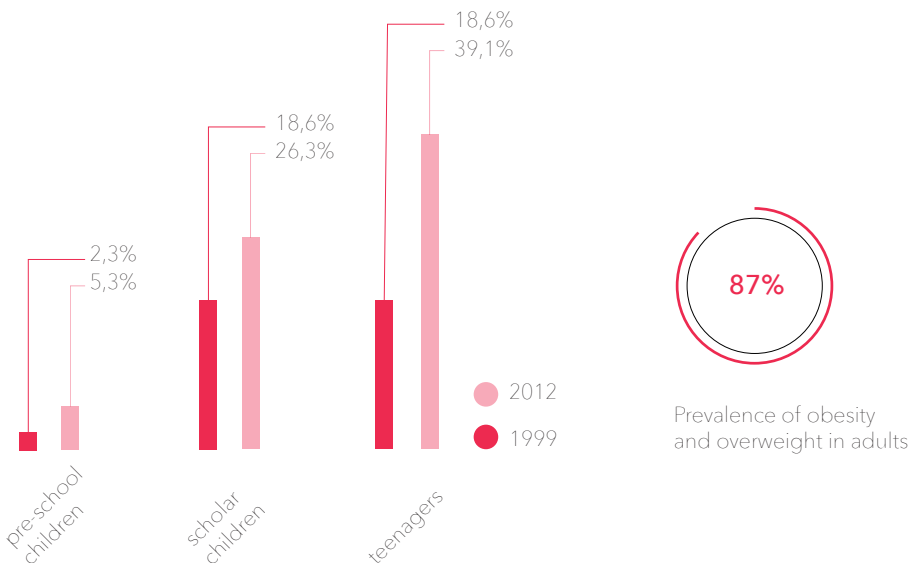
Family misperceptions of childhood obesity in Mexico City.

According with the Ecueta Nacional de Salud y Nutricion overweight and obesity in children and adolescents are a Public Health problem in Mexico.

The main determinants are changing dietary practices and increasingly sedentary lifestyle with daily exercise during considerably short periods of time (6 minute/day in public schools).

Although overweight and obesity in childhood tends to persist in adult life and are the main risk factors for chronic diseases development trends indicate an increase in childhood obesity globally, especially in Mexico.

### OBESITY AND OVERWEIGHT 1999-2012



The lifestyle of the families did not change in this period of time even though many massive communication media (radio, television, internet, newspapers, periodic magazines, etc.), present educational messages trying to induce a change in nutrition and physical activity.

According with the national Institute for paediatrics, who made interviews to 1380 families living in Mexico City there is a distorted opinion about the state of malnutrition and obesity of their children and the results show that overweight is considered the best state of nutrition and health state.

2015 Annual survey about nutrition reveals:

### CHILDREN MEMEBERS OF THE FAMILY DEFINE HEALTHY FOOD AS:



The one elaborated at home



The one of the mother or the grandmother



In food elaborated at home oils and sugars are not a problem



Every food with suppelements and/or vitamins



Mexican style is preferred

## CHILDREN MEMEBERS OF THE FAMILY DEFINE HEALTHY FOOD AS:

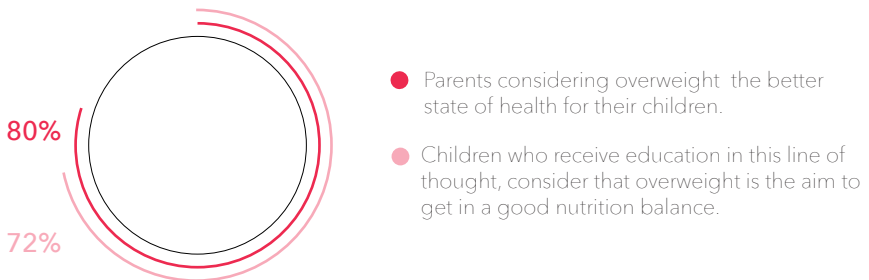


A hypothesis about a distorted perception is the fact that 50-70 years ago, when Mexico was a country just leaving the post-revolutionary times, the overweight child had more chances to survive.

Consequently, during that period of time families when possible induced over nutrition until the children were overweight to assure a better possibility of survival.

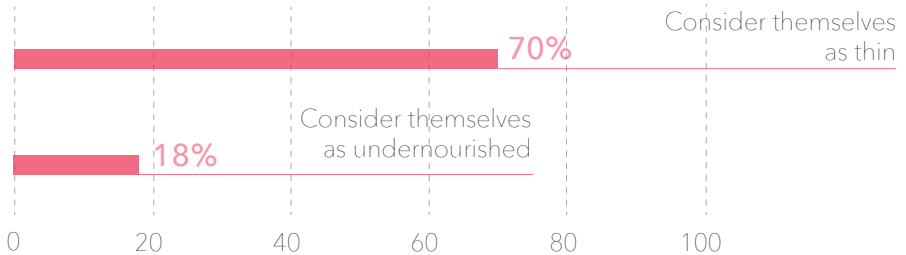
Parents disagree and fight against the educational messages of the National General Plan for Health, modulating the perception of the parents and children about optimal state of nutrition.

## OBESITY AND HEALTH PERCEPTION



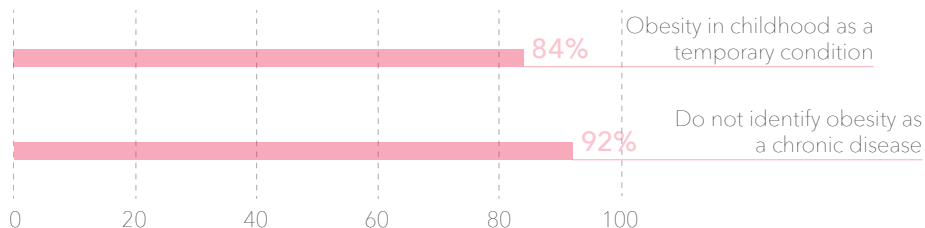


## CHILDREN AND DISTORTION ON OBESITY



Besides, Food Industry uses more than 90% of commercial time in massive communication media to send messages about the importance of vitamins and supplements in daily consumption, its high content of industrialized food, and the fact that during pre-exercise, trans-exercise and post-exercise, a high caloric and electrolyte content beverage are not only indispensable but imperative for children and adolescents.

## CHILDREN AND ADULTS PERCEPTION ABOUT OBESITY



Sociocultural factors as overprotection and forced feeding by grandparents and parents, false traditional beliefs about health and nutrition in grandparents, and low knowledge about nutrition in parents and caregivers are present in Mexican families.

Grandparents educate parents and children with misperceptions about overweight and obesity and a high percentage of the population consider that both conditions are desirable during childhood and represent an advantage for any child, and a very low percentage of the population identify overweight or obesity as a chronic disease or relate it to non-communicable diseases that appear during adult life.

Driven by aggressive advertising practices, relatively low cost of energy-dense foods and improved purchasing power, children and adolescents are increasingly consuming foods high in saturated fat and refined carbohydrates, sweetened carbonated beverages, and diets low in polyunsaturated fatty acids and fibre. The authorities of the National General Plan of Health must be aware of these family misperceptions, and that it is urgently needed to elaborate new strategies for effective health educational programs to impact not only children, but also the grandmothers and mothers on good nutrition practices, and convince them that overweight and obesity during childhood are chronic diseases and precludes for non-communicable diseases in adult life.

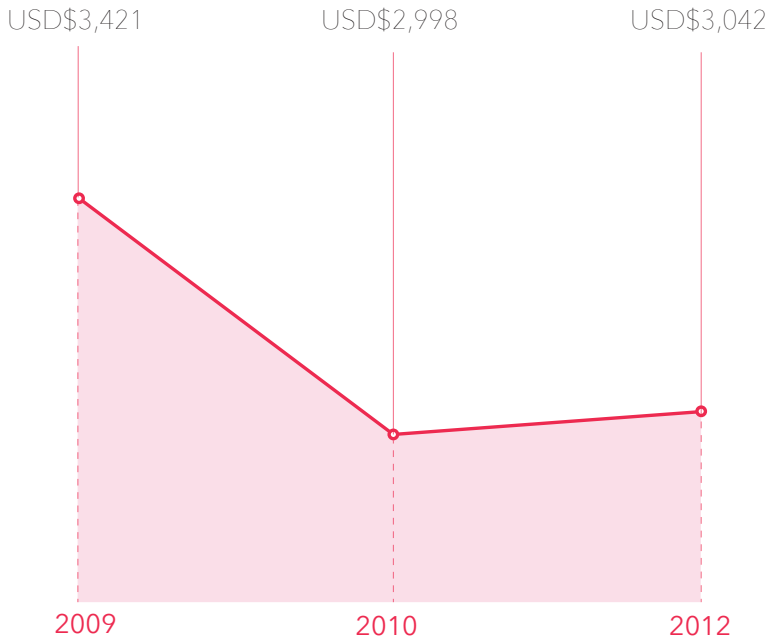


## 2.5 FAMILY ECONOMY

### ECONOMIC OVERVIEW OF MEXICAN FAMILIES

Despite the growth in the Mexican economy since the economic crisis of 2009, earnings of Mexican households have not fully recovered. The middle class has, in fact, seen a decline in earnings since the recession, according to the National Institute of Statistics and Geography (INEGI).

### HOUSEHOLD INCOME INCREASE FROM 2009 TO 2012 according with the publication of the national survey of household income and spending



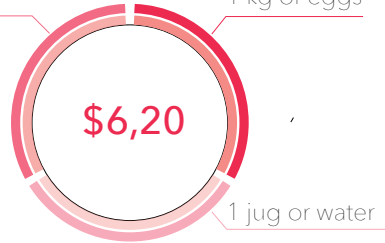
### Poorest Household



USD\$6,20 per day in 2012

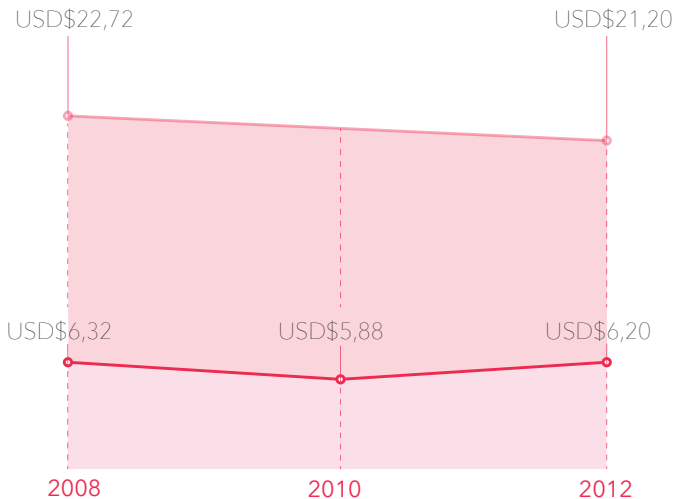
1 kg of tortillas

1 kg of eggs



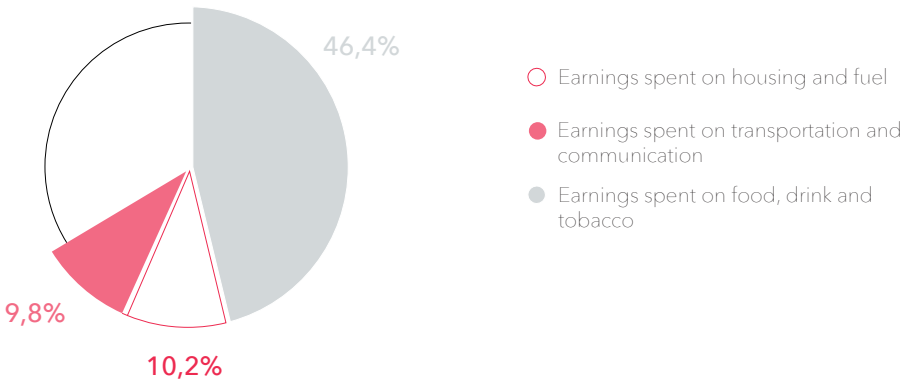
The growth of the Gross Domestic Product (GDP) since 2009 has progressed favourably but has not carried household income along with it. Comparing the earnings of the poorest families to those of the middle and upper classes, the numbers illustrate a dire situation for the poor, even if the average earnings of the poorest households grew at the highest rate of any sector of the population.

