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socioeconomic consequences of adolescent pregnancy in Latin America and the Caribbean 2021

UNFPA

Implementation of the MILENA 1.0 Methodology in 10 countries in the region

This publication presents the results achieved by the Regional Initiative for the Generation of Socioeconomic Evidence linked to UNFPA's three transformative results:

- Achieve zero preventable maternal deaths by 2030
- Achieve zero unmet need for modern contraceptive methods.
- Achieve zero gender-based violence and harmful practices by 2030.

This initiative was implemented within the context of the regional strategy "165 Million Reasons". The findings presented here are the result of the implementation of the Labour, Education, Payroll and Welfare Impacts Model (MILENA 1.0) and the Impact Goals Estimation Model. (IGEM) for adolescent pregnancy prevention interventions.

"When I got pregnant I felt my world fell apart. I didn't expect it.

It was kind of a surprise. It was something difficult."

Panamanian adolescent interviewed for this study

"Nothing matters anymore. Not the sun, the doctor or the angry mother. Nefer has ears and that's why she can hear, and she uses her mouth to eat, but the world passes around her like water around a rock, and she is serious and nothing matters. Her body will soon begin to grow, and the swelling of her body will go away after a long time. It doesn't matter, it doesn't matter anymore, everything is born and then dies, but nothing matters"

Sara Gallardo – January (1958)

"Early riser of my town.
Flower girl, why were you dreaming?
You had that which grew.
Wind, sun...

We share the same path,
And ours is what we lack.
We can say we are,
Just like our hope (...)."

Mercedes Sosa - Somos hoy

DOMINICAN ADOLESCENTS AT A ONE-DAY ACTIVITY ORGANIZED BY UNFPA.

PHOTO: COURTESY OF UNFPA DOMINICAN REPUBLI.

Credits

The MILENA project for the generation of socio-economic evidence on adolescent pregnancy was developed within the context of UNFPA's regional initiative "165 million reasons to invest in adolescence and youth" promoted by the United Nations Population Fund (UNFPA) Latin America and the Caribbean Regional Office (LACRO).

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Glossary

AMMR	Adolescent maternal mortality rate
AP	Adolescent pregnancy
CID	Contraceptive Information Device
CSE	Comprehensive Sexual Education
EC	Early childbearing
EMCC	Effective modern contraceptive coverage
HDI	Human Development Index
IGEM	Impact Goals Estimation Model
ISCED	International Standard Classification of Education
IUD	Intrauterine device
LAC	Latin America and the Caribbean
LARCs	Long-acting reversible contraceptive methods
MAC	Monthly Average Consumption
MILENA	Labour, Education, Payroll and Welfare Impacts Model
MMR	Maternal Mortality Ratio
MSA	Months of Stocks Available
OC	Opportunity cost
OECD	Organization for Economic Cooperation and Development
SAFR	Specific adolescent fertility rate
SALMI	Sistema Informático de Administración Logística de Medicamentos e Insumos / Logistic Management Information System of Medicines and Supplies
SDGs	Sustainable Development Goals
SEPREMI	Platform to track the evolution of prices of contraceptive methods and SRH supplies
SLAMM	Social Loss due to Adolescent Maternal Mortality
SRH	Sexual and Reproductive Health
SRHR	Sexual and Reproductive Health and Rights
TPP	Third Party Procurement
TRL	Tax revenue lost
UN	United Nations
UNFPA	United Nations Population Fund
UNFPA LACRO	United Nations Population Fund Latin America and the Caribbean Regional Office
UNFPA PSB	UNFPA Procurement Services Branch
VTP	Voluntary termination of pregnancy
WHO	World Health Organization
WMA	Women who became mothers during adolescence
YPLL	Years of potential life lost
YPPLL	Years of potential productive life lost

socioeconomic consequences of adolescent pregnancy in Latin America and the Caribbean 2021

Implementation of the MILENA 1.0 Methodology in 10 countries in the region

Executive summary

Adolescent pregnancy and early childbearing hinder the fulfillment of the human rights of thousands of girls and adolescents in Latin America and the Caribbean.

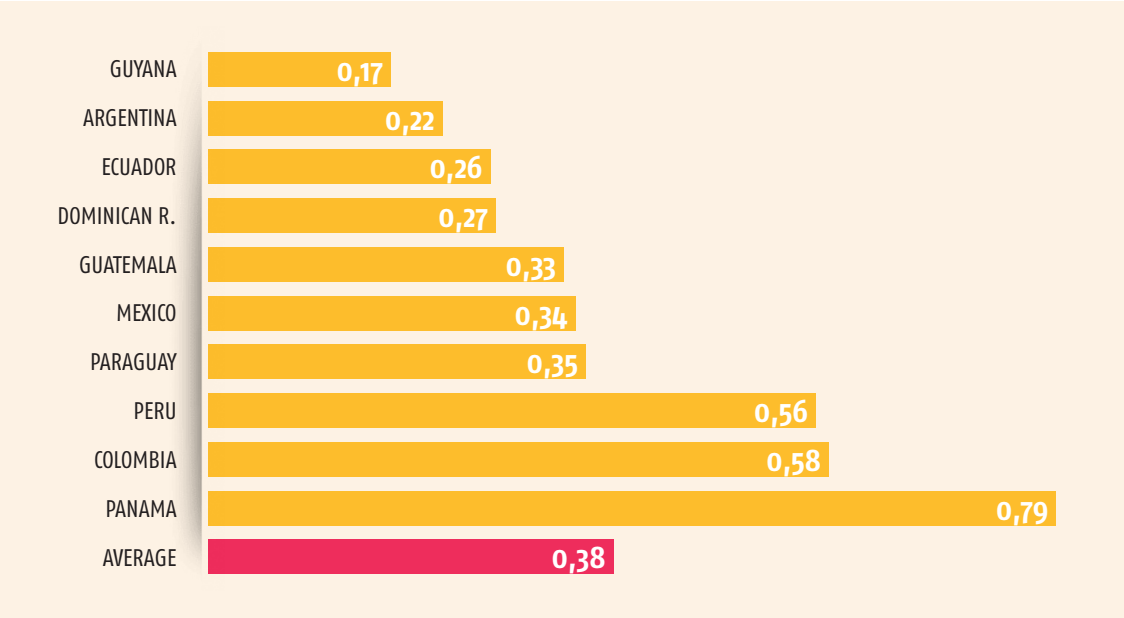
They also compromise the development of countries, because they make it difficult to take advantage of investments in human capital and the demographic dividend (which occurs when the proportion of the working age population compared to the dependent population increases rapidly) due to an increase in the number of dependent persons and women dropping out of school, hindering their access to the labour market, increasing their unpaid work burden and reducing their income-earning capacity. For this reason, in addition to having an impact on adolescent women and their families, adolescent pregnancy and early childbearing generate costs for the State in the form of tax revenue losses and an increase in health expenditures.

What is the cost of adolescent pregnancy and early childbearing for countries in the region?

This report presents, in an aggregated manner, the results of an analysis of the total socioeconomic cost of adolescent pregnancy and early childbearing in ten countries: Argentina, Colombia, Ecuador, Guatemala, Guyana, Mexico, Paraguay, Panama, Peru and the Dominican Republic. The annual cost of adolescent pregnancy for those countries is USD $9.505.

This figure was obtained by applying the MILENA 1.0 methodology, which estimates the opportunity cost of adolescent pregnancy by calculating expenses generated by each girl or adolescent that experiences early childbearing. Estimates for the group of countries analyzed show that the average opportunity cost of adolescent pregnancy represents 0.38% of their annual GDP. The disaggregated figures for the countries included in the study show the percentages range from 0.17% in Guyana to 0.79% in Panama. The following Figure shows the percentages for each country.

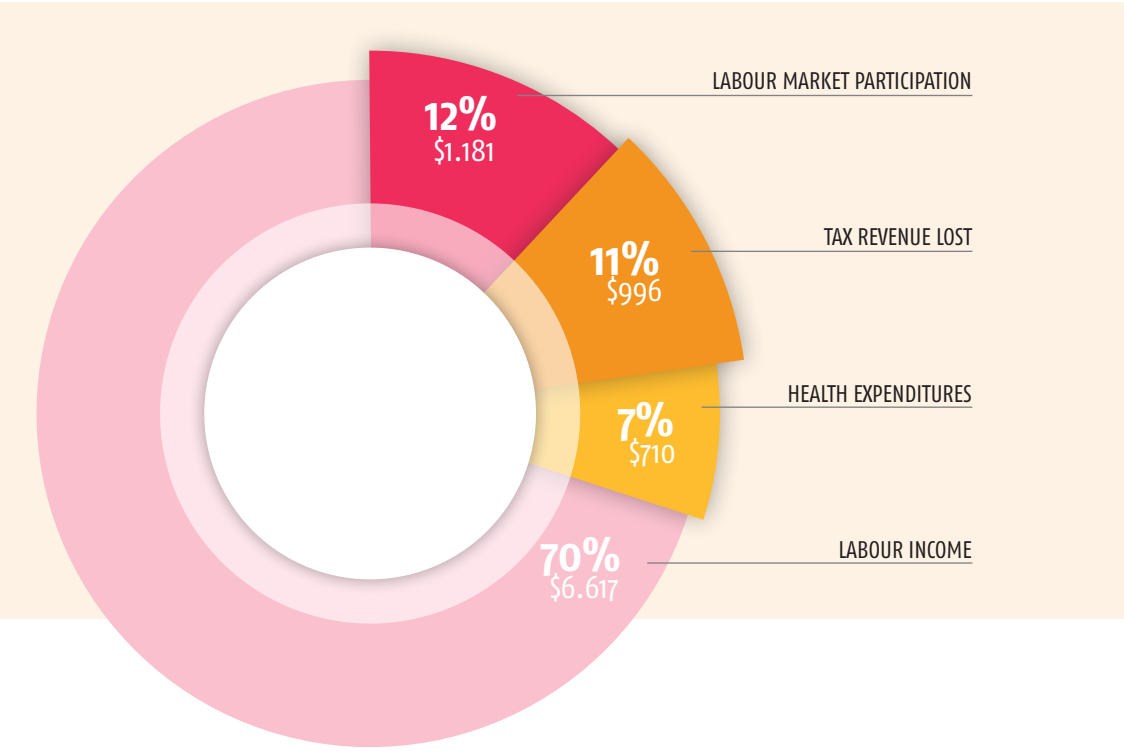
Total opportunity cost of adolescent pregnancy as a % of GDP



SOURCE: UNFPA LACRO BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

As shown in the Figure below, this cost considers impacts on the dimensions of labour Income (70%), labour market participation (12%), tax revenue lost (11%) and health expenditures (7%). It does not include the cost of the education dimension, because it is understood that the cost of adolescent pregnancy associated with the education of early mothers has an impact on their productive activity. It is worth noting that the two dimensions that combine the impact on women's productive activity concentrate 82% of that cost: the labour income (70%) and labour market participation dimensions (12%).

Composition of adolescent pregnancy cost disaggregated by dimensions considered by MILENA 1.0 in the ten countries analyzed



SOURCE: UNFPA LACRO BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

How is the socioeconomic cost of adolescent pregnancy calculated?

To measure and analyze the socioeconomic cost of adolescent pregnancy, UNFPA developed the MILENA 1.0 methodology. The model estimates the opportunity cost, that is, the economic value of the choices denied to an individual (or even aggregated as a country) when a choice is made (in this case, when a girl or adolescent becomes an early mother). The opportunity cost has two major components, depending on who is more directly affected by adolescent pregnancy. First, MILENA 1.0 estimates the costs of those factors that have a direct impact on women becoming early mothers (the labour income they earn –which is conditioned by their education levels–, their labour market participation and their levels of unemployment). Second, MILENA 1.0 estimates the costs for the State (health costs and tax revenue lost).

The target population of the MILENA methodology includes all those women who, during the year of implementation, reported being between the ages of 20 and 64. To this end, we work with two groups of women:

- Group 1 – **Early mothers**, that is, women who had a child during adolescence (between the ages of 10 and19).
- Group 2 – **Adult mothers**, that is, women who had a child as adults (between the ages of 20 and 29).

For each group, education, income and labour market participation profiles are measured. In addition, for each of these dimensions gaps between both groups are calculated, and their monetary values are estimated to calculate the opportunity cost.

While there is not an internationally agreed definition of adolescence, the age group used by the United Nations, the World Health Organization (WHO) and the Pan American Health Organization (PAHO) is that between the ages of 10 and 19. MILENA 1.0 adopts this categorization and takes it as the age range used by the methodology. It also acknowledges that different characteristics and profiles exist within this broad range depending on their stage of adolescence –early adolescence (ages 10 to 14), middle adolescence (ages 15 to 17) or late adolescence (ages 18 to 19).

How does adolescent pregnancy affect the level of education achieved?

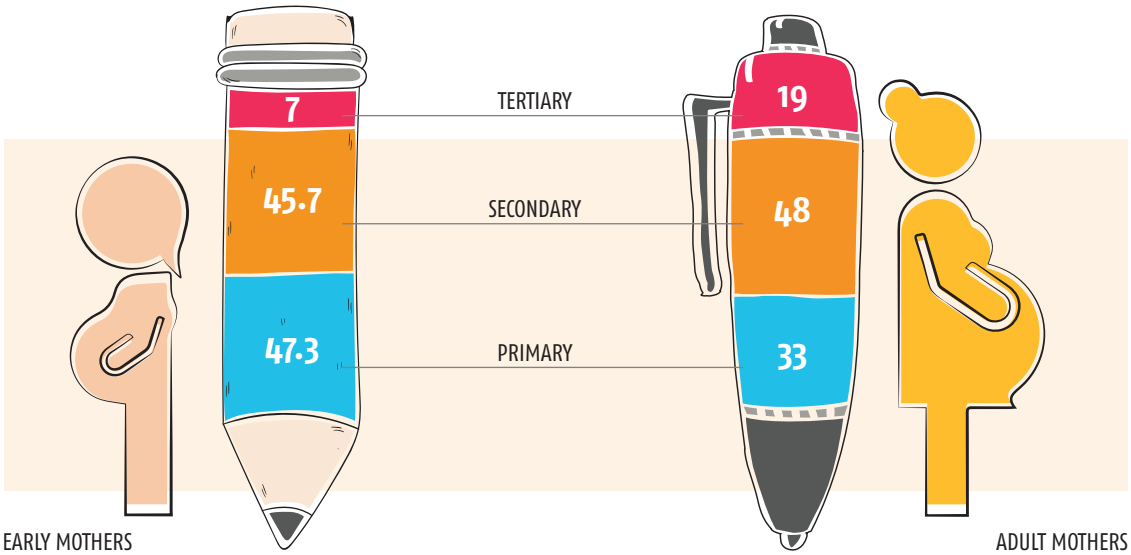
Women who become mothers during adolescence achieve a lower level of education compared to those who become mothers as adults. **In the ten countries of the study, we confirmed that those women who achieved some level of tertiary or university education earn, on average, twice the income of those who only completed secondary education and three times that of those who only completed primary education.**

On average, only approximately one half of early mothers achieve some level of secondary education, and only 7% of them achieve some level of tertiary education, according to data from the ten countries studied. In addition, a significant percentage of them (47.3%) only achieve some level of primary education. These figures are in contrast with the levels of education of adult mothers, who have a lower concentration in primary education and a higher concentration in tertiary education.

Women's level of education affects their income-earning capacity. Mothers with a primary or secondary level of education earn lower incomes compared to those with a tertiary education level. **The total opportunity cost of adolescent pregnancy for education is USD $3,544,370,994 a year for the group of countries analyzed**. This figure represents the income that, on average, early mothers from the ten countries analyzed failed to earn as a result of having achieved a level of education lower than they would have achieved if they had delayed motherhood until later in life.

On average, each early mother fails to earn USD $660 a year due to the education gap linked to adolescent pregnancy. It is worth noting that this revenue loss is not limited to a one-year period, but spans women's entire work life. Thus, over the

Average level of education achieved by age at which women had their first child in the ten countries.



SOURCE: UNFPA LACRO BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

course of their work lives, which we could expect to be approximately 45 years, the cost paid by women who become early mothers equals the cost of an affordable home in most of the countries of the study.

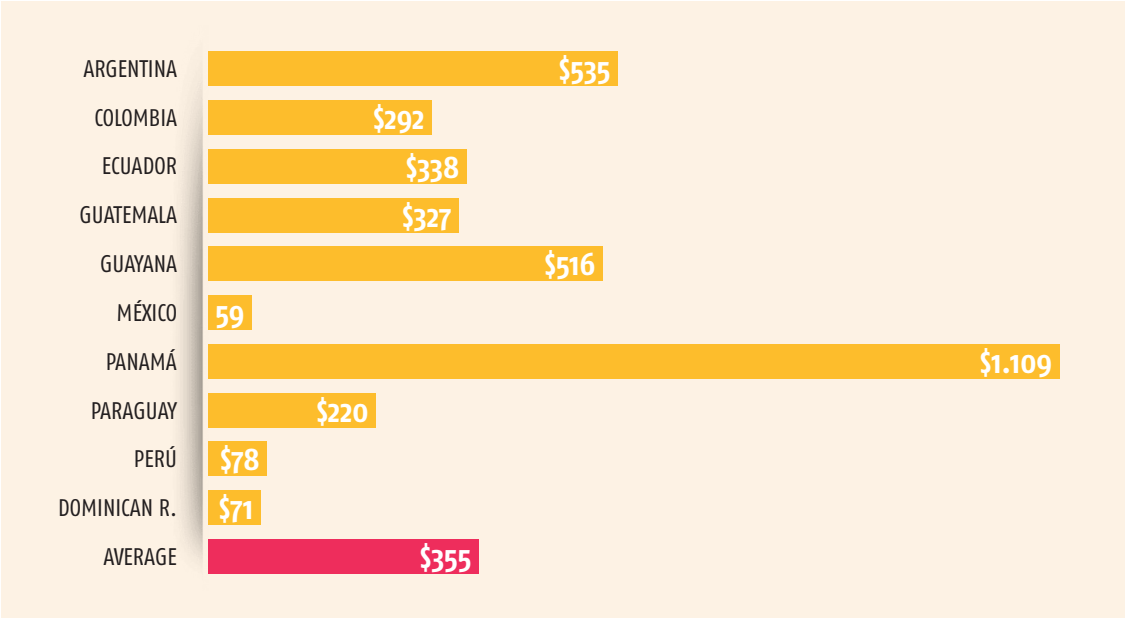
How does adolescent pregnancy affect the labour market participation of early mothers?

Women who become early mothers face greater challenges to go out of their home and look for paid jobs compared to those who become mothers as adults. **On average, in the ten countries of the study, the labour market activity gap between early and adult mothers is 5.1 percentage points.** In general, adolescent mothers have a higher percentage of labour market inactivity compared to adult mothers. The only exception is the Dominican Republic.

However, early mothers who manage to go beyond care-taking responsibilities and make the decision to participate in the labour market also face greater difficulties to get a job. **On average, women who become mothers during adolescence have an unemployment rate of 9.4% compared to 6.8% for adult mothers**.

This is based on an estimation of the gap between labour market activity and unemployment between early and adult mothers. **The income lost by early mothers due to that differential unemployment level represents, on average, USD $355 per woman per year.**

Per capita opportunity cost of labour market participation of early mothers in the ten countries where the MILENA 1.0 methodology was implemented



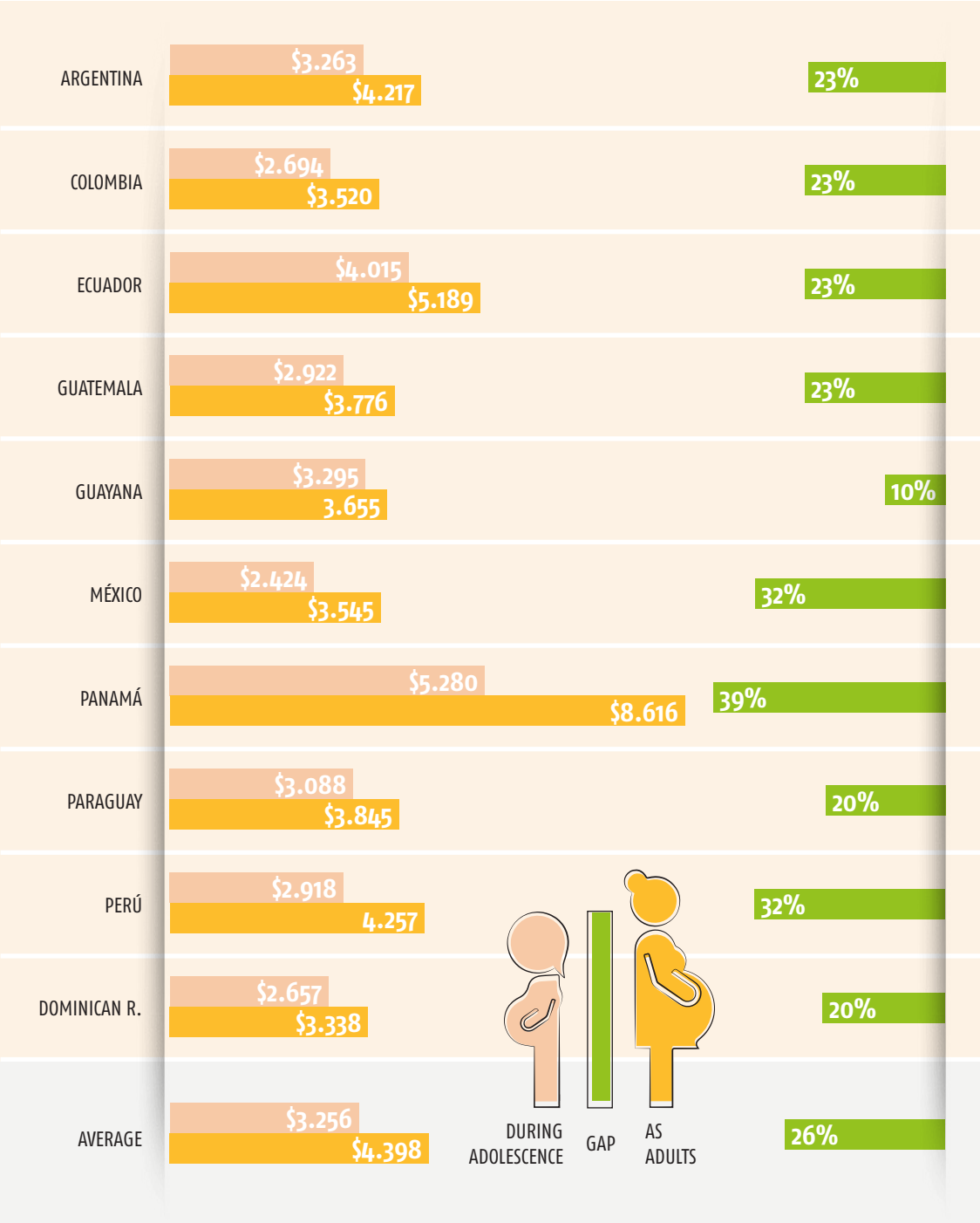
SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE 10 COUNTRIES

The total opportunity cost of adolescent pregnancy and early childbearing associated with labour market participation is USD $1,181,053,914 in the ten countries in the region. This is the amount that could have been injected into national economies if effective adolescent pregnancy prevention public policies had been in place.