### POOREST INCOME VS MIDDLE INCOME

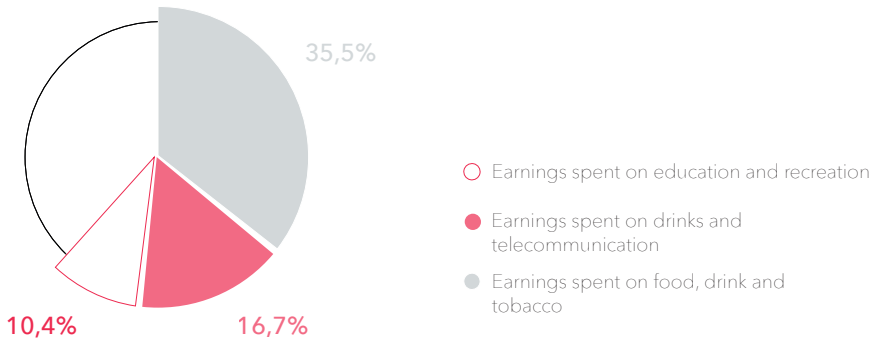


A case to the contrary is the stagnant growth of middle class earnings that saw its earnings diminished with the crisis and have not been able to recover since. Anyway, the highest point in the financial depths in which Mexico currently finds itself is occupied by the wealthiest households.

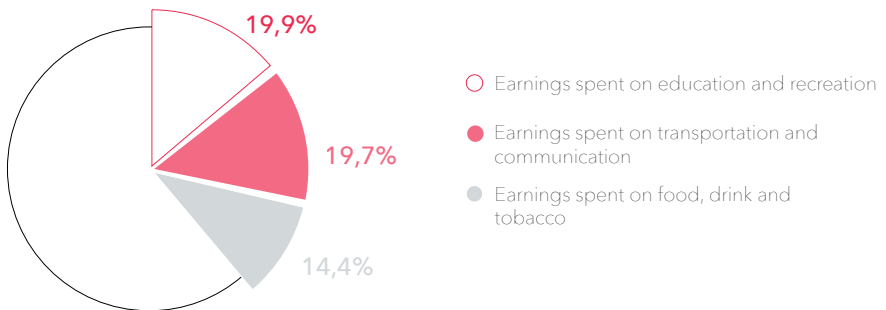
### Earnings of poorest households (\$6,20 per day)



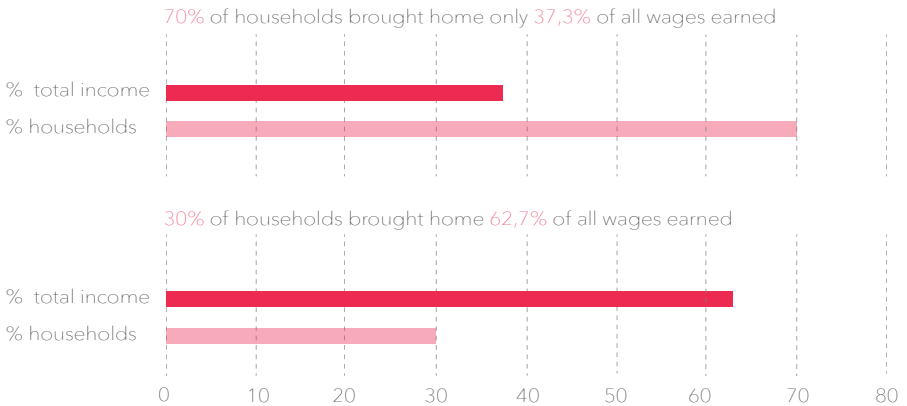
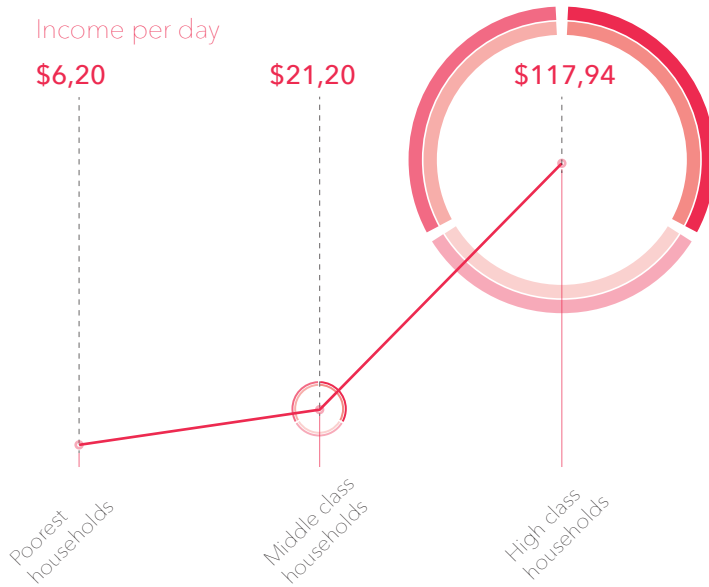
### Earnings of middle class households (\$21,20 per day)



### Earnings of wealthiest households (\$117,94 per day)



# What is it like to be a parent in Mexico City?











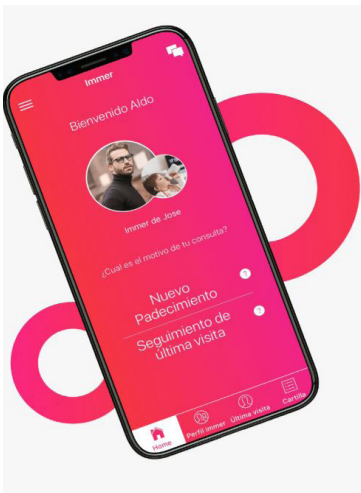
## 3.1 MEXICO'S COMPETITIVE LANDSCAPE

### PRODUCTS IN MEXICO

The competitive landscape proposes an overview of available products and services on the market focused on health and well being of citizens created and/or sell in Mexico.

This products concern all the sectors of health as digital solutions, big data, tracking device, medical device, traditional products, therapies, food, sport services and more.

Parents in big cities are affected by a lot of these products and can be the main users of them. This market analysis is interesting because allowed us to know what are the existing projects and what can be changed or adapted, what do not exist, the possible niche markets and opportunities we can find the improving of well being and propose a better healthy environment for Mexicans.



#### **IMMER - IMMERPACIENTE** MEXICO, 2017

Digital platform to take care of your children health, without complications.

- +** E-health
- +** Helps manage the health and well being of your children
- +** Learn and communicate with your doctor
- Do not check the child in real time
- Storage, information and intelligence application.

## WINDOW STREET FARM JOSE DE LA O MEXICO, 2011

Plug container to cultivate vegetable indoor or outdoor.

- + Manual, green, healthy and ecological
- + Possibility to share it
- Not protection against vandalism
- Danger of contamination when it's outdoor



## HEALTHY HUNGRY BEAST SAVVY STUDIO REFONT PRODUCT

MEXICO, 2018

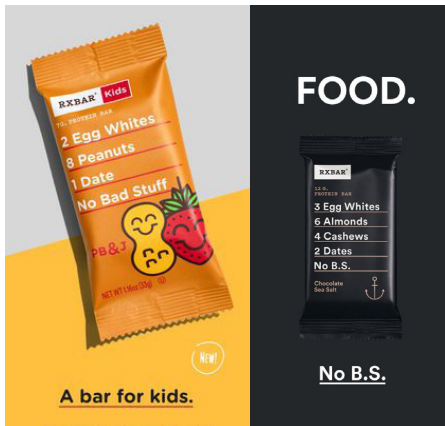
Brand of fresh food and healthy juices

- + Healthy products
- + Clean and clear communication
- Maybe not all Mexican are interested in buying them

## BASED HEALTHY FASTFOOD FACE FOR MONTERREY

MEXICO

- + Fast-food brand focused on create healthy alternative
- + Healthy products  
Clean & clear communication
- Maybe not all Mexican are interested in buying them



## RXBAR - CHICAGO

MEXICO, 2013

It's a healthy bar for parents and children

- + Healthy and well packaged
- + Clear food composition
- + For parents and children
- It's not present in every area of the city



## ECGLOVE 00 - KENKO SOLUCIONES JALISCO

MEXICO, 2017

It's a cardiac glove connected to a watch. It controls heart in case of problem.

- + E-health
- + Innovative: it saves lives and families.
- It will not save you if you are alone, you need someone helping



ECGlove 01  
Verano 2019

## BLISS HEALTH MEXICO ANAGRAMA

MEXICO CITY, 2017

It's a brand of all-natural detoxifying juices that are formulated in a custom step-by-step program for each individual customer

- + Healthy product
- + Clean & clear communication: one color for specific need
- Maybe not all Mexican are interested in buying them



<https://www.ecglove.com>

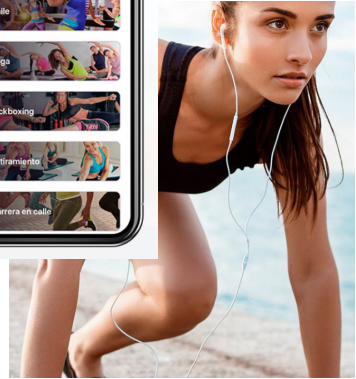
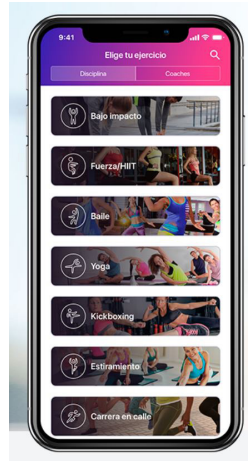
<https://anagrama.com/project/bliss-health>

## INSTAFIT APP

MEXICO, 2013

It's an application that help you adopt a sport routine and do exercise at home or outside.

- + Application of well being and sporting activity
- + Possibility to choose the best tailored activities
- Have a physical fitness downhill from the start
- Does not contain a program for people with physical problems



## MEDIFILE - MEDIFILE CARE

MEXICO

Manage the health files of your family in one app

- + Store your family's medical documentation
- Does not come in direct help to the person
- No preliminary advice for the well being.

## VIPERMED - MONTEVIDEO

AVAILABLE IN MEXICO

Online courses for family health, prevention about disease and healthcare.

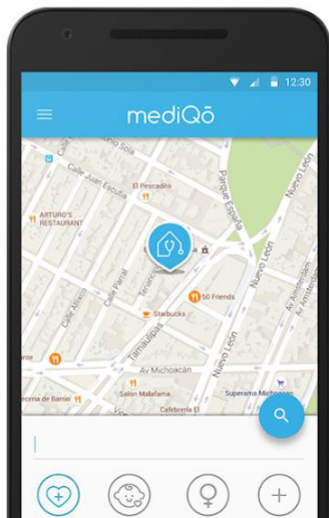
- + Video on health and self medication
- + Find out more about diseases
- Subjects are not personalized for you



LEER MÁS



Ingresar el destino y la especialidad que necesitas



## MEDICO APP FIND HEALTH PROFESSIONAL

MEXICO, 2018

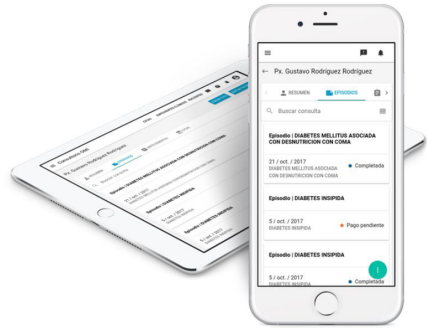
App to find health advices, chats and take an appointment with doctors in Mexico

- + Find specialists by location in Mexico city
- + Chat with them and set appointments
- Does not come in direct help to the user
- No preliminary advice for the well being

## ORMEDINE APP - OMI

MEXICO

Electronic clinical record for management and analysis of clinical information to use by doctors and patients.



- + Tutorial on health and well-being
- Subject are not personalized for you



## THOMY TOOLKIT - RENATA SOUZA LUQUE

MEXICO, 2017

Insulin injector for children that create a funny ephemeris tattoo.

- + Transform a pain experience into something funny
- + Sharing sensitization between parents and child.
- Do not fall in the game or ease for the child

<https://www.ormedin.com>

Frearson A., "Thomy toolkit could make life easier for children with type-1 diabetes", Dezeen.com, 23/02/2018



## MEMO BOX - TINYLOGICS

UK, INTRODUCED IN MEXICAN MARKET, 2014

Smart pill box connected to your smartphone that reminds and assists you in your pills taking.

- + Alert and reminder
- + Keep the host healthy
- + May save the user



## "QUE ESTE NO SEA SU FUTURO" CAMPAIGN - ADS OF PROTEJAMOSSUSALUD.ORG

MEXICO CITY, 2018

Campaign against big companies: it denounced the mexican problems about unhealthy food and its consequences

- + Strong picture
- Not published and show to a wide mexican public.



**Que este no sea su futuro**

**Señores candidatos:  
No más etiquetados engañosos  
y publicidad de chatarra a niños  
Protejamos su salud**

<https://pillbox.tinylogics.com>

Alianza por la Salud Alimentaria, "Lanza la Alianza por la Salud Alimentaria la campaña "Que este no sea su futuro", un llamado urgente y verdadero de atención a la obesidad", Alianzasalud.org.mx , 7/03/2018

## 3.2 WORLD'S COMPETITIVE LANDSCAPE

It is a good opportunity to know, further the mexican market, the new innovations in term of prod-ucts and services around the world.



### **SPROUTLING BABY MONITOR GOOGLE/APPLE ENGINEERS**

USA, 2015

Baby monitor connected device for the parents. It controls the heart rate of the baby and predict when the baby is most likely to wake up

- + Remove stress from parents
- + They can control children even if they are not in the same room

### **APPEL WATCHES- APPLE COMPANY**

USA, 2014

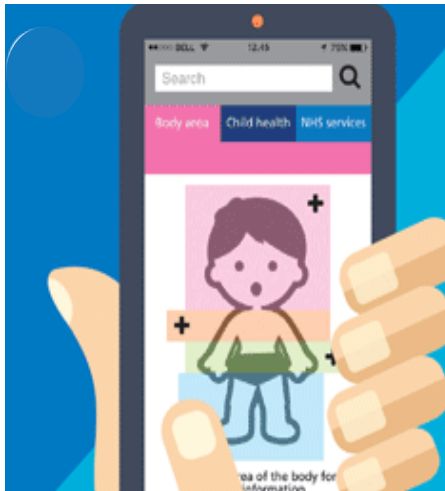
The watch contains a specific app for your well being and your health connected to your phone and your body

- + Smart



Smith C., "Apple and Google alums team up to create a wearable gadget new parents will love", Bgr.com, 7/08/2014

Smith C., "The Apple Watch is actually good for your health", Bgr.com, 15/05/2015



## NHS APP - NHS

UK,2013

It is a mobile app commissioned by NHS to help parents of young children to better assess their needs when illness strikes and to access the best and most appropriate service within their area.

- + Sensitize the parents about their children

## TAGABIKES-TAGA

USA

The bike transforms into a stroller or scooter that can accommodate one or two children. It will facilitate the mobility of parents

- + Parents can do exercise also with children



<https://www.nhs.uk>

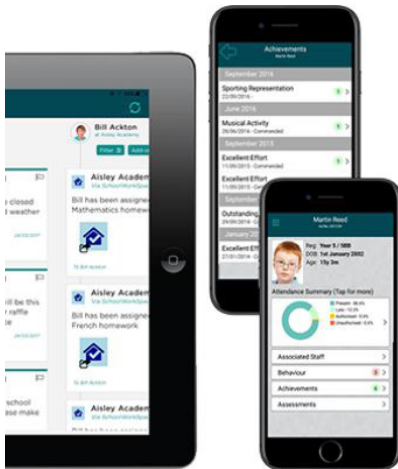
<http://www.tagabikes.com>

## THREAD- SHEEN&SONG

SOUTH KOREA, 2016

Prenatal device composed of a health sensor that analyzes the fetus sounds for the mother, one device connected for the father and an app to have a prenatal diary with explanation of the daily growth, doctor tips ect.

- + A family experience
- + Parent could learn more about the prenatal period



## GROUPCALL XPRESSIONS GROUPCALL

UK, 2015

It is an app for parents, an easy way to get updates from the children's school.

- + A good way to stay tuned about the evolve of your children in schools (mark, presence, feed-back...)

## THERMO- WITHINGS

FRANCE, 2017

It's a thermometer: with a fast, effortless gesture give a precise temperature measurement. The au-tomatic synchronization with the dedicated app also allow you to track temperature readings, get reminders and insert related symptoms/medications right on your smartphone.

+ Easy, clean, work for everybody



## SAFETY WHISTLE- GEKO

USA

This whistle tracks your location and sends it to your trust contacts in case of problems.

+ Can be a good service for parents who want to be reassured for their children

<https://www.withings.com/uk/en/thermo>

<http://www.mygekogear.com/products/smart-whistle>



## DIALOG- ARTEFACT AGENCY

SEATTLE, USA, 2017

Dialog is a concept designed to help people with epilepsy gain a deeper understanding of their condition and make better decisions about their care. It gives them an easier way to manage triggers and thresholds while it empowers them to use assistance from family caregivers, first responders, and clinicians as needed.

- + Little and discreet
- + Give insurance and independence to people



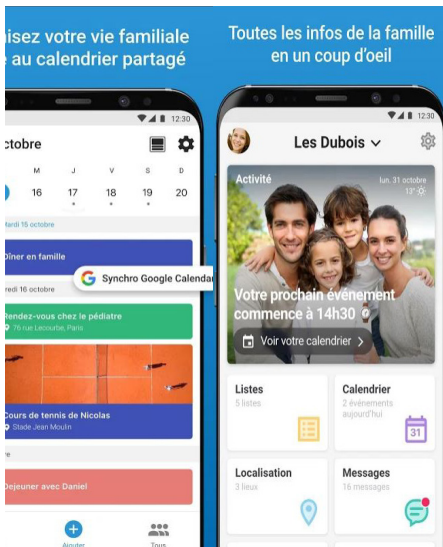
## HAPPYNGOOD APP JULIE DUMOULIN

FRANCE

It is an application that includes healthy cooking recipes, fitness exercises, events and lots of other tips for your well being and your body.



A complete app dedicated to the body well being  
Can be used by the parents (more addressed to women)



## FAMILYWALL APP- FAMILY&CO

FRANCE

Organize the daily life and keep the whole family informed with a shared agenda. You can find all the activities and meetings of the family in one place.



A complete family timetable where you can find the plans of everyone.

### 3.3 LEADERS OF THE MARKET

The output of our market analysis is composed by a very diversified and rich ranges of products connected to the health of people. Most of the time, products that are dedicated to parents are also involving their children.

Below are the different brands who lead the way in terms of health and wealth innovations.

With the researches on the different existing products both in Mexico and in the world, we outlined positive and negative aspects. It's interesting to classify information to find what is stimulating for our project and what is not.





## FOR MEXICO

- 1° Importance of Mexican formal and taste traditions
- 2° Important conception and vision of public sharing
- 3° Healthy and neat products. Consumer products informing about well-being and good nutrition
- 4° Large research and sharing health database. App with prevention (video), the cat (with doctor), storage of data on the family and geolocation (cabinet of specialists)
- 5° Developing public goods like ECGlove, can save lives and families
- 6° Mexican services are more focused on Big Data for the moment

## FOR THE WORLD

- 1° High level of innovation on the wearable devices for health and wellness
- 2° Innovation for everyday use, monitoring your health, your nutrition, your family timetable
- 3° Devices allowing you to be autonomous even if you had a disease or a need to be in security
- 4° Service for your body's wellbeing, at the same time manage your children's wellbeing
- 5° Release your parental stress with connected devices capable to share with you information in real time about your children
- 6° Get help with a service that gives you advice on how to manage your children's illness

## FOR US

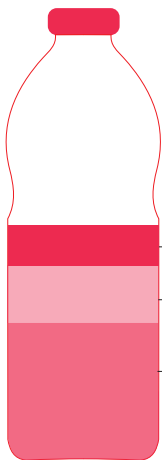
- 1° Products intended for a specific group of Mexicans, mainly low-income adults with children
- 2° Focus on the awareness part because this is where the problem lies
- 3° Treat the topics of physical and nutritional well-being

## 3.4 COCA - COLA VS WATER IN MEXICO

A big issue in Mexico is the water distribution and accessibility. Since the 1992, some decrees authorize the sale of domestic waters to international companies with the consequence that the availability of drinking water for the citizens has only decreased.