How much lower are early mothers' salaries?

In all the countries of the study, early mothers earn less compared to women who became mothers as adults. On average, early mothers earn an annual income of USD $3,256 compared to adult mothers, who earn an annual income

Labour Income by age at which women became mothers in the ten countries where the MILENA 1.0 methodology was implemented



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

of USD $4,398. The average income gap between early and adult mothers is 26%.

In total, the ten countries of the study have an annual loss of more than six billion dollars in labour Income that women fail to earn each year as a result of having become early mothers. The total opportunity cost of adolescent pregnancy for labour income is USD $6,617,399.054 for the group of countries of the study.

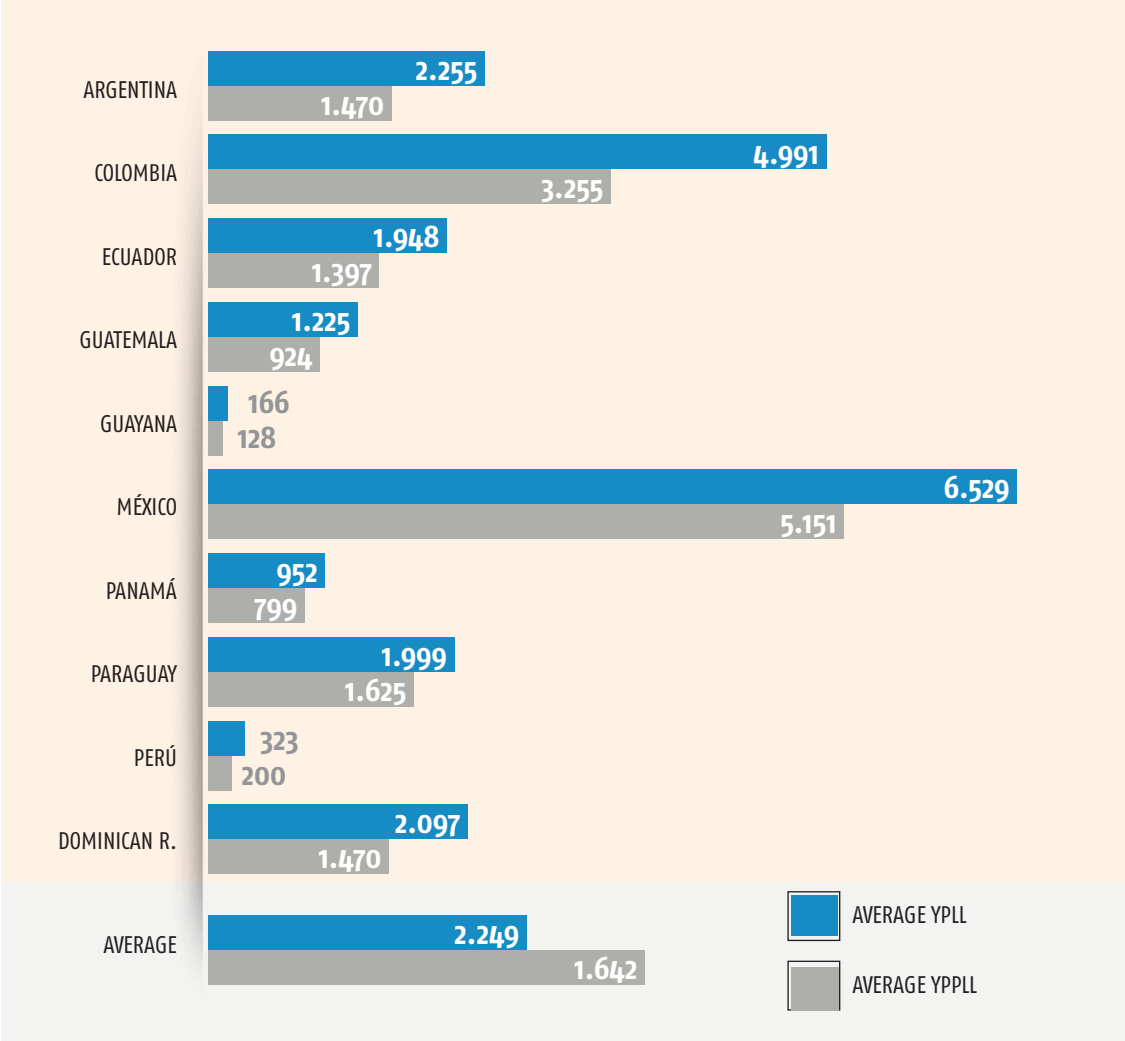
If these countries made the decision to implement effective adolescent pregnancy prevention policies, women could earn higher incomes and improve their standard of living, and that amount could be injected into the national economy. In other words,

if the ten countries were able to delay childbearing until adulthood, that would automatically transfer approximately USD $6.6 billion to a segment of their more vulnerable population. This would be a social investment without a precedent in history, mainly due to its magnitude, but especially considering the high redistributive impact such investments can generate.

What is the impact of adolescent pregnancy on women's health and health expenditures?

Adolescent pregnancy has an impact on the health of adolescent women. An adolescent's likelihood of dying during pregnancy or childbirth is much higher compared to adult women. Therefore, maternal mortality is higher among early mothers, which, in turn, leads to social harms such as increased levels of orphanhood and productive losses for society as a whole. The death of an adolescent woman has a productive cost for society as a whole due to the loss of her potential labour market participation, consumption and tax and social security contributions. **On average, the ten countries in the study report 2,249 years of potential life lost (YPLL) and 1,642 years of potential productive life lost (YPPLL) a year due to adolescent pregnancy and early childbearing.**

Years of potential life lost (YPLL) and years of potential productive life lost (YPPLL) in the ten countries where the MILENA 1.0 methodology was implemented



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

In addition, early mother pregnancies require more health care than adult pregnancies, because they tend to be riskier. **Welfare expenditures that could be avoided through adolescent pregnancy prevention strategies range from 4.7 to 211 dollars a year. This translates into potential savings ranging from 60% to 72% if these pregnancies had been effectively prevented.**

How much revenue does the State lose due to adolescent pregnancy and early childbearing?

Since early mothers have a lower level of participation in the labour market, they face higher levels of unemployment, and when they get employed the earn lower incomes. They can also be expected to pay less taxes than women who become mothers as adults. The MILENA 1.0 model considers the effects of adolescent pregnancy on tax revenue lost both in the form of direct (income) taxes and indirect (consumption) taxes.

In total, States lose USD $995,464,229 in the form of indirect taxes, such as taxes on goods (VAT) and direct taxes, such as income tax, due to adolescent pregnancy and early childbearing.

The crisis caused by the COVID-19 pandemic has had an impact on the sexual and reproductive rights of adolescents, and it is likely to increase the number of unwanted pregnancies. The pandemic increased the risks and vulnerability of adolescent women to unintended pregnancies, in particular for girls under the age of 15. First, because they are associated with restricted access to contraceptives. If we consider that the pandemic caused more than twenty million women who had been using modern contraceptives to discontinue their use, it can be expected that adolescent women will be the ones affected the most, mainly due to financial constraints that limit their access to contraceptives through commercial channels, as well as cultural and legal barriers that hinder access to contraceptives through public distribution channels. Second, because lockdowns increase the risk of sexual abuse and rape, a situation that is even worse for early mothers (under the age of 15). Third, because school closures and school dropout also increase risks.

What would be the cost of preventing unintended adolescent pregnancies and early childbearing in Latin America and the Caribbean?

Latin America and the Caribbean had, in total, 26,181,216 women in the 15 to 19 age range in 2021, and 42.3% of them, or approximately 11 million, are sexually active. Their access to modern contraceptives is between 5 and 8 times lower compared to adult women. Every year there are 1,600,000 live births to adolescent mothers, which results in a Specific Adolescent Fertility Rate of 61.18, (according to the latest data available for 2019). That rate is above the global average (41.58) and almost three times that reported for more developed countries (the OECD average is 21.57).

What would be the cost of preventing unintended adolescent pregnancies and early childbearing in Latin America and the Caribbean? Reducing the Specific Adolescent Fertility Rate for Latin America and the Caribbean to reach global average values through the provision of a broad basket of modern contraceptive methods would cost between 12.7 and 18.2 million dollars (depending on how supplies are purchased). But the most important thing is that this reduction could be achieved in one year with relatively low unit costs (that is, by unintended adolescent pregnancy) of between USD $14.8 and USD $21.24. In other words, it is a soft goal.

Even if the aim of the intervention to reduce the Specific Adolescent Pregnancy Rate was to reach the average of the wealthiest countries (OECD members), which means the goal would no longer be a soft one, it would still be attainable. The investment required to provide access to a broad basket of modern contraceptive methods would be between 52.2 and 36.4 million dollars (depending on the contraceptive procurement modality). And this goal could be achieved with a two-year intervention. The aim of the first year would be to reduce the Specific Adolescent Fertility Rate to reach the global average, and the aim of the second year would be to continue to expand access to modern contraceptives by adolescents to reach the OECD's average.

If the focus of the intervention was to expand coverage through the exclusive use of long-acting revers-

ible contraceptive methods, the investment required would increase to 80.6 million dollars. However, it those methods were purchased through UNFPA's procurement services, the investment required could be reduced to 36.8 million dollars. This is a viable investment option for the region as a whole, especially considering its significant benefits (return).

Regardless of the alternative considered, investing in public efforts to prevent unintended adolescent pregnancies through the use of modern contraceptive methods has very high social return for the development of countries. In all the alternatives considered, investments to promote access by adolescent women to modern contraceptive methods is profitable from a social perspective and have a higher return compared to only investing in modern contraceptives. These outcomes, which would contribute to reducing the Specific Adolescent Fertility Rate and produce results in the area of Sexual and Reproductive Health, are also advocacy tools that can be used with those funding policies for the procurement of modern contraceptives.

Reducing unintended adolescent pregnancy in Latin America and the Caribbean to reach average global levels, or even those of developed countries, is feasible and does not require unattainable investments. And there is valuable evidence that shows how to do it. Based on a review of such evidence, UNFPA presents a series of specific recommendations organized in four interrelated intervention areas: 1) Reducing equality and inequality gaps; 2) Strengthening public policies through a comprehensive and multisectoral approach (including social protection interventions); 3) Ensuring universal access to sexual and reproductive health services, and 4) Increasing the participation of adolescents, communities and civil society in the formulation of public policies.