Thus, the government seems prefer to think at the financial interests of the country rather than the well-being and health of the people. Today, access to water in the country is totally unequal, wheth-er in the city or in the rural areas with real serious repercussions on the country's environment and its inhabitants.

### The monopoly of water in Mexico



-64% the availability of drinking water for the country and its inhabitants has fallen by 64% in 50 years.

The soda and beer industries excessively exploit the Mexico's waters. Coca Cola extracts 33,7 million cubic meter of water/year. It's the minimum water consumption for 20,000 Mexicans/year.

Several multinationals use Mexican waters such as Nestle, Veolia or Suez

Mining, gas and oil companies buy land and most of Mexico's waters. Gold Corp company uses 418,8 Million Cubic Meters of Mexican Water/Day. They also use chemicals that can be released into their rivers.

Reporterre le quotidien de l'ecologie, "Au Mexique, la population manque d'eau potable mais Coca-Cola prospère", Reporterre.net, 27/04/2015

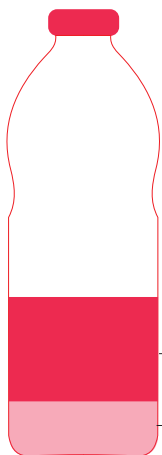
Rosello A., "L'emprise de Coca Cola au Mexique", Espoirchiapas.blogspot.com, 9/02/2018

Rieublanc M., "Le Mexique va-t-il se vider de son eau au profit des multinationales ?", Multinationales.org, 30/10/2015

Similarly, the capital's situation is critical.

Residents do not even have access to any source of water. In addition, leaks may occur in the waste water piping system that can contaminate the city's clean water. Currently, tanker trucks are forced to cross the city to distribute water.

The only way to get drinkable water in Mexico is to buy it in a bottle. In addition, the Coca Cola's big presence in the market cause even more problems to citizens' health. Mexico is the world's larg-est consumer of sweet drinks and accounts for 42% of Coca Cola's consumption in Latin America



### Water access in Mexico

35% of the city's inhabitants are not connected to the water network.

7% do not have access to a water source in the city

The country holds the world record for bottled water consumption (234 liters per inhabitant per year)

The water of the bottles in not source but is filtered water.

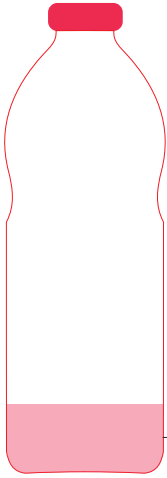
The purchase of water represents 20% of the expenses of the average Mexican

Coca cola consumptions: it is 728 bottles of 8 fl oz consumed per person per year in Mexico (406 in the US and 149 in France)

It is also interesting to notice that the former President of Mexico, Vicente Fox, from 2000 to 2006 was former CEO of Coca Cola America Latina. He worked for the firm since 1962 until his election.

Today, it is easier to buy soda than water in Mexico also because the former one is cheaper.

## Water access in Mexico



10% of Mexican live without access to drinking water. It's about 12 million inhabitants.

Access to water is uneven in the territory in rural areas. 5 million people do not have access to water.

1/3 of people touched in the Guerrero

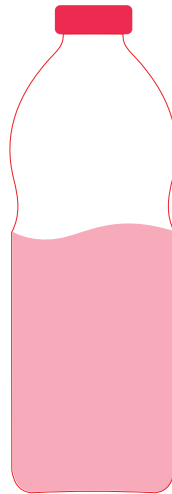
1/4 in the Veracruz

1/5 in the Tabasco, the Chiapas and the Oaxaca

## PRICE COMPARISON : 3L BOTTLES



21 Pesos



24 Pesos

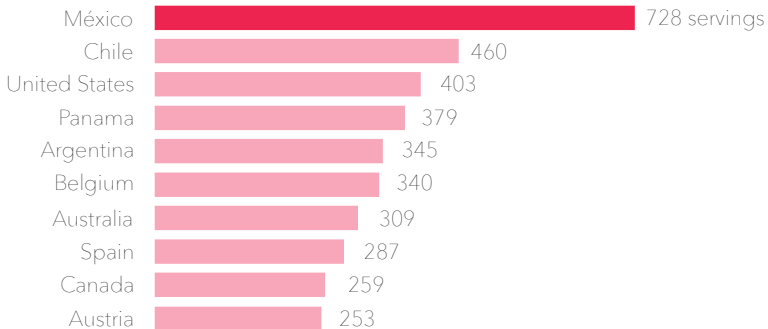
Reporterre le quotidien de l'ecologie, "Au Mexique, la population manque d'eau potable mais Coca-Cola prospère", Reporterre.net, 27/04/2015

Rosello A., "L'emprise de Coca Cola au Mexique", Espoirchiapas.blogspot.com, 9/02/2018

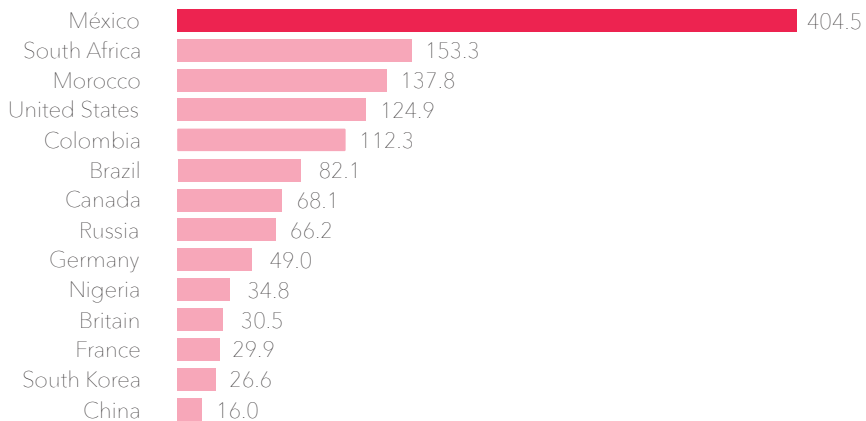
Rieublanc M., "Le Mexique va-t-il se vider de son eau au profit des multinationales ?", Multinationales.org, 30/10/2015

## Coca-Cola world consumption

### Coca-Cola products consumption per capita (8 fl oz servings) per year



### Annual death rate from sugary drinks per million adults in selected countries







## 4.1 HOW DOES MONEY INFLUENCE HEALTH?

*Michaela Benzeval, Lyndal Bond, Mhairi Campbell, Mathew Egan, Theo Lorenz, Mark Petticrew and Frank Popham.*

This report explores the association between income and health throughout the life course and within families.

Improving the income of the poorest members of society is often proposed as a way of improving their health, and hence reducing health inequalities. However, for this policy to be effective, it is important to understand how money influences health.

Evidence about the association between income and health, both at one point in time and over time, can be found in a wide range of disciplines. However, there is much debate about the specific causal pathways that link people's income and health and the two key concepts - income and health - are both defined and measured in a wide range of ways.

Evidence of the existence of social inequalities in health in England has been demonstrated for over 150 years. Today, however, the relationship between income and health is more complex.

### **THEORIES FOR THE CONNECTION BETWEEN LOW INCOME AND BAD HEALTH**

#### MATERIAL MECHANISMS

Money buys people the key necessities they need for health such as shelter, warmth and food. This implies a basic level of financial resources is required for good health, but evidence suggests that there is a much more graded association: the more money people have the better their health.

#### PSYCHOSOCIAL PATHWAYS

Psychosocial mechanisms are a result of the way in which people's social environment makes them feel.

The first is that living on low income is stressful. The second path has a relative or comparative dimension; feelings of lower status than others in society, because of less money, make people feel distressed.



## **BEHAVIOURAL PATHWAYS**

First, some healthy behaviours are expensive, for example a healthy diet has been shown to be more expensive than an unhealthy one. Second, people may use some unhealthy behaviours such as smoking or drinking alcohol as a way of coping with difficult situations. The social acceptability of unhealthy behaviours such as the health-promoting messages are different depending of the cultural context of people.

## **A GRADIENT IN HEALTH?**

A key finding in health inequalities research is that there is a gradient in health across the social spectrum rather than simply a health divide between those poor and not. While those in the best socioeconomic position tend to have the best health and those in the worst circumstances the poorest health, those in between tend to have slightly better health as we progress up the socioeconomic hierarchy.

Income often displays a continuous gradient with health, although the relationship between income and health at higher incomes may weaken and at some point there may no longer be any health gains from more income.

## **ABSOLUTE OR RELATIVE?**

It is argued that there is a threshold for material (physical) living conditions (adequate nutrition, warmth and shelter, clean water and sanitation) beyond which such prerequisites are no longer important for health or have diminishing returns. This suggests a further route through which income could affect health across the gradient.

More income allows access to better social living conditions that may be good for health and not subject to a threshold. So income could affect health through access to both material and social conditions that are good for health.

This theory is called relative deprivation: as people feel deprived because of their relative position compared with that of others.

It is argued that such feelings of inferiority due to status may lead to stress and hence poor health. Thus there are two major theoretical positions about how income affects health: one - relative deprivation - emphasizes social comparison and the other - described as the absolute income theory - says that more income is good for health because it allows access to health-giving material and social living conditions.

## **CONTEXT**

As discussed in the previous section, relative deprivation/income theories incorporate the idea that the effect of income should be understood relative to the context in which the person resides - what level of income is needed for social participation.

## **LIFE-COURSE**

Researchers are adopting life-course approaches to study the (inter) relationship between socioeconomic position (including income) and health across people's lives.

The pathway life-course model argues that adverse circumstances in an individual's early life influence social and biological trajectories throughout life.

For example, childhood disadvantage may lead to ill health and poor development, all of which may restrict educational opportunities in particular, which influences earning potential and social and health behaviours in adult life.

## **DIFFERENT RELATIONSHIP BETWEEN INCOME AND HEALTH**

### **INCOME --> LIVING CONDITIONS --> HEALTH**

That income allows people to buy the basic material necessities for health. The critique of this position is that the impact of material conditions should always be understood in terms relative to prevailing needs rather than to some absolute need.

People living in the most income-deprived neighbourhoods may be most exposed to air pollution.

Low income neighbourhoods may have poorer access to recreation venues or parks, and greater numbers of fast-food outlets. The risk of being injured or killed in road traffic accidents may be much larger in low-income neighbourhoods. Low-paying work often is found to be associated with reduced working conditions, including greater chance of injury related to manual labour or repetitive strain, and increased contact with toxins and fumes. There is a tendency for low-paid employment to involve higher risk of physical injury and low levels of job control.

### **INCOME --> RESOURCES FOR COPING WITH ILL HEALTH**

An US paper explored the reasons for inequalities in preventative healthcare by income put forward three explanations: that it was because those on low income could not afford it; that they value their health less as a result of their poverty and so are less inclined to make use of preventive services; or because of 'system barriers' that mean that accessible and quality healthcare is less available than for the rich.

### **PSYCHOSOCIAL**

Psychosocial theories often assume stress to be a central feature of how income affects health outcomes. The theory proposes that low income leads to the experience of severe stressors, which further leads to psychological stressors and then to poor health.

### **INCOME --> SOCIAL SUPPORT/CONTROL AT WORK/WORK-LIFE BALANCE --> STRESS --> HEALTH**

The first theory proposes that low income exposes people to stressful circumstances such as limited control and autonomy at work, and poor balance between home and work. Thus lack of material opportunity might lead to a lack of hope and consequently depression or hostility, jobs that lead to feeling a lack of control over tasks at work, or adverse psychological conditions at work or at home, which jeopardize health, directly or through health compromising behaviors'.

**INCOME --> SOCIAL STATUS --> STRESS --> HEALTH**

Having less income and hence having a lower status, or occupying a lower social position to others.

**BEHAVIOUR**

**LOW INCOME --> MULTIPLE DAILY STRESSORS --> INFLUENCE ON LIFESTYLE**

The stress vulnerability model suggests that stressors such as low income can result in stress, which may lead to psychological distress and/or coping behaviours such as smoking, alcohol consumption and unhealthy eating.

**INCOME --> FUTURE EXPECTATIONS OF HEALTH --> HEALTH BEHAVIOUR --> HEALTH OUTCOME**

The dangers of health behaviours, which can take years to develop, are perceived as less of a risk than more immediate material hazards by individuals with low income who have a greater chance of encountering these material hazards than people in higher income groups.

**INCOME --> SOCIAL/CULTURAL INFLUENCES --> HEALTH BEHAVIOUR --> HEALTH --> OUTCOME**

While behaviour is often presented as being about individual responsibility and choice, it is widely accepted that choice of behaviour is influenced by social and cultural conditions. Health behaviours are often part of routine daily life, incorporating the circumstances in which people find themselves. Individuals indicate their social position through how they behave, and in particular, how they invest in their health and future health by adopting behaviours that aim to increase health and well being.

## **BIOLOGICAL PROCESSES**

With the exception of accidents etc., all physical, social, economic and psychosocial environments that might affect health have ultimately to result in a biological change in the body that leads to ill health.

**LOW INCOME --> STRESSFUL CIRCUMSTANCES --> PROLONGED PHYSIOLOGICAL REACTION --> IMPACT ON IMMUNE AND CARDIOVASCULAR SYSTEMS --> HEALTH --> OUTCOMES**

The more focused interest in biological pathways within debates about social inequalities in health mainly stems from an aspiration to demonstrate plausible biological pathways that link psychosocial circumstances to health in order to increase confidence in the causal nature of the association.

## **PERSONAL CHARACTERISTICS**

Some commentators have proposed that personal characteristics such as IQ or personality may be the 'fundamental' cause of health inequalities.

**INCOME --> IQ OR PERSONALITY TRAITS --> HEALTH**

In the income and health literature, IQ in particular has been a focus of attention. Cognitive ability strongly influences schooling and education outcomes. Educational outcomes will influence employment and occupation and hence income as an adult.

## 4.2 NONCOMMUNICABLE DISEASES

### *NONCOMMUNICABLE DISEASES COUNTRY PROFILES 2018* *WORLD HEALTH ORGANISATION*

Non communicable diseases (NCDs) are the primary reasons of death worldwide, and hold an enormous cost that goes beyond health to put people in poverty, deprive them from a dignified life, weaken workforce efficiency, and threaten economic success. NCDs are also becoming a problem by producing huge inequalities of power, opportunity, and wealth. Their influence on low- and lower middle- income countries is a crucial challenge.

Everywhere in the world, the underprivileged and most vulnerable populations are the first one at risk since they don't always have access to the facilities they need to diagnose and treat NCDs. However, it is also a time of big opportunity. Presidents and Prime-Ministers dedicated to "strengthen their commitment, as Heads of State and Government, to provide strategic leadership for the prevention and treatment of NCDs" during the 3<sup>rd</sup> High-level Meeting of the United Nations General Assembly on NCDs which took place on 27 September 2018 in New York. World chiefs made this momentous promise because the duty of the NCD program can no longer be delegated exclusively to ministries of health. Many divisions, including education, finance, environment, trade and agriculture, have an effect on risk factors for NCDs, as well as on how governments and communities can confront these. This political decision necessitates leadership and responsibility at all stages.

The world is getting to an inflection point. Now is the time for governments to reduce by 2030 by one third premature mortality from NCDs through prevention and treatment, and endorse well-being and mental health. Without substantial investments now, 15 million people will die each year from NCDs at a young age, between 30 and 70. And almost 800 000 people will die from suicide, the 2<sup>nd</sup> main reason of death among young adults. The predominant message is hopeful.

By 2025, close to 10 million premature deaths from NCDs can be avoided if governments implement the WHO "best buys" for NCDs, endorsed

by the World Health Assembly in 2017. By 2030, 17 million strokes and heart attacks can be avoided in the poorest nations, while generating US\$ 350 billion in economic progress.

Global NCD load remains inadmissibly elevated. In 2016, 41 million of the world's 57 million deaths (71%) were caused by NCDs, 15 million of them were premature (30 to 70 years). 78% of all NCD deaths and 85% of premature deaths occurred in low- and middle- income countries. Risk of premature death from one of the four key NCDs has dropped to 18% in 2016, a modest relative decrease of 6% from 2010.

The main behavioral risk factors include tobacco use, harmful use of alcohol, physical inactivity and dietary behavior. The level of alcohol intake worldwide in 2016 was estimated at 6.4 L of alcohol per person above the age of 14. Regardless of a substantial decline in recent years, the European region is still the region with the highest alcohol consumption. In 2016, 28% of adults aged 18 years and over were not meeting the WHO recommendations for physical activity. Frequency of physical inactivity in high income countries was more than double that of low-income countries. Globally men are more active than women. Worldwide, levels of physical inactivity have not declined in the past 15 years. Population data on sodium consumption is still rare therefore new comparable approximations were not accessible. Estimates from 2010 show that most people consume an average of 9 to 12 grams of salt each day-twice the recommended daily intake.

The worldwide frequency of tobacco smoking was reduced from 27% in 2000 to 20% in 2016. While smoking among women is still under 10% in most WHO regions, 33% of men currently smoke and men's smoking rates have declined only 10% over 16 years. High-income countries are seeing faster declines than low- and middle-income countries.

The four main NCDs are cardiovascular diseases, cancers, diabetes and chronic respiratory diseases, and their four common behavioral risk factors are harmful use of alcohol, tobacco use, unhealthy diet and physical inactivity. The main metabolic risk factors are raised blood pressure, raised blood glucose and obesity.

Globally, one in four men and one in five women (22% of adults aged 18 years and over) had raised blood pressure in 2015.

Occurrence of raised blood pressure in adults has dropped in high-income countries over the last few decades, however it has been stable or increasing in many low-and middle-income countries.

The frequency of raised blood glucose globally in 2014 was estimated at 9%. The number of people with diabetes has almost quadrupled since 1980. In 2016, there were 650 million obese adults aged 18 years and over, a global occurrence of 13%. Globally, the prevalence of obesity has almost tripled since 1975. Ambient and household air pollution are crucial underlying reasons for NCD deaths from ischemic heart disease, chronic lung diseases, and cancers. In 2016, 91% of the world's population lived in places where the air was unsafe to breathe. Less than one in five countries had available data on the proportion of high risk individuals getting drug treatment and therapy to avoid heart attacks and strokes.

In 2017, around a third of countries recounted having more than 50% of health care services offering cardiovascular risk reduction for the administration of patients at high risk for heart attack and stroke.

Almost one in five countries recounted having no health services offering cardiovascular disease risk reduction. While just over half of countries worldwide reported having cardiovascular disease strategies that are broadly utilized, this was less than a quarter for low-income countries. In 2017, only 35% of countries had all essential NCD medicines and technologies commonly accessible.



## 4.3 THE NUTRITION TRANSITION TO 2030

### WHY DEVELOPING COUNTRIES ARE LIKELY TO BEAR THE MAJOR BURDEN

The transformation of diet has begun with the revolution of the 19<sup>th</sup> century, before limited to industrialized countries and, after a century in the developing countries.

Thanks to the modernization of agriculture and new technologies that were enabled to doubling and more the food production. With and exceed growth in demand, prices went down, more people have the possibility to reach a more better food and more quantity.

In 1960 the average calorie availability has increased from 1950 to 2680 kcal per day and from 1970 to 2000 the undernourishment declines from 37% to 17%. Anyway today 850 million people are still food insecure (cause to war, defeat in food production, lack of income) as the sub-Saharan Africa.

In addition to falling real prices of food, rapid urbanization creates a new improved marketing and distribution infrastructure, attracting supermarkets and their sophisticated handling systems. All of these changes included a shift towards higher food energy supplies but also to more fats and oils, animal-based foodstuffs and animal protein and fats, bringing to an increase of obesity and non-communicable disease with co-existing problem of undernourishment and malnutrition.

### THE MAIN DRIVERS OF THE NUTRITION TRANSITION TO 2030

The United Nations declared that there will be a slow-down in population growth more pronounced than hitherto assumed with a complete halt within the next 70 years.

The slow-down in population more food will be available in the future. There will be an increase in average dietary energy availability from 2800-3050 kcal person per day. Increase of difference between countries and regions.

Urbanization hide differences between countries. It will proceed slowly in that countries in which almost all the population is already living in urban areas. Different situation for sub-Saharan Africa and Asia, with a population growing of nearly 5% per year. Also, Latin America with 2% annually. Urbanization also means a more participation of female and less time on food preparation.

Consequently, there was a shift from traditional time food preparation to fast food, snacks, outsidemeals, usually saltier and fattier. In conditions that heighten the burden of non-communicable disease stable family structure, social cohesion and supportive nature of the community help to protect against risk of heart disease and being conducive to longevity.

### **SUPERMARKETS IN DEVELOPING COUNTRIES**

The nutrition transition is also driven by a radical change in the food marketing.

Supermarkets have been taking over much of food retailing, especially in South America and Mexico, from 15 percent in 1990 to 60% in 2000. They offer a variety of food but also provide more accessibility to snacks and fast food.

The growing process of foodstuffs itself influence food consumption patterns with a more use of vegetable oils, fatty acids and hydrogenate fats. More generally, there was an adaptation to the “Western diet”, a trend who is expected to continue. The fast food industry provides fast access to cheap meals that have more of 30% of their food energy in fats.

Developing countries are expected to growth faster and, connected with a prospect of increasing in international trade integration and high-income growth, the consumption of food will change as well. Also the shift of population will have an impact on income growth and food consumption.

## **THE GLOBAL NUTRITION TRANSITION FROM 1960 TO 2030**

Ageing population, urbanization and rapid income growth will continue to affect food consumption patterns, especially in developing countries are that experiencing the fastest transformation.

The most general change is the energy supplies per capita, before in developed countries and then in the developing ones.

From 1960 to now the prevalence of undernourishment had fallen in all major developing regions and people began to experience the consequences from oversupply and a growing rise in obesity.

Anyway, hunger and overnutrition are likely to co-exist within the same countries in which the income disparities remain high.