In addition, the Latin America and the Caribbean Regional Office (UNFPA LACRO) has a set of tools for the formulation, management and evaluation of unintended adolescent pregnancy prevention public policies that countries and their governments can use.

Foreword

The Latin America and the Caribbean region is going through a profound social transformation that can be summarized in two increasingly important roles.

The first one is the role played by women, and the second is that played by young people. As a result of intense struggles, women today account for the majority of students and university graduates. They are entering the labour market in large numbers, unleashing a huge productive and innovative potential and developing new markets. They are also increasingly gaining access to positions of power both in the political and entrepreneurial spheres. And while there is still a lot to be done, they are waging, more than ever, a battle for their rights, income equality and their full physical and economic autonomy.

In addition, the majority of the population in the region is young. Never before has the region seen, and will never see, so many young people. It is true that young people's social, political and economic conquests in the region are not that encouraging. Young people's levels of unemployment, poverty and vulnerability are higher compared to the adult population and even higher than those that existed among young people decades ago. And yet, we can still hold hope of a social change driven by new generations of citizens. José Ortega y Gasset (1951) warned that it is in generational change that the probability of a better future to overcome the traps of the present is affirmed.

These social changes, where women and young people have been playing a key role in recent years, are taking place at a particular economic time. During the first fifteen years of the 21st century, countries in the LAC region had a higher level of economic growth compared to the rest of the world, which led to one of the most intense cycles of prosperity in the region's history. This super cycle of high commodity prices led to increased social demands and achievements in most countries. Millions of people were lifted out of poverty and progress was made towards several of the Millennium Goals.

In 2013, in the city of Montevideo, Latin America and the Caribbean countries signed the most ambitious Population and Development declaration among all developing regions. And that got us excited about the possibility of achieving the Sustainable Development Goals. In particular, we believed it would possible to achieve target 3.7, which aims to reach zero unmet need for modern contraceptive methods, by 2030.

But in 2015 economic growth began to slow down. In fact, in several countries it lagged behind the population growth rate. The COVID-19 pandemic, on the other hand, hit the LAC region harder than any other region of the word, including the economies and social needs of its countries. Today, countries in the region are navigating turbulent waters. Resources available are not enough to meet their current demands, and governments must make wise decisions to prioritize their investments, seeking to minimize impacts on the most vulnerable people and, at the same time, recover economic growth.

This report prepared by the United Nations Population Fund Latin America and Caribbean Regional Office presents new and important evidence to help governments make those smart investments. The analysis, which focuses on the situation of ten countries in the region, shows the extremely high opportunity cost of adolescent pregnancy. It models, measures and analyzes the consequences of early childbearing for the lives of women, society as a whole and even the State and its finances.

The key role played by women and young people involves exceptional opportunities for growth. One of them has to do with the demographic dividend, which is the advantage resulting from the economically active population exceeding the economically dependent population. The other has to do with the gender dividend, which is the advantage of incorporating the powerful productive and creative potential of women and girls that, up until recently, was excluded from the labour market. But unintended adolescent pregnancy affects both opportunities.

The main and most consolidated social transformation achieved in recent times, the feminization of university enrolment in Latin America, is limited by early childbearing. The education gap between women who become mothers as adults and those

who become mothers during adolescence is the greatest obstacle to social progress in the region. If women who become early mothers in Latin America and the Caribbean reached, on average, the same levels of education as those who become mothers as adults, the region could start to pay off its huge social debt, countries in the region would make steady progress towards reducing social inequalities, and the cycle of intergenerational reproduction of poverty could be stopped.

Women who become mothers during adolescence (early mothers) are the ones being left furthest behind in our region. Virtually one in five live births in Latin America and the Caribbean corresponds to a woman who is unable to take advantage of the benefits of social wellbeing and progress. In a society with an increasing enrolment of women in universities, there is a segment of women who continue to achieve the same levels of education as their mothers and grandmothers. In a society where life expectancy is increasing, they are affected by the same diseases and have the same life expectancy as their mothers and grandmothers. In a society where an increasing number of women work outside the home and find stable jobs, they are still unable to get rid of domestic care tasks.

But the good news for Latin American and the Caribbean governments is that preventing unintended adolescent pregnancy is affordable. Even though adolescent pregnancy levels in our region are well above the world average, efforts to provide access to modern contraceptives that would prevent unintended pregnancies are relatively limited. However, the return for society and the State would be five times the amount invested.

This report also includes a series of recommendations made by the United Nations Population Fund to governments to promote effective interventions. The return on those investments for societies and States is among the highest returns a public investment can generate.

The United Nations Population Fund Latin America and the Caribbean Regional Office (LACRO) offers governments determined to make smart investments to prevent unintended adolescent pregnancy a set of evidence based proven tools. The report includes a brief catalogue of solutions available to countries that UNFPA can transfer to them for free.

The purpose of this document is to present evidence to decision-makers from countries in the region that shows that, in the current juncture, investments in the capitalization of the gender and demographic dividends are cost-effective and sustainable. In other words, preventing unintended adolescent pregnancies in Latin America and the Caribbean is one of the smartest investments a government can make.

Harold Robinson
DIRECTOR, UNITED NATIONS POPULATION FUND LATIN AMERICA AND THE CARIBBEAN REGIONAL OFFICE (UNFPA LACRO).

Introduction

This report is a contribution for the generation of solid evidence to encourage the development of public policies for the reduction of adolescent pregnancies and early childbearing. In the LAC region, which is the most unequal region in the world and has the highest adolescent fertility rates (only after Sub-Saharan Africa), this type of measures are urgent. The evidence presented here is part of the regional initiative "165 million reasons", which considers adolescents and young people as key drivers of regional change.

The report is divided into six chapters. The first chapter describes the situation of adolescent pregnancy and early childbearing in the region and its characteristics. It also includes testimonies of adolescent mothers. The second chapter describes the results of implementation of the MILENA 1.0 methodology, which estimates the opportunity cost of adolescent pregnancy and early childbearing in five dimensions: education, employment, labour Income, health and tax revenue. The third chapter analyzes the impact of COVID-19 on adolescent pregnancy, as it is estimated that mandatory lockdown measures and barriers to access to contraceptive methods during the pandemic may have contributed to an increase in adolescent pregnancy in the region. The fourth chapter presents the results and a description of the Impact Goals Estimation Model (IGEM) developed by UNFPA LACRO to estimate the cost benefit of investments to secure the availability of contraceptive methods in order to reduce the specific adolescent fertility rate from the perspective of both society and the State. The fifth chapter proposes public policy intervention approaches for the prevention of unintended adolescent pregnancies. Finally, it includes a set of tools to prevent adolescent pregnancy that UNFPA LACRO makes available to countries in the region.

chapter 1

Why are adolescent pregnancy and early childbearing a social issue in Latin America and the Caribbean?

Adolescent pregnancy and early childbearing hinder the fulfilment of the human rights of girls and adolescents in the region, limit their autonomy and have a direct impact on their ability to get an education, work and generate income. This reproduces social inequality and intergenerational cycles of poverty.

Adolescent pregnancy and early childbearing also compromise the development of countries, because they make it difficult to take advantage of the demographic dividend and invest in human capital due to an increase the number of dependent persons and women dropping out of school, hindering their access to the labour market, increasing their unpaid work burden and reducing their income-earning capacity. For this reason, in addition to their impact on adolescent women and their families, **adolescent pregnancy and early childbearing generate costs for the State in the form of tax revenue losse**s, as women who become mothers at an early age are less able to purchase taxable products and generate less income than those delaying motherhood. **They also generate more health costs**, as early mothers are more likely to experience maternal mortality and require more medical care than women who become mothers as adults. Evidence available (UNFPA, 2019b) shows that **all those consequences and negative impacts, either individually or collectively, can be grouped in at least four dimensions: education, employment, health and gender**.

In the field of education, evidence shows child and adolescent mothers tend to drop out of school and find it very complicated to go back to school due to the difficulties of reconciling care tasks and their education, which means they complete fewer years of formal education. Care tasks are predominantly characterized by sexist gender roles. And since adolescent women more exposed to pregnancy are the poorest, they also lack the means to delegate such care tasks to third persons, a situation that further exacerbates inequalities. Furthermore, even if they can combine care tasks with motherhood, adolescents sometimes feel embarrassed to go back to school after pregnancy and prefer to stay home rather than being exposed to the judgments of their classmates or education authorities (UNFPA Guatemala, 2015).

This situation also has negative consequences at a collective level, considering that **women's exclusion from the education system is not only harmful from an academic standpoint, but also in terms of the importance of secondary education in the promotion of sexual and reproductive health** and its contribution to identifying situations of abuse. In this regard, it is essential to ensure the implementation of Comprehensive Sexual Education (CSE) policies with a gender perspective in schools.

As far as **employment** is concerned, child and adolescent mothers are less likely to enter the formal labour market, are only employed in more precarious and/or informal jobs and, therefore, have lower income levels. All of the above has a significant impact on the economic autonomy of women who become mothers during adolescence.

In the area of **health, adolescent women are more likely to experience maternal deaths and pregnancy complications. Their children are also more likely to die or have a disease than those of adult mothers.**

Adolescent pregnancy and early childbearing, on the other hand, are also associated with a higher probability of suicide among mothers. A group of adolescent women interviewed for a study conducted by UNFPA Guatemala reported they live new situations associated with the birth of their children with uncertainty and insecurity, "embarrassed by social stigma, stressed out by care tasks, and with mixed emotions in response to complex traumatizing situations" (BM, 2012; UNFPA Guatemala, 2015).

With regard to **gender issues, child and adolescent pregnancy is usually framed in a context of violation of rights and sexual violence**, because they are based on power relations between girls or adolescent women and men that may even be twice their age (El Paso, 2020). Sexual violence not only refers to situations of rape and physical abuse (usually perpetrated by family members), but also to unequal power relations between genders where negotiating the use of contraceptive methods is difficult (Varela and Fostik, 2011). **Adolescent pregnancy is also associated with child marriage**

and/or early unions, to which the poorest girls, from rural areas and with lower education levels, are more exposed (UNICEF, 2019).

At the macro level, child and adolescent pregnancy has an impact on society as a whole, because it affects the development of countries and makes it difficult to reap the demographic dividend and investments in human capital, considering it increases the proportion of dependent persons and expels women from the education system, hinders their access to the labour market, increases their unpaid work burden and reduces their income-earning capacity. For this reason, in addition to their impact on adolescent women and their families, **adolescent pregnancy and early childbearing generate costs for the State in the form of tax revenue losses**, as women who become mothers at an early age are less able to buy taxable products and generate less income than those delaying motherhood.

The United Nations Population Fund (UNFPA) works every day to prevent adolescent pregnancy and early childbearing. With the objective of systematizing the analysis of the socioeconomic cost of adolescent pregnancy and generating comparable results, UNFPA developed the "MILENA 1.0" methodology, which estimates the opportunity cost of adolescent pregnancy and early childbearing, that is, the economic value of the opportunities a person will lose upon making a choice (in this case, becoming an early mother). The methodology establishes a difference between the costs for women and those for the State.