### **CHANGES IN THE COMPOSITION OF DIET**

The increase in food energy has been accompanied by a shift in the composition of the diet.

Additional calories come from cheap foodstuffs, vegetable oils, sugar and foodstuffs of animal sources. All of this brings an increase in quantity of proteins, minerals and iron, but is also associated with an increase of some cancers and cholesterol problems.

Genotype and phenotype predisposition, according with lack of adequate health promotion and healthcare in some countries implicate a stronger impact in the society.

A good nutrition is important also at the beginning with prenatal nutrition on foetal growth, an important factor in the development of obesity and NCD in adult life.

Obesity in developing countries who experienced a rapid transition from paucity and hunger to affluence of food energy supplies could suffer more from obesity and NCDs.

## **ETHNIC DIFFERENCES IN DISEASE RISK**

Differences are seen in the comparison with immigrant and native in a specific place. Environment is an important factor in chronic disease risk.

Dietary imbalance and chronic disease, and poor nutritional status increase the predisposition and risk of these chronic diseases.

## **CONCLUSIONS**

Many developing countries are in a rapid nutrition transition.

The main reasons are:

\_ Falling real prices and more food availability move consumers towards higher calorie intake levels.

\_ Growing number of consumers to move towards higher calories.

\_ Rapid urbanization, with an improvement in marketing distribution supermarkets and access to foreign suppliers.

\_ More oils and fats, more animal-based foodstuffs, with less physical activity.

\_ Compounding factors: genotype and phenotype predisposition.

\_ Phenotype predisposition: how hunger and malnutrition "programme" the next generation to a higher risk of obesity.

Genotype predisposition: in certain population or ethnic groups.

This combination could spark a rapid increase in obesity and NCD over the next 30 years. Fewer people will suffer from hunger but more and more will have health problems connected with overweight and NCD. Also, even if they can afford more food is not everybody can access to medical treatments.

More attention by national policy makers and international community.

## 4.4 LITERATURE

### 1

#### **"Mexico: two decades of the evolution of education and inequality"**

Lopez-Acevedo Gladys, 2006,  
Policy, Research working paper; no. WPS 3919. Washington, DC: World Bank.

This paper is relevant to our research as it shows how in Mexico education has a very powerful contribution in earning distribution. It explains the phenomenon in which, when the inequality of education increase, the earnings distribution worsened.

This can help us to have a better understanding of the close relationship between education and money.

### 2

#### **"Levy Santiago and Walton Michael, 2009, "No Growth without Equity? Inequality,**

Interests, and Competition in Mexico", Washington, DC: World Bank and Palgrave Macmillan.

The book, as the title suggests, examines the relationship between equity and growth in Mexico. The State's development has been struggling for the last twenty-five years and this is intimately link to inequity, specifically in power, wealth and status. This all relate to our research, as the three factors just mentioned are what shape the community.

## 3

### **Five Families: Mexican Case Studies in the Culture of Poverty**

Oscar Lewis - 1959 - Editor : Basic Books

This story describes a day in the life of five Mexican families - one in a rural village and four in Mexico City. The book is a work of anthropology that reads like a novel, questions, exchanges and reacts to the daily lives that Lewis traces in the form of history. We can notice the work that Mexican families do every day to live with humility as if they no longer notice the precarious sphere in which they live. Joy is in writing always present whatever the conditions of life with a family spirit that thrives as ancient traditions. This writing by Oscar Lewis was important for our reflection because it touches our subject, which is the everyday life of families. This retraces the trivial and random facts that feed a day and gives us precious cases to develop to interact with their needs.

## 4

### **“Modelo de predicción de obesidad en niños a partir de variables dietéticas y actividad física” - “**

Model for predicting childhood obesity from diet and physical activity” by Alfredo Larrosa-Haro,<sup>a</sup>Guillermo Julián González-Pérez,<sup>b</sup>Edgar Manuel Vásquez-Garibay,<sup>a</sup>Enrique Romero-Velarde,<sup>a</sup>Clío Chávez-Palencia,<sup>b</sup>Laura Leticia Salazar-Preciado,<sup>b</sup>Elizabeth Lizárraga-Corona. 11, December, 2013. Rev Med Inst Mex Seguro Soc. 2014;52(Supl 1):S18-S25.

Background:

If obesity results from the interaction of variables that involve the subject and his environment, the alternatives to face the problem could be very diverse. The objective of this study was to seek for the best predictive model of childhood obesity from energy ingestion, dietary habits and physical activity.

## Methods:

Case control study of 99 obese and 100 healthy weight children (Center for Diseases Control criteria). Energy ingestion was estimated by means of a 24-hour recall, dietary and physical activity habits by validated questionnaires. A logistic regression analysis was made.

## Results:

Variables independently associated to obesity were higher energy ingestion; lower frequency in mealtimes; having the afternoon lunch outside home; higher frequency of consumption of fat, junk food and sweetened beverages; lower time of moderate physical activity at school and at home; and increased time for homework and watching TV. The variables included in the regression model were energy intake; frequency of ingestion of fat, junk foods and sweetened beverages; and physical activity at home and at school. Conclusion: The diversity of associated variables underlines the complexity and multi-causal condition of obesity.

# 5

## **“Antecedentes históricos sociales de la obesidad en México”, “Historical social antecedents of obesity in Mexico”,**

Vol. VIII, Number 2, August 2006.

Mexico is in a process of development and accelerated sociocultural changes, to a large extent associated to its increasing incorporation to the international economic community. Recent studies reveal that the obesity goes in frank ascent, registering that more than half of the population has overweight and more of 15% is obese.

This situation has been related to the demographic, epidemiological and nutritional transitions, that explain important changes to us in the nourishing culture of our country. Other associated factors are the adoption of little healthful styles of life and the accelerated processes of urbanization in the last years. It is considered that the obesity in our country is a problem of public health of great magnitude, that will have economical,

social and health implications, of medium and long term. It is important to apply strategies of nutritional education, destined to promote healthful forms of life, considering the nourishing culture, as well as aspects of the social and economic development.

## 6

### **The Children of Sanchez: Autobiography of a Mexican Family,**

Oscar LEWIS, 1961, editor : Vintage (50th anniversary edition)

A deeply moving work in which violence, suffering and cruelty rub shoulders with

kindness, courage and cheerfulness. By its spontaneous vision of a certain middle of Mexico, by its accuracy, this book aims to share the truth as it is in this country where poverty is growing.

Oscar Lewis recounts the life of a peasant family (Jesus, the 50-year-old patriarch, and his four adult children) who settled in a slum in Mexico City: he met and spoke during months with each member of the Sanchez family on their daily lives, their labors and their great desire to live. To collect their comments, he used a tape recorder hidden in his clothes.

This book recounts at best the truth about the context of Mexican life today between misery, poverty and strong family spirit. It is through these aspects that our study of the capital of this country is based and that we seek to demonstrate that this people needs others to improve their way of life.



## 7

### **Mexico Negro y querido**

Paco Ignacio Taibo II, Francisco Haguenbeck, Bernardo Fernandez  
2012 - Editor : Plaza Janes

This anthology brings the reader into the darkness of this urban monster Mexico: despair brought on by economic misery, crime, drug trafficking and violence of all kinds, and police corruption that is second to none. This novel warns you: "It is not subsidized by the Mexico City Tourist Office". This writing is a collection of 12 short stories in 12 different neighborhoods of Mexico City articulated around three themes decrying the cruel truth that strikes the citizens of the city: to be above the law, the dead who walk and an asphyxiated city.

This compilation of stories tells us a hard truth to read and imagine. A day-to-day diary with families in the middle of this "battleground" who resist and try to live in it does not survive.

## 8

### **Where the Air is Clean**

Carlos Fuentes - 1960 - Editor : Straus Giroux

The bourgeoisie, the proletariat, the aristocracy successively dispute power in Mexico. The high spheres of the country play between the privileges of luxury and its bad faith. The place where heroism and the taste for sacrifice were formerly played, today triumph the selfishness and neglect of the poorest classes in the country who were once brothers in arms and heart.

Strange human figures (prostitutes and princesses, writers and actresses, politicians, industrialists and taxi drivers) trace in this book, an admirable sense of memory and observation, the architecture of contemporary Mexico and society that we know today.

This book of 1960 is still of great importance for our project. It accurately describes the system of the very rich and the very poor of the country where the first get richer and make the second poorer. This diagram explains the causes of the dramatic effects that we have gathered in our studies.





# MUSE

Launched by InteraXon Company , Toronto, 2014

“ WEARABLE BRAIN SENSING HEADBAND”

Muse is a personal meditation assistant that gives the user real- time feedback on what’s happening in their brain with a headband tracking device measures the brains activity using EEG (Electroencephalography) sensors.In long term use, the focused attention-based training exercises provides many healthy benefits over time and helps the user to live happier, healthier and moreconnected lives.



# GOOD GYM

Founded by Ivo Gormly, London, 2008

“ RUNNING WITH A MISSION”

Good Gym is a community of runners that integrates doing good into fitness. The fitness exercises consist of physical tasks for community organisations or visits to people with social needs or individual tasks they choose. As an alternative to conventional gyms, Good Gym is creating human centered active experiences out of physical exercises.



# CICLUZ

Founded by Cesar Cornejo, Mexico City, 2013

“ HEALTHCARE PLATFORM”

Cicluz is a digital and face-to-face healthcare platform to improve the quality of individual and the family lives. Cicluz has its health professionals, laboratories, hospitals, pharmacies, institutions, organizations of doctors and insurers in order to form a community focused on providing information and experiences to improve the people’s relationships with their health.



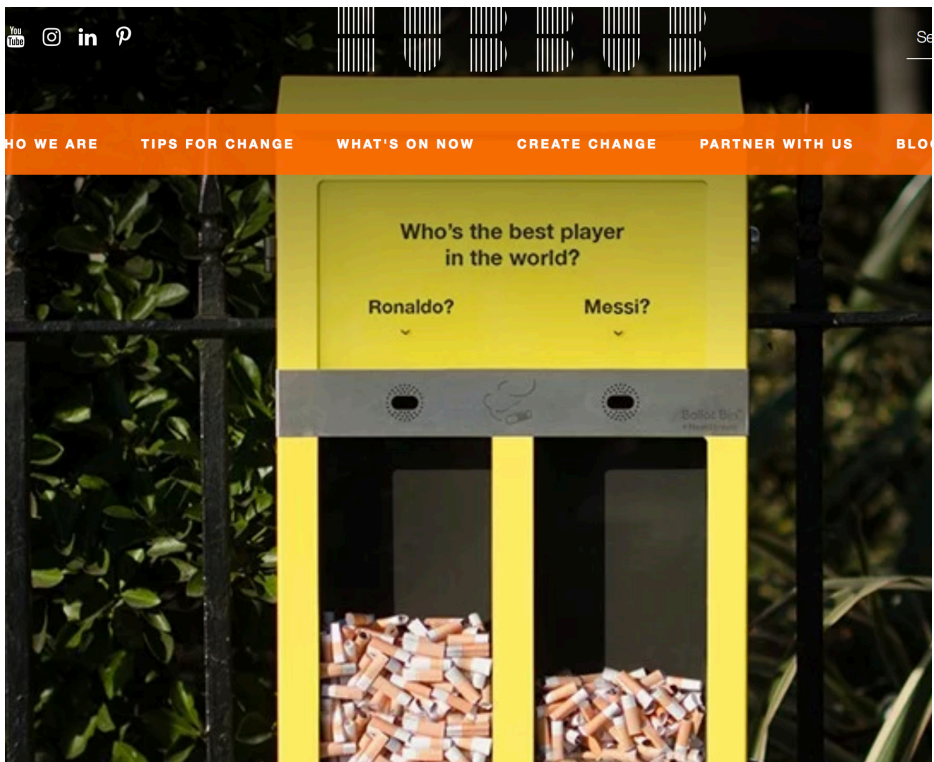


# HUBBUB

Founded by Trevin Restorick, London

“ MOTIVATION TO DO GOOD ”

This gamification platform creates environmental campaigns with little games and rewards inside to motivate people to make healthier, greener lifestyle choices and creating a community with bringing these people together in the same platform. It offers people practical and realistic solutions that help them to quit bad habits, cut waste, learning sustainability in daily life, saving money and go cleaner in the spaces they live and work.



<https://www.hubbub.org.uk/>

# 3 RINGS

Founded by Steve Purdham, UK, 2012

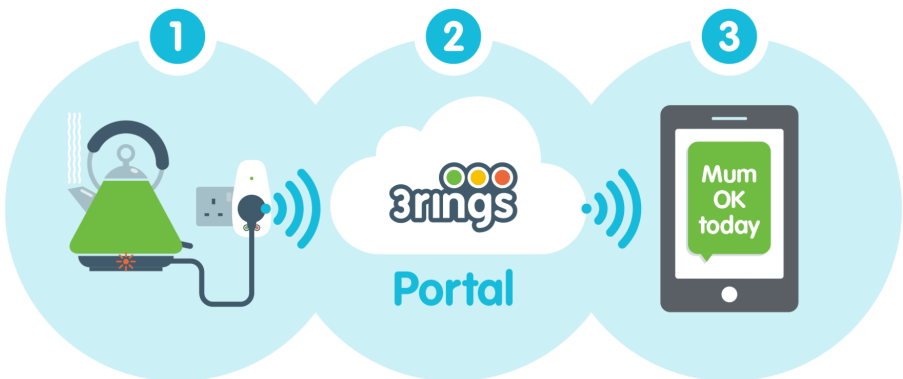
“ THE PLUG THAT CARES”

The 3rings Plug is a Internet of Things (IoT) device that can be integrated into house devices and simply tracks data and send it to a platform where the user can reach the information that the device has been used or not and connects the one who is at home at the moment.

The idea comes while they were seeking for a simple way to help families look after their loved one's, regardless of distance and time limits.

Plug in, Turn On and Connect your ageing Loved Ones to all the family.

3rings gives daily reassurance by sending emails and messages to your 3rings app as well as timely alerts by text or calls when changes in behaviour could be cause for concern.



When your Loved One uses their 3rings Plug enabled appliance it lets your 3rings Portal know via its in-built 'mobile phone'.

Your 3rings Portal listens for the message, which it expects between the times that you have set.

You and your family get notified that everything is OK or alerted if no signal has been received.



# VIOME

Founded by Nveen Jain, California, 2016

"WHAT IF ILLNESS COULD BE ELECTIVE?"

Viome creates an individual diet for everybody according to the physiological, physical, and molecular data they collect from the user and analyse it in terms of understanding and optimizing the wellness of individuals. They collect samples using test kits provided by Viome. Not only creating an individual diet, but also creating a personalized lifestyle recommendations is another aim of the company.

## Find Your Balance

*Ready to achieve maximum health and wellness?*

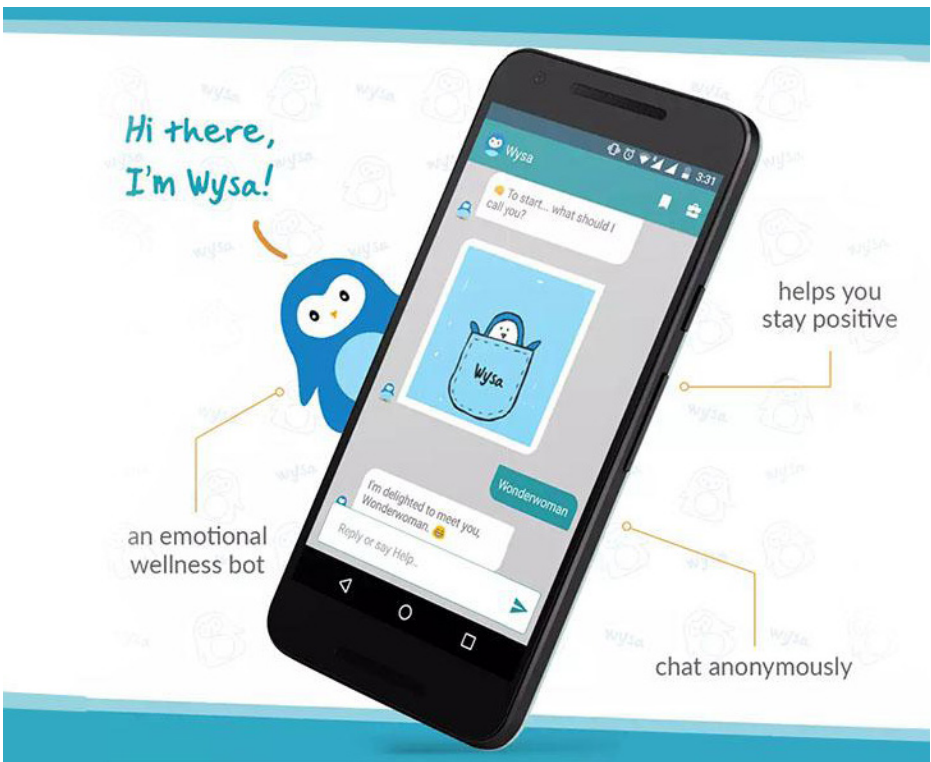


# TOUCHKIN/ WYSA

Founded by Jo & Ramakant, India

“ EMOTIONALLY SENSITIVE AI FRIEND”

Wysa is the the world’s first compassionate chatbot AI life coach. It is created for human purpose and all content is approved and designed by clinical experts to help the users who have hard time to talk to others or professional about their anxiety or other problems.



# UHMA SALUD

Founded by Benjamín Suárez, Mexico City, 2009

“ MOTIVATION FOR WORKERS”

Uhma Salud is a set of programs of health and wellness to inspire and motivate the workers to improve their health and performance.

The aim is to increase the performance of the company by increasing the wellness of collaborators so the programs are designed to create awareness about the healthstatus of the organization and improve it through the experts.

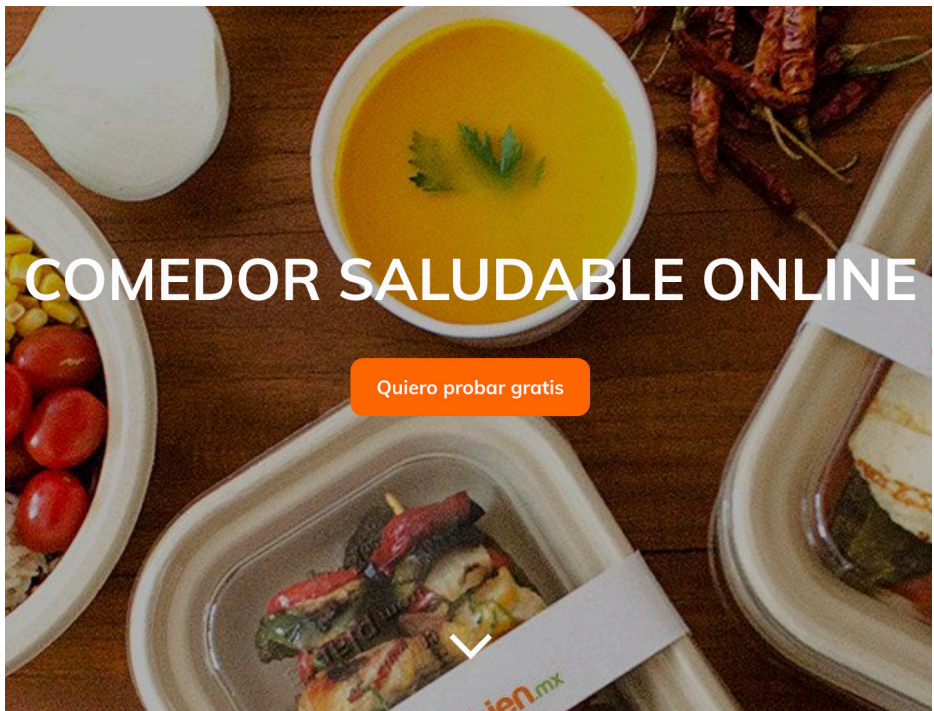


# COME BIEN

Founded by Denis Cantu Cruz, Mexico, 2012

“ FOOD DELIVERY FOR EMPLOYEES”

Come bien is designed for companies to create a more happier and more productive atmosphere with bringing their employees healthy and delicious food on a daily basis.



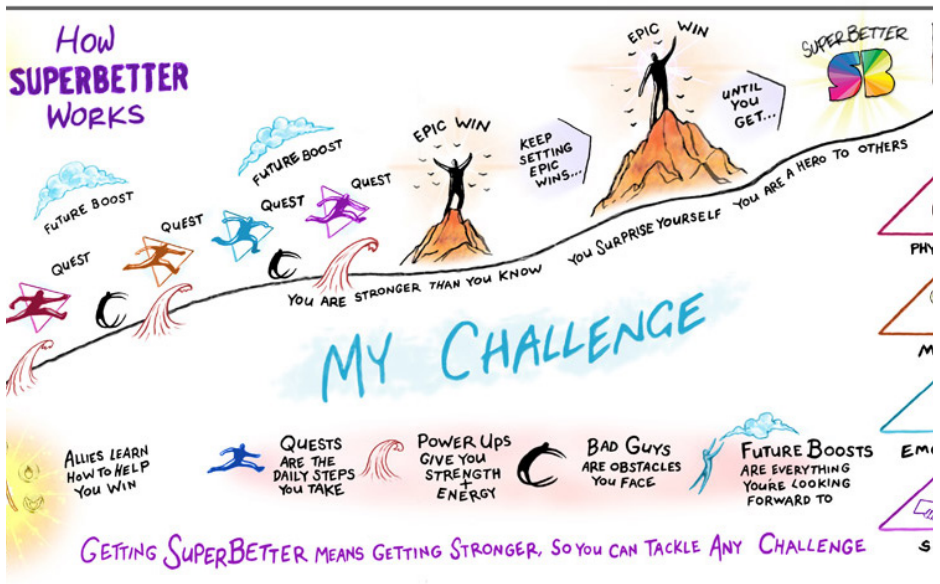
# SUPERBETTER

Founded by Jane McGonigal, Chicago, 2015

“ LIVE GAMEFULLY ”

SuperBetter is a gamification app helps people to be able to stay strong and motivated and allow them to learn to be optimistic even in the face of difficult obstacles.