This report includes a compilation and systematization of results of estimations of the socioeconomic consequences of adolescent pregnancy in ten countries in the region: Argentina, Colombia, Ecuador, Guatemala, Guyana, Mexico, Paraguay, Peru, Panama, the Dominican Republic, Honduras and Bolivia. **The aim of the initiative is to promote the development of public policies to address the complexity of adolescent pregnancy and early childbearing, with children and adolescent women as a social priority to ensure the sustainable development and growth of countries in the region**.

Characteristics of adolescent pregnancy in Latin America and the Caribbean

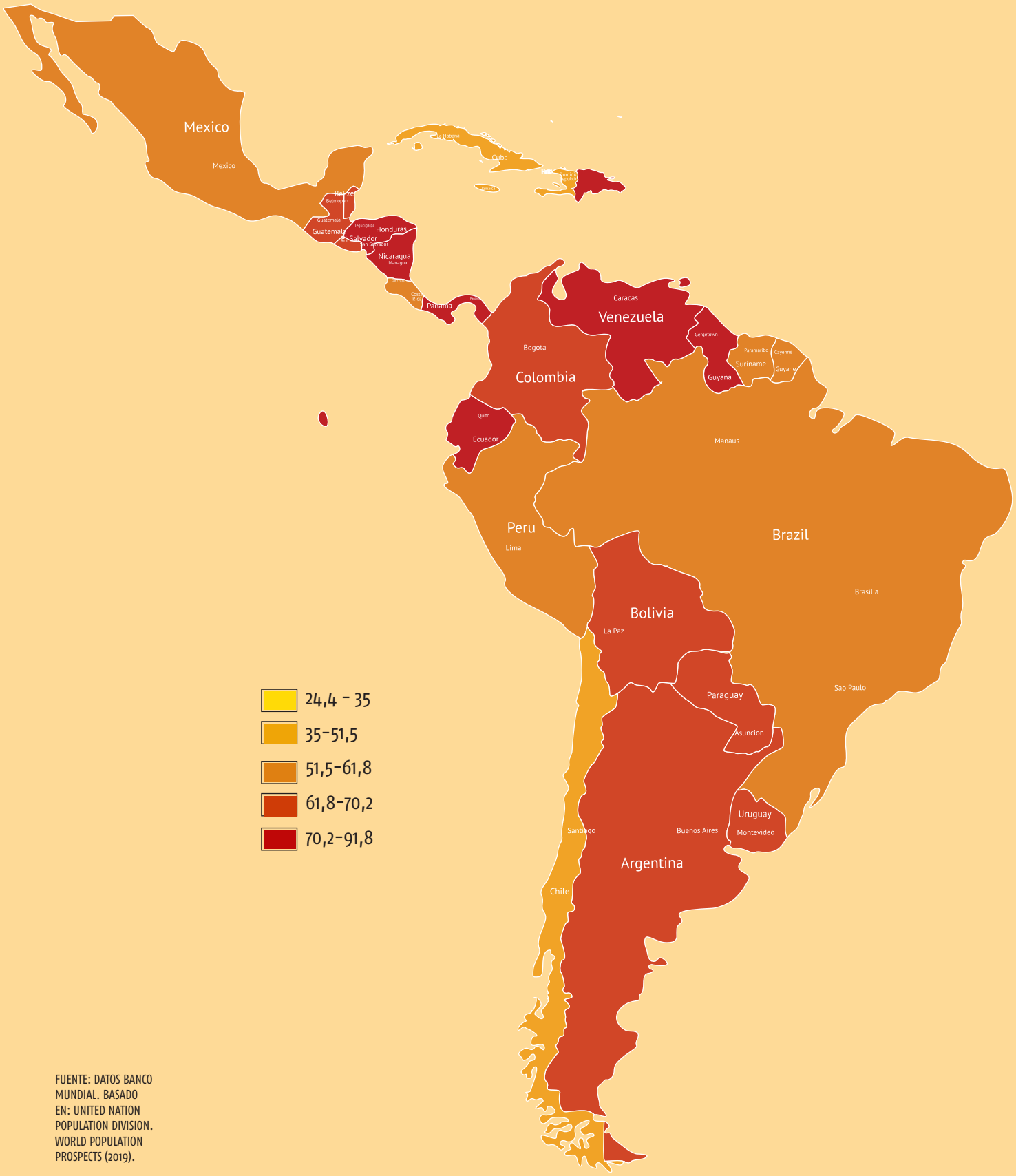
Latin America and the Caribbean is a young region that has the social and economic conditions required to achieve economic growth and development. The region is amid a critical period, considering it is in a demographic dividend stage, a phenomenon that occurs when the working-age population exceeds the young dependent population. The demographic dividend is a unique opportunity for the growth and development of countries. To reap its benefits, countries must ensure the wellbeing of the youngest persons by investing in their human capital so they can join the labour force. **The population in the region is projected to start aging during the 2020-2025 period, which will lead to an increase in the proportion of the dependent population** (ONU Mujeres, 2021). For this reason, every single day is key to the future of the region.

Adolescent pregnancy and early childbearing compromise the benefits of the demographic dividend, as they increase the proportion of persons of dependent age and affect investments in human capital. This is because adolescent mothers are expelled from the education system and have high unemployment levels and lower incomes compared to women who delay childbearing, which hinders their contribution to their national economies.

Adolescent fertility levels in the region have remained constant. **While the Total Fertility Rate (TFR) has shown a significant decline in recent years, the Specific Adolescent Fertility Rate (SAFR)**[1] has declined at a slower pace (Tobar, 2015). The Dominican Republic, Nicaragua, Venezuela, Guyana and Panama are among the countries with the highest adolescent fertility rates in the region. Countries like Brazil and Uruguay report intermediate fertility rates, while Chile reports low rates.

1 THE SPECIFIC ADOLESCENT FERTILITY RATE (SAFR) CAN BE DISAGGREGATED INTO TWO AGE GROUPS: 10 TO 14 AND 15 TO 19.

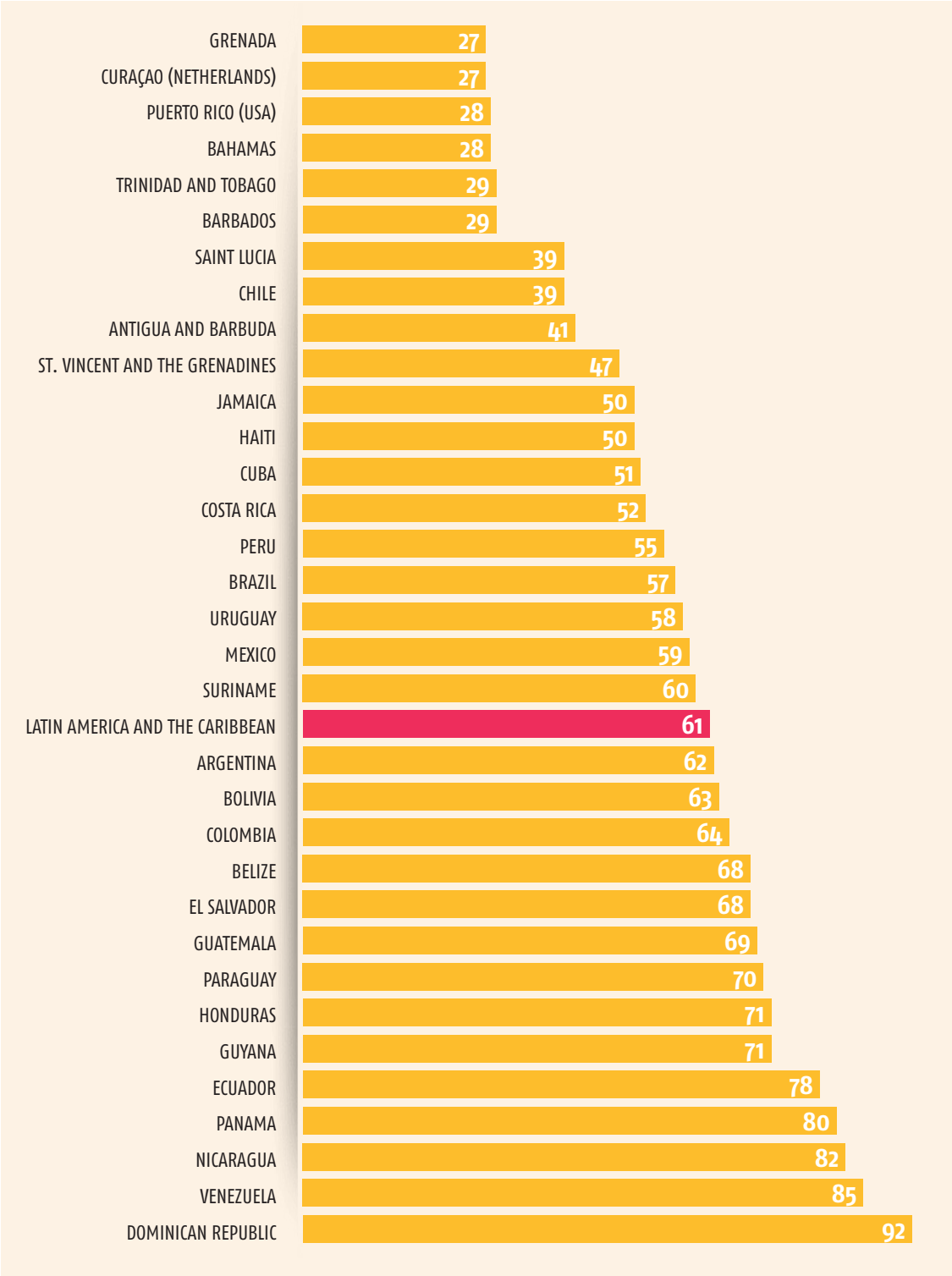
Figure 1. SAFR in Latin America and the Caribbean countries (2019)



FUENTE: DATOS BANCO MUNDIAL. BASADO EN: UNITED NATION POPULATION DIVISION. WORLD POPULATION PROSPECTS (2019).

The region's Specific Adolescent Fertility Rate (SAFR) 61 children per one thousand women ages 15 to 19. This figure is the world's highest, only after Sub Saharan Africa. The country with the highest SAFR in the region is the Dominican Republic, followed by Venezuela and Nicaragua. Other countries considered in this study, such as Panama, Ecuador, Guyana, Honduras, Paraguay, Colombia and Argentina, are also above the regional average.

Graph 1. SAFR in Latin America and the Caribbean countries - 2019



SOURCE: WORLD BANK. BASED ON: UNITED NATION POPULATION DIVISION. WORLD POPULATION PROSPECTS (2019).

Colombian pregnant woman walks down the stairs of a wooden house

"THE ADOLESCENT WOMEN MOST AFFECTED BY PREGNANCIES, IN ADDITION TO BEING THE POOREST, HAVE THE LOWEST LEVELS OF EDUCATION, LIVE IN RURAL AREAS AND ARE INDIGENOUS OR OF AFRICAN DESCENT."

PHOTO: COURTESY OF UNFPA COLOMBIA.

The adolescent fertility rate among the poorest women in Latin America and the Caribbean is similar to that reported among African adolescent women (Rodríguez Vignoli, 2017). The reason for this is that adolescent pregnancy creates multiple inequalities, especially socioeconomic and gender inequalities, which are exacerbated by others created by territorial and ethnic-racial factors, because the **adolescent women most affected by pregnancies, in addition to being the poorest, have the lowest levels of education, live in rural areas and are indigenous or of African descent** (UNFPA and WHO, 2020).

Latin America and the Caribbean is the only world region where the number of child marriages and early unions has not declined in recent years. In the LAC region, 1 out of 4 young women were first married or in union before the age of 18. Of those who married, 8 out of 10 gave birth before age 20 (UNICEF, 2019).

According to a 2018 report, **"if current trends continue, close to 20 million girls in the region will marry before age 18 by 2030"** (UNFPA, UNICEF et al., 2018). This data is key, **considering a relationship between early unions and adolescent pregnancy** has been identified in specialized literature (UNICEF, 2019). According to a study conducted in Guatemala, many poor families perceive unions or marriage as a strategy to "lighten the family's economic burden" (UNFPA Guatemala, 2015).

Adolescent pregnancy has also been associated with cultural patterns that view childbearing as a valuable event in the trajectory of some adolescents. This may be due to religious factors or, in many cases, to family or community traditions that view motherhood as a "key element of the female identity" (Varela and Fostik, 2011). These cultural patterns see adolescent pregnancy as a twofold problem: on one hand, pregnancy as a result of limitations in the agency of adolescents but, on the other, as a path towards autonomy, considering that some "poor young women can take control of their lives and earn the respect of their community/family" (Banco Mundial, 2012). In an interview conducted for a report on adolescent

Colombian woman carries her baby in the street after the COVID-19 outbreak.

"ADOLESCENT PREGNANCY HAS ALSO BEEN ASSOCIATED WITH CULTURAL PATTERNS THAT VIEW CHILDBEARING AS A VALUABLE EVENT IN THE TRAJECTORY OF SOME ADOLESCENTS."

PHOTO: COURTESY OF UNFPA COLOMBIA

childbearing, when asked about the reasons for her pregnancy, a young girl said:

"I don't know, I think the desire to become a mother, like all women, was awakened in me from a very early age, but I don't know, it made me want to have a baby."

SOURCE: DE ROSA ET AL. (2016)

However, Latin America is the developing world region with the lowest proportion of intended births to mothers under age 20[2] (Rodriguez Vignoli, 2017). At least 1 out of 10 women of childbearing age (ages 15 to 49) in the region reports she does not want to have more children or wishes to delay her next pregnancy and does not use any contraceptive method (the figure is lower in Colombia, Peru and Ecuador), according to data from ECLAC's Gender Equality Observatory for Latin America and the Caribbean. The figures for Guyana and Panama are 28% and 24.2% respectively (CEPAL, 2020).

These figures clearly show the persistence of situations of abuse and sexual violence that can be compounded by lockdown measures adopted by many countries in response to the COVID-19 pandemic, as most of the acts of abuse and rapes are perpetrated by a family member. But sexual violence can also be experienced by adolescent women who have sexual intercourse with their partners, as unequal gender relations can create difficulties upon negotiating the use of contraceptives. A Peruvian adolescent mother interviewed after becoming a mother affirme:

"Unfortunately things came up, because I was a girl, a girl that didn't know anything about what was good or bad. Our parents didn't teach us how to take care of ourselves. The assumption was that that was not the appropriate time to teach us all of that and, therefore, ***I didn't know how to take care of myself. It was a pregnancy I didn't want****."*

SOURCE: SAVE THE CHILDREN (2016).

Comprehensive Sexual Education is essential for the prevention of adolescent pregnancy. According to the report "The State of World Population 2016", "Community life-skills training programmes aimed at school-age girls, with a focus on sexual health and relationships, reduce childbearing among teenagers in developing-country settings" (UNFPA, 2016). Access to information on sexual and reproductive health in the region tends to be poor and prevents thousands of adolescents from fulfilling their rights. The story of an adolescent interviewed by UNFPA El Salvador illustrates this reality:

"My Dad tried to abuse me for the first time when I was 10 years old. I told him he couldn't do that to me because he was my Dad. I knew that what he wanted to do to me was not good. ***I learned that at school. Our teacher told us that nobody could touch us, much less our fathers, because that was bad****."*

SOURCE: UNFPA EL SALVADOR (2017).

2 THE STUDY INCLUDES INFORMATION FOR GUYANA, HONDURAS, THE DOMINICAN REPUBLIC, BOLIVIA, COLOMBIA, HAITI, PERU, GUATEMALA, NICARAGUA, PARAGUAY AND EL SALVADOR.

A Panamanian woman prepares food

"THE CONSEQUENCES OF ADOLESCENT PREGNANCY HAVE A PARTICULAR IMPACT ON WOMEN, WHO ARE RESPONSIBLE FOR MOST OF THE CARE TASKS INSIDE AND OUTSIDE THE HOUSEHOLD."

PHOTO: COURTESY OF UNFPA PANAMA.

The consequences of adolescent pregnancy have a particular impact on women, who are responsible for most of the care tasks inside and outside the household. **In Latin America and the Caribbean, women spend 1.7 times more time to unpaid care work than men** (ONU Mujeres and CARE, 2020). In addition, **the care burden is usually higher for women from the poorest socioeconomic strata**, which are made up of more dependent persons (ONU Mujeres and CARE, 2020), and these women do not have the means to delegate those tasks.

A disaggregation of the proportion of time spent on unpaid domestic care tasks by country shows that Argentina, Guatemala and Mexico are the countries where the gap between the time dedicated to those tasks by women and men is greater. According to 2013 data for Argentina, the proportion of time dedicated to domestic chores and unpaid care tasks was 9.3% for men and 23.4% for women. In Guatemala, men dedicated 2.9% of their time to this type of tasks vs. 19.9% for women, compared to 7.5% for men and 23.7% for women in Mexico (CEPAL, 2019).

It is necessary to develop policies with a gender perspective, not only to prevent adolescent pregnancy, but also so that its consequences are not that harmful to society as a whole. To this end, it is essential to improve the quality of life of girls and adolescent and adult women in Latin America and the Caribbean, with a focus on the social redistribution of wellbeing and care. In particular, UNFPA promotes the creation of policies to ensure the wellbeing of the most vulnerable populations because, as already explained, the consequences of adolescent pregnancy are more harmful for the poorest, indigenous or Afro-descendant women and those living in rural areas. With these factors in mind, States must take action to address the issue and stop the reproduction of cycles of poverty in the region.

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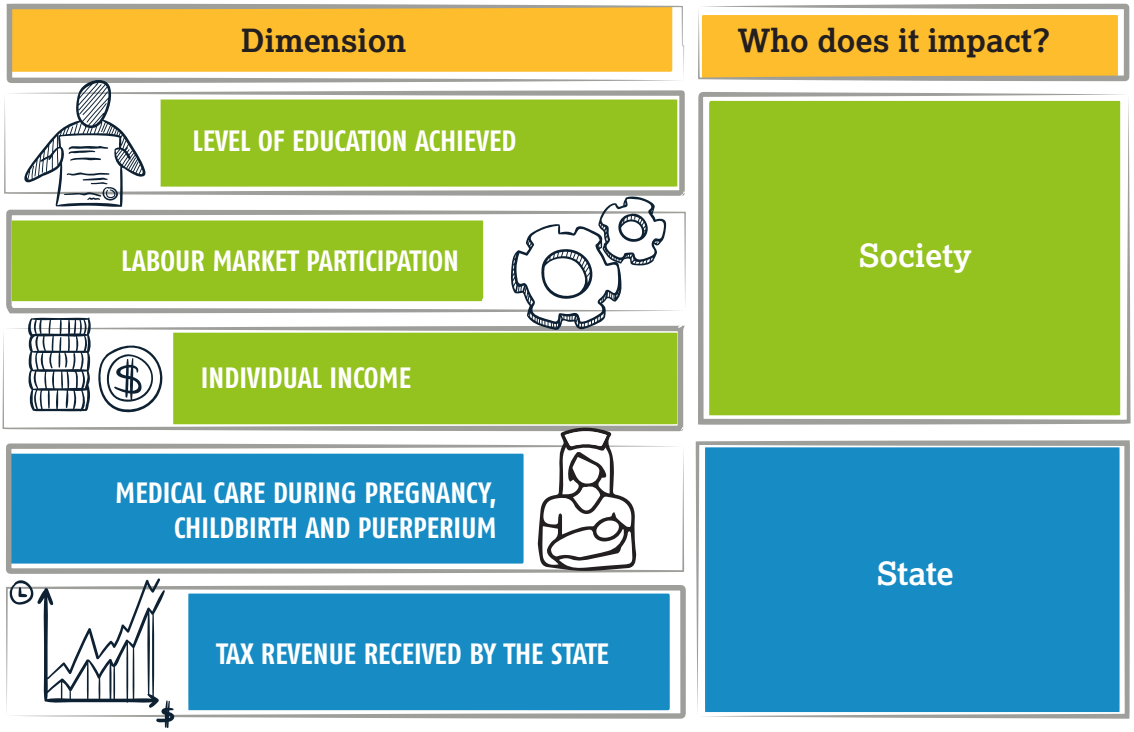
chapter 2

Socioeconomic consequences of adolescent pregnancy and early childbearing in ten countries in the region

Adolescent pregnancy and early childbearing have serious consequences that affect the quality of life of thousands of girls and adolescents and the economic growth of countries. In response to this situation, the United Nations Population Fund Latin America and the Caribbean Regional Office (UNFPA LACRO) developed the MILENA 1.0 methodology, which measures, in a homogeneous manner, the socio-economic consequences of adolescent pregnancy and early childbearing in different countries in the region. Its aim is to generate comparable results and promote the development of public policies to reduce this phenomenon. To this end, it estimates the impact of adolescent pregnancy and early childbearing in five dimensions, establishing a distinction between those that have an impact on society as a whole (or socioeconomic) and those that have a direct impact on the State. The former includes the direct impacts on women's life trajectories, that is: I) level of education, II) income, and III) labour market participation. The latter refer to expenditures associated with adolescent pregnancy in the following areas: IV) medical care during childbirth and puerperium and the cost of lives lost prematurely, and V) tax revenue lost by the State for failing to prevent adolescent pregnancy and early childbearing (see Figure 2).

(Figure 2). Dimensions of the MILENA 1.0 methodology.