In long term use, playing SuperBetter scientifically improves good mood, reduces the symptoms of anxiety & depression and encourages people to trust themselves in order to achieve their goals.





# MAPATON CDMX

Run by Government, Mexico City, 2016

## “ROUTE MAPPING GAME”

Mapaton’s main objective is to create an open database of the minibus, bus and van routes of Mexico City based on the game and citizen participation with collaboration through.

The game consists of mapping public transport routes concessioned from beginning to end with the purpose of adding points through an app. It can be played individual or as part of a team.





A close-up, slightly blurred photograph of a person wearing a grey hoodie. Their right hand is raised in a gesture, with fingers spread, as if they are speaking or explaining something. In the background, another person wearing a black shirt is partially visible, also appearing to be part of the conversation. The scene is set against a dark background, possibly indoors.

6.





# ELENA

1\_Could you introduce yourself with few sentences?

I'm Elena, a full-time employee and a mum of two teenagers.

2\_ How is your family composed?

Me, my partner and my two sons

3\_Could you describe me what did you do yesterday?

I worked 12 hours at the office, then I returned at home and I ate the remains of food in the fridge. I also helped my son with his homework.

4\_ Could you describe me what did your last week?

All the same things of yesterday. I worked all days and in the evening I tried to do the housework, and I helped my sons. My husband helps me cooking for the family, but I still have lot to do.

5\_Could you tell me what did you do last time you spent with your children?

Excepted for homework I would say a walk in the park.

6\_What do you do to have a healthy lifestyle?

I have fitness class once a week and I sometimes try to go out running. I'm not satisfied about my routine, I'm always sitting on a chair.

7\_Would you tell me about a recent medical issue you go through?

Fortunately, I didn't have any problems in the past months.

8\_Do your habits in health change after having children?

Yes of course, I had lot of time before to spend taking care of my body and my health in general; now I have less time for myself.

9\_Do you use some devices/objects to help you having a healthy lifestyle?

Yes, I have some apps on my phone.

## 10\_There's a healthy habit you would have?

I would like to go out for a walk in the nature every day.



# ROSANNA

1\_Could you introduce yourself with few sentences?

I'm Rosanna, a part time worker and a mum of two boys.

2\_ How is your family composed?

Me, my husband and my two sons

3\_Could you describe me what did you do yesterday?

I went to work and after I took care of my dad who has health problems. I went with him to the bar for a coffee, we went out for a walk.

4\_ Could you describe me what did your last week?

I worked and did all the housework. No one helps me, neither my husband because he works all day. I always talk with my sons about school, checking if they have tests or if they have done all their homework.

5\_Could you tell me what did you do last time you spent with your children?

On Saturday we went eating out for dinner.

6\_What do you do to have a healthy lifestyle?

Nothing in particular, I'm very busy and my priorities are my sons, my family and my dad who needs help.

7\_Would you tell me about a recent medical issue you go through?

I suffer from shoulder periarteritis.

8\_Do your habits in health change after having children?

Yes, now my priority are my sons. I take care of my health, but I don't have much time as before.

9\_Do you use some devices/objects to help you having a healthy lifestyle?

No.

10\_There's a healthy habit you would have?  
I would like to stop smoking.



# STEFANIA

## 1\_Could you introduce yourself with few sentences?

I'm a full-time worker and a mum of a 15 year old boy and a 21 year old girl.

## 2\_ How is your family composed?

Me, my husband and my two sons

## 3\_Could you describe me what did you do yesterday?

I worked all day and when I returned at home I tried to do the washing machine, cook and help my son with his homework at the same time.

## 4\_ Could you describe me what did your last week?

I worked all day and every evening I did the washing machine, I made dinner for the family and I went out with the dog, for let him free to walk outside. During the weekend I went to the supermarket and on Sunday I had to watch my sons' football match. Not lot of relax.

## 5\_Could you tell me what did you do last time you spent with your children?

Every Sunday I saw my sons' football match, following him here in Milan and in other cities. Last weekend we were in Cremona.

## 6\_What do you do to have a healthy lifestyle?

I think I'm a quite sedentary person, I spend lot of time sitting on a chair. During lunch time I go out with my dog for an hour and fortunately once a week I have swimming, but I don't think is enough. I have a very stressful life.

## 7\_Would you tell me about a recent medical issue you go through?

I've had some problems with one of my ankle and I have to go to the physiatrist every Monday, so it's something more to do during the week.

### 8\_Do your habits in health change after having children?

When you don't have children and you are a couple, there is a lot to do but also you are free to take some time for yourself. Now with two children is very difficult, everything is like a puzzle.

### 9\_Do you use some devices/objects to help you having a healthy lifestyle?

No.

### 10\_There's a healthy habit you would have?

Take some time only for myself, for example going to the spa.



# MARIA

1\_Could you introduce yourself with few sentences?

My name is Maria Patricia, I'm a cooker in a bank

2\_How is your family composed?

4 people, me, my husband, my two children and one pet

3\_Could you describe me what did you do yesterday?

Work, arrive home and she cooked, she went to pick up her children from school

4\_Could you describe me your last week?

"The same" I only change the activities I do in the house

5\_Could you tell me what did you do last time you spent with your children?

I checked their homework, we read and watch a movie

6\_What do you do to have a healthy lifestyle?

I try, "try" to eat healthy

7\_Would you tell me about a recent medical issue you go through?

No

8\_Do your habits in health change after having children?

No

9\_Do you use some devices/ object to help you having a healthy lifestyle?

No

10\_There's a healthy habit you would have?

Yes, stop drinking Coca Coca





# LAURA

1\_Could you introduce yourself with few sentences?

I'm Laura and I work in a bank

2\_How is your family composed?

My husband and two teenagers

3\_Could you describe me what did you do yesterday?

I went to work, I ate and later I went to the GYM

4\_Could you describe me your last week?

Same as usual, work, I had lunch if I have an appointment I go and at night I go to the GYM, at least 3 times a week or if not I goes out with my friends or my children.

5\_Could you tell me what did you do last time you spent with your children?

Talk, yesterday

6\_What do you do to have a healthy lifestyle?

Eat healthier, balance the food, exercise, music, lecture

7\_Would you tell me about a recent medical issue you go through?

No

8\_Do your habits in health change after having children?

Yes, better food habits to set an example for my children, less junk food

9\_Do you use some devices/ object to help you having a healthy lifestyle?

Nothing, only once a year a check up

10\_There's a healthy habit you would have?

Yes, Yoga, for my mental health and inner peace



# TATIANA

## 1\_Could you introduce yourself with few sentences?

I'm Tatiana, I'm a mother, I'm 32 years old and I'm an architect

## 2\_How is your family composed?

My husband Luis, my child Camilo and I'm pregnant with twins

## 3\_Could you describe me what did you do yesterday?

We stayed at home because my husband and child are sick, I cooked for them and in the afternoon I design a house with my husband who is an architect as well.

## 4\_Could you describe me your last week?

I wake up, I have breakfast with my husband and son, I drop my child at school and I go to the gym, then I go to the supermarket, I prepares the food, I pick him up from school, we eat at home and in the afternoon we usually go to a park, the club or to a place with more children and at night I usually work with my husband in an architecture project, watch a movie or read something.

## 5\_Could you tell me what did you do last time you spent with your children?

We prepare cookies and we stare at the oven to see them

## 6\_What do you do to have a healthy lifestyle?

Yes, a lot, I eat balance most of the time, I exercise, I sleep enough, I don't smoke and right now I can not drink because I'm pregnant but in general I have a calm life

## 7\_Would you tell me about a recent medical issue you go through?

No, but I'm pregnant so I go to the doctor often

**8\_Do your habits in health change after having children?**

My habits are almost the same, they only thing was that after having a child I don't go out as much and therefor I don't drink much alcohol anymore because the next day I have to be up early and fresh to play with my son.

**9\_Do you use some devices/ object to help you having a healthy lifestyle?**

Yes, "keep it" to know how much exercise I do per day (app)

**10\_There's a healthy habit you would have?**

Not to miss one single day of exercise because if I miss one day is very hard for me to go the next day



# ALEJANDRA

## 1\_Could you introduce yourself with few sentences?

I'm Alejandra, I'm 30 years old and I have 3 children, I work part time in a back because the rest of my time I dedicate to my family

## 2\_How is your family composed?

My husband and my 3 children, a 7-year-old and two girl twins of 4-year-old.

## 3\_Could you describe me what did you do yesterday?

I woke up, I took the children to school, I went to work and at 2pm I picked them up, we went home to eat and after I took them to their extracurricular activities, the boy to Karate and the girls to Ballet.

## 4\_Could you describe me your last week?

I prepare the children to drop them off to school and I go to work till 2 pm, after I pick them up again, we eat in the house, we do their homework and then according to the day of the week they have different classes so I take them or if they don't have any we stay at home, girls go to ballet and my boy to Karate. We are club members so during the weekend and some days of the week we go to play tennis or swim, and during that time I go to the gym.

During the weekend we try to go somewhere near the city but is we stay in the city we go to a park or outdoor place.

## 5\_Could you tell me what did you do last time you spent with your children?

I took them to their classes, Karate and Ballet

## 6\_What do you do to have a healthy lifestyle?

I try to eat as healthy as possible

7\_Would you tell me about a recent medical issue you go through?

No

8\_Do your habits in health change after having children?

I try to go to the GYM but after having children I had less time, I had children at a young age but I tries to do as much as possible

9\_Do you use some devices/ object to help you having a healthy lifestyle?

No

10\_There's a healthy habit you would have?

More exercise like before having children, I had them very young









# INTERPRETATION

The output we got is the one of a very complex situation, a faceted city with a lot of changes happening quickly specially over the last decade.

Mexico city is, as known, very crowded and with different social divisions so there are many realities coexisting, not always in the ideal way. Very rich and very poor people are living side by side, sharing some aspects of their lives and divided into many others set ups.

Less fortunate people are obviously suffering the most, both for environmental and economic situation.

Health problems are caused not only by the difficulties and the costs of an insurance but also by the ignorance of what the consequences of some habits are.



The main changes in family structure over the last 50 years come from the empowerment of Mexican women. Although gender inequality is still an issue, many women are now household leaders as they joined the workforce. This is also due to the migration of fathers. A lot of Mexican men go to work in the US, leaving their wives and children alone. Some studies suggest that the migration of Mexican parents constitutes a disruptive family transition with significant health and education costs for children who remain at home.

To sum up, our intention is to design a product/service that allow the majority of the Mexicans and especially those having a low income to be aware of what a healthy lifestyle is, how they can improve their habits to live better and what are the consequences of an unhealthy lifestyle. Moreover, we want to conceive something that could shed light on a new conscious path; allowing parents to have better lifestyle habits and to transmit those values to their children.







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