SOURCE: UNFPA LACRO (2017)

The target population of the MILENA 1.0 methodology consists of all those women who, as of the year of implementation, reported being between the ages of 20 and 64. There are two distinctive groups in this population based on the age at which women became mothers, to wit:

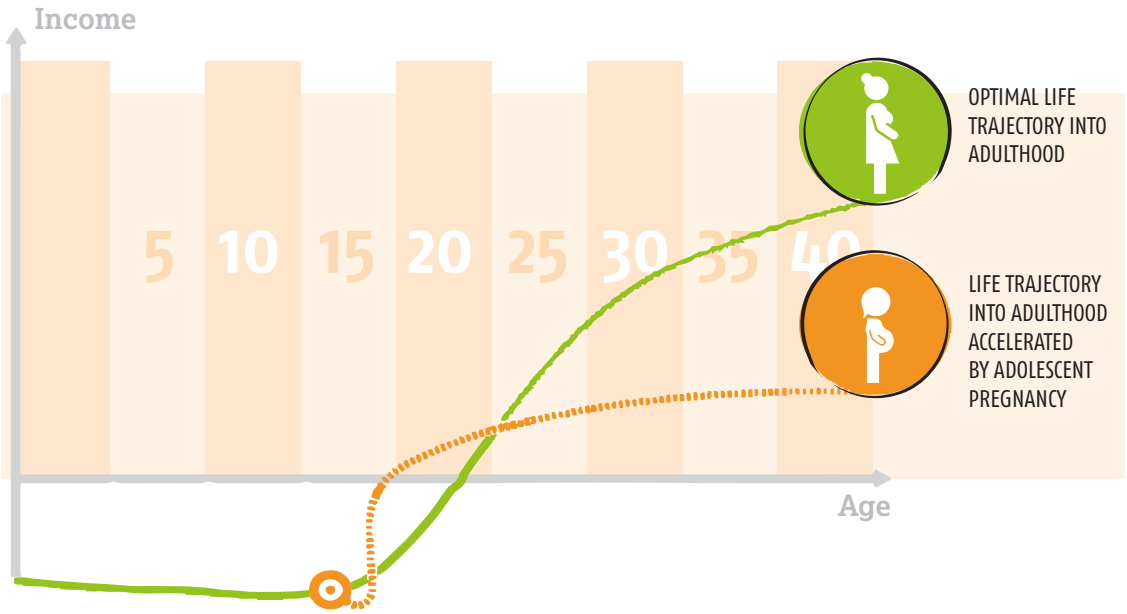
- Group 1 – **Early mothers**, that is, women who had a child during adolescence (between the ages of 10 and 19).
- Group 2 – **Adult mothers**, that is, women who had a child as adults (between the ages of 20 and 29).

Education, income and labour market participation profiles are considered for each group. In addition, **gaps between both groups for each of these dimensions were calculated** by estimating their monetary value and calculating their opportunity cost.

While there is not an internationally agreed definition of adolescence, the age group used by the United Nations is that between the ages of 10 and 19. MILENA 1.0 adopts this categorization and takes it as the age range of interest. It also acknowledges that different characteristics and profiles exist within this broad range depending on their stage of adolescence –early adolescence (ages 10 to 14), middle adolescence (ages 15 to 17 years) or late adolescence (ages 18 to 19).

The foundation of the model can be found in the analysis proposed by Gary Becker (1994) in his Treatise on the Family, which considers early motherhood as a suboptimal trajectory in the formation of human capital that subsequently generates lower returns along the employment trajectory of the early mother (see Figure 3).

(Figure 3). Explanatory model of income trajectories of women throughout their lives based on the Human Capital Theory



SOURCE: UNFPA LACRO (2017) BASED ON BECKER, G. (1994)

The conceptual and methodological foundations of the MILENA model were presented in UNFPA (2019) and build upon previous studies supported by UNFPA, in particular a pioneering study conducted in El Salvador (UNFPA, 2017), as well as research done by Altamirano, Pacheco, Huelva, Sáenz and López in Nicaragua (2016), measurements proposed by Chaaban and Cunningham (2011) and the analysis of Azevedo J P; Lopez-Calva L F and Perova E (2012).

To estimate the costs of adolescent pregnancy and early childbearing for the economy of the ten countries, in this edition we relied on different sources selected by the national offices in each country, including permanent household surveys and national censuses[1].

1 THE SPECIFIC SOURCES USED FOR EACH COUNTRY CAN BE FOUND IN ANNEX 1.

Socioeconomic consequences of adolescent pregnancy and early childbearing in education

Women who become mothers during adolescence achieve a lower level of education compared to those who become mothers as adults. While several adolescents are expelled from the education system before becoming pregnant, a large number of women abandon formal education after giving birth or within the first months of their child's life. **The total opportunity cost of adolescent pregnancy for education is USD $3,544,370,994 a year for the group of countries included in the analysis** (see Table 1). This amount was calculated by: 1) estimating the schooling gap between women who became mothers during adolescence and adult mothers, and 2) estimating the income gap between the two groups, depending on their level of education.

On average, almost one half of early mothers only complete secondary education, and only 7% of them reach some level of tertiary education, according to data from the ten countries studied. In addition, a significant percentage of them (47.3%) only reach some level of primary education. These figures are in contrast with the levels of education of adult mothers, who have a lower concentration in primary education and a higher concentration in tertiary education (see Graph 2).

Early mothers are less likely to complete university or tertiary education than adult mothers.

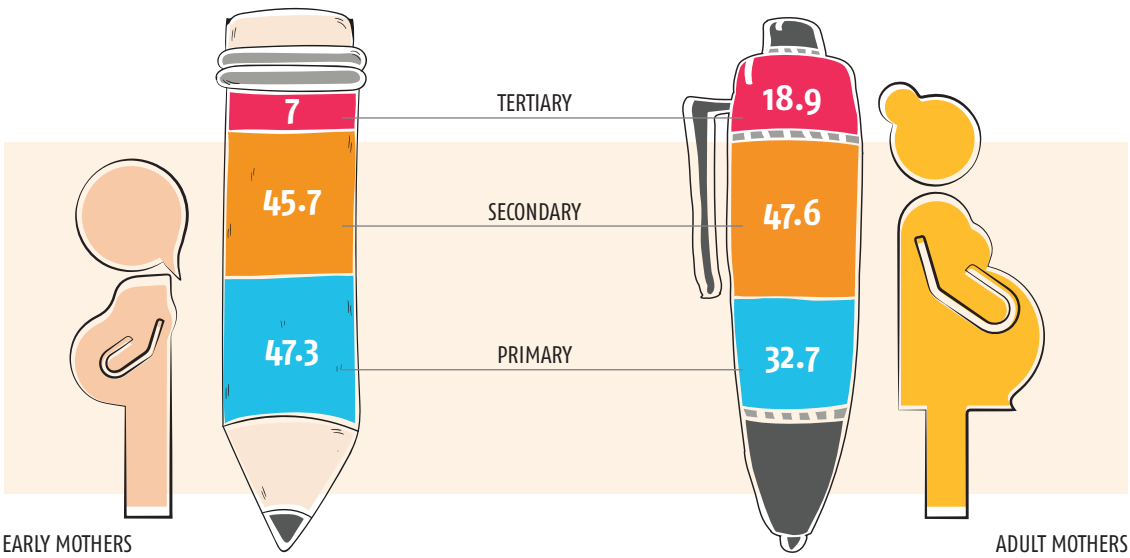
Table 1. Total estimated cost of education gap resulting from adolescent pregnancy and early childbearing by country

Country	Total estimated cost of education gap in current USD (2021).
Argentina	$ 288,097,299
Colombia	$ 755,036,404
Ecuador	$ 59,626,358
Guatemala	$ 55,079,664
Guyana	$ 1,106,848
Mexico	$ 1,606,717,425
Paraguay	$ 96,403,412
Peru	$ 351,125,361
Panama	$ 192,826,797
Dominican R.	$ 138,351,426
TOTAL	**$ 3,544,370,994**

SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

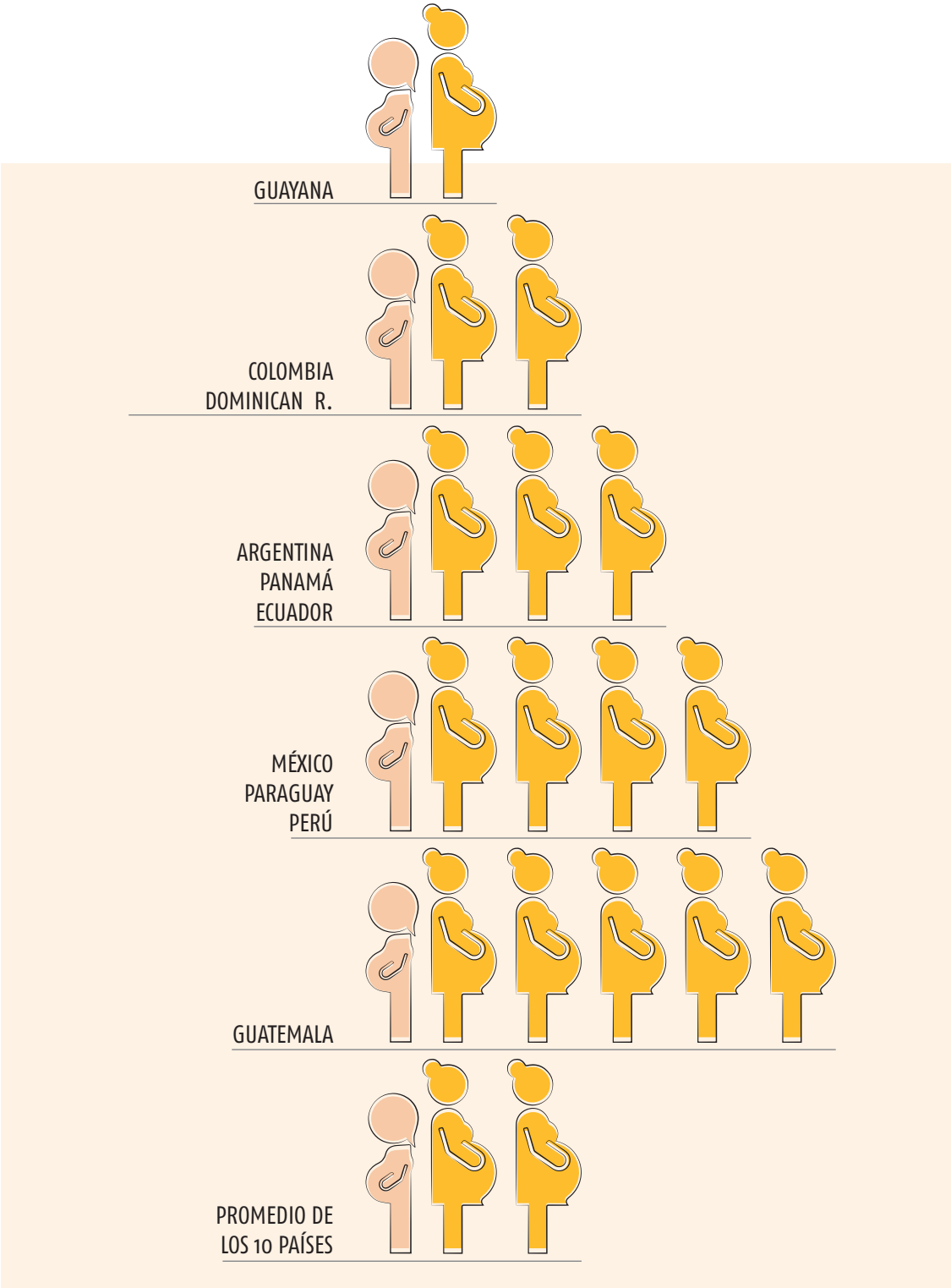
It is at this education level that we find the biggest gaps in terms of educational achievement. If we compare the number of women who earn a university or tertiary degree in both groups of women and by country, the figures vary significantly.

Graph 2. Average level of education achieved by age at which women had their first child in the ten countries included in the study



SOURCE: UNFPA LACRO BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Figure 4. Comparison of number of women who earn a tertiary or university degree, distinguishing between early mothers and adult mothers.



SOURCE: UNFPA LACRO BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

As shown in Figure 4, these gaps can be ranked by country. The lowest rank corresponds to Guyana, where the ratio of early mothers to adult mothers earning a university or tertiary degree is 1 to 1.5. The gap is wider in Colombia and the Dominican Republic, where the ratio of adult mothers to early mothers earning a tertiary or university degree is 2 to 1. In Argentina, Ecuador and Panama, the ratio of adult mothers to early mothers with a university degree is 3 to 1. In Mexico, Paraguay and Peru, the gap is even wider, with a ratio of adult mothers to early mothers with a university or tertiary degree oft 4 to 1. The country with the biggest gap between the two groups of mothers is Guatemala, where there are virtually 5 adult mothers with a university or tertiary degree for every early mother.

The relationship between schooling and adolescent pregnancy can be explained in part by the difficulties women face in combining education and domestic and care tasks. This means there is a clear link between women's income and education, "because by having the financial responsibility of a baby, the young adolescent experiences an increase in her opportunity cost for the time invested in education" (Chevalier and Viitanen in UNFPA, 2019b). In an interview conducted by UNFPA El Salvador, a young woman who became a mother at age 14 affirmed:

> *"I also thought I would be able to continue my education once my children grew older. (...) But right now I cannot do that, because I'm incurring large expenses with him and I don't have a job. I make some money by washing clothes and selling leaves from the orchard and lemons from the small farm. But it is not enough to put food on the table."*
>
> SOURCE: UNFPA EL SALVADOR (2017).

In addition, low levels of schooling have been associated with the expelling of women from the education system for cultural reasons. Evidence shows that some adolescents feel so embarrassed after becoming pregnant that they prefer to drop out of school to avoid suffering the consequences (UNFPA Guatemala. 2015; UNFPA El Salvador, 2017). In an interview for this study, an adolescent who became a mother during adolescence said:

> *"In the beginning [the changes] were physical, because you experience some anxiety, and I had dizziness and vomiting. I didn't want to eat. I was like that for three months. It's something horrible, and I didn't feel like going to school. And something else... I felt kind of embarrassed to go to school and see my classmates. That would involve another change (...) Before they began treating me differently, I made the decision to leave."*
>
> SOURCE: INTERVIEW WITH AN ADOLESCENT AND EARLY MOTHER PARTICIPATING IN THE LAS CLARA PROGRAMME (PANAMA). INTERVIEWED BY UNFPA LACRO FOR THIS STUDY.

Expelling adolescent mothers from the education system has an impact on their future earnings, because it affects their education and reduces their probability of getting quality jobs. Many women who become mothers face precarious or even informal working conditions, which limits their access to social security and compromises their quality of life in old age.

The income of those women completing university or tertiary education will be, on average, 2.8 times higher compared to those who only complete primary education, and 2 times higher than those who only complete secondary education. Estimates for the ten countries show that those women who earned a university or higher degree earn, on average, USD $7,458 a year. Those who completed secondary education earn, on average, USD $3,747 (that is, 50% less than the former). And women who only achieved some level of primary education earn, on average, USD $2,659 a year (that is, 64% less than those completing university education) (see Table 2).

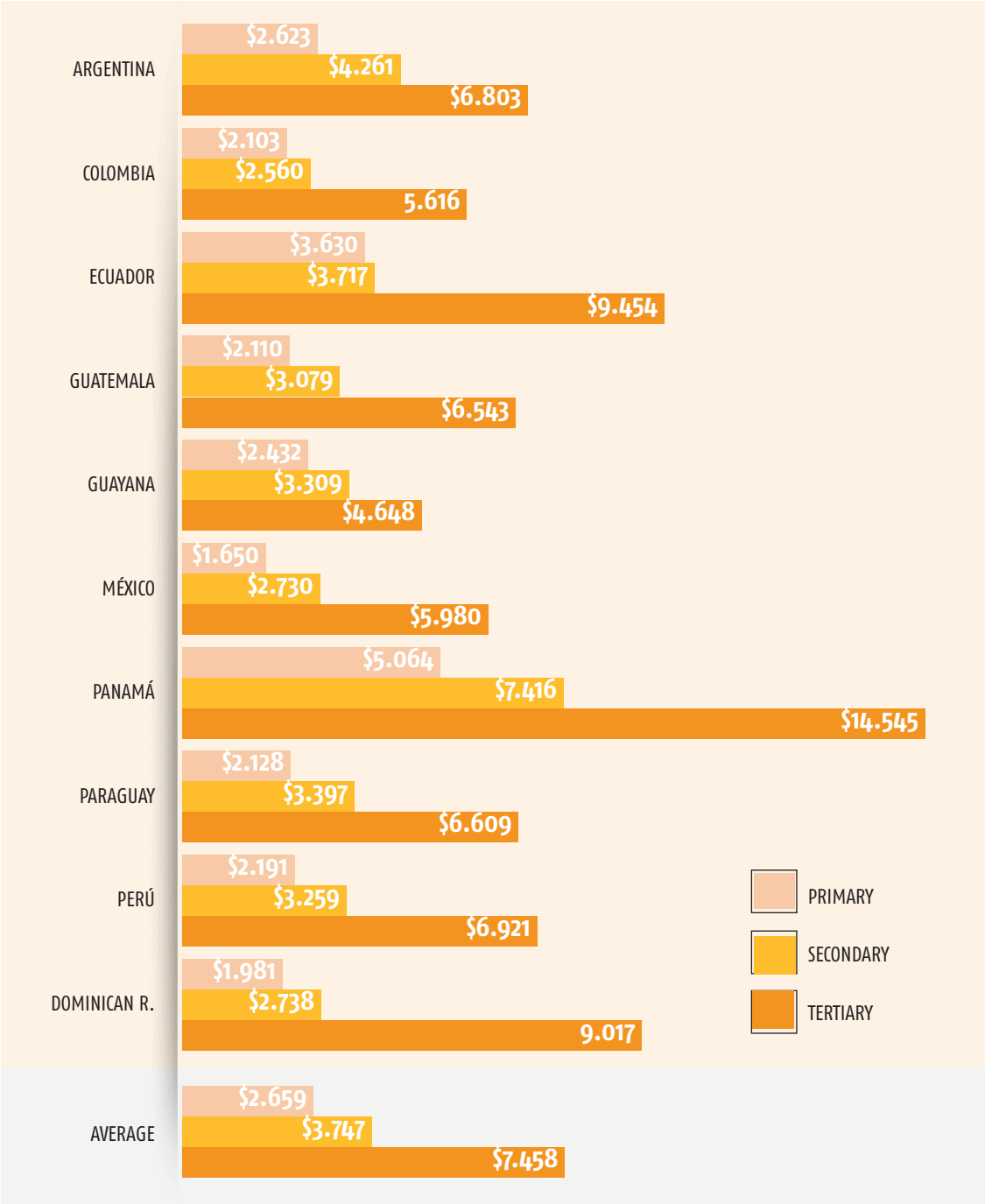
The behavior of income earned by level of education is similar in all cases; the higher the education level, the higher the income earned. As already explained, mothers with a primary or secondary education level earn less than those with a tertiary education level.

Table 2. Average income earned by women in the ten countries of the study, by level of education

Level of education	Average annual income (in current USD)	Index (Tertiary=100)	Ratio (expressed in times)	Income gap with tertiary education (in current USD)
Primary education	$2,659	36%	2.8	$4,799
Secondary education	$3,747	50%	2.0	$3,710
Tertiary education	$7,458	100%	1	0

SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Graph 3. Average labour Income of working women by level of education in the ten countries where the MILENA 1.0 study was conducted.



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Graph 3 shows the average income, in USD, for women by level of education disaggregated by country. According to this information, the country with the highest average income for the three education levels (primary, secondary and tertiary) is Panama, which is far above the averages of the countries analyzed. In addition, the country with the lowest average income among women who only achieve some level of primary education is Mexico (approximately USD $1,650 a year, which equals a monthly income of USD $137.50). The country where working women who completed secondary education have the lowest average income is Colombia (approximately USD $2,560 USD a year, which equals a monthly income of $213.30). And the country where working women who completed tertiary education have the lowest average income is Guyana (approximately USD $4,648 a year, which equals a monthly income of $387.30).

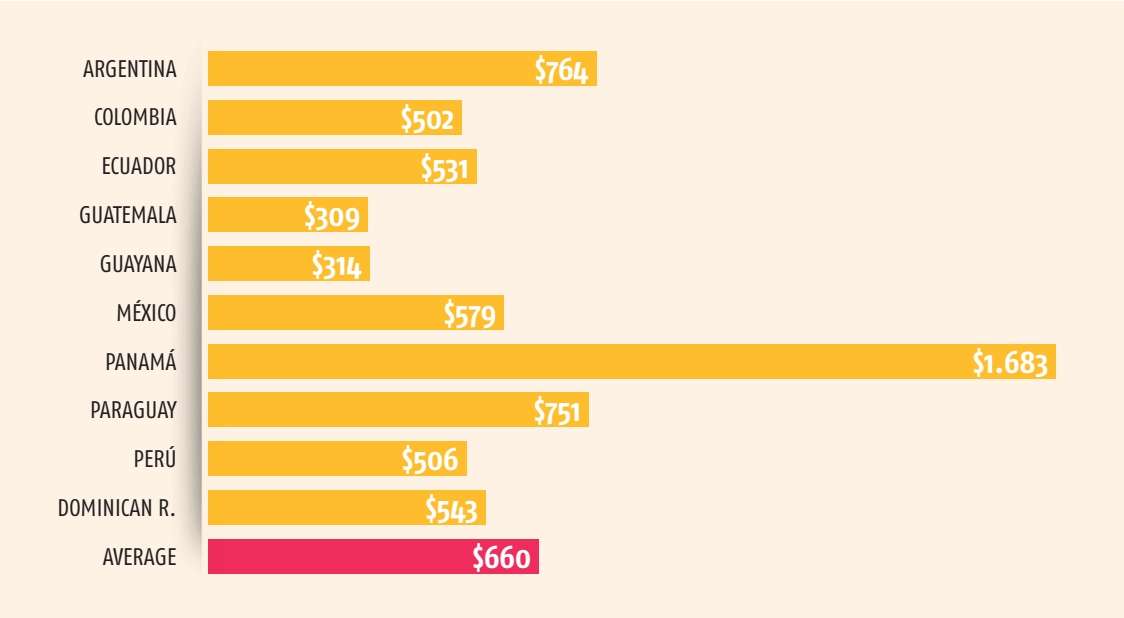
The per capita opportunity cost associated with education in the 10 countries included in the study is USD $660 a year (see Graph 4). This figure represents the income that, on average, early mothers from the ten countries analyzed failed to receive as a result of having reached an education level lower than they would have achieved if they had delayed motherhood until adulthood.

This is a significant amount if we consider that the educational lag for early mothers tends to be perpetuated throughout their work careers. For this reason, its long-term impact on their income should be evaluated. **If a woman's work career spans 45 years, the income loss resulting from the opportunity cost associated with education is almost USD $30,000**. This amount is equivalent to the cost of purchasing an affordable home in several of the countries of the study.

The comparison of income losses for early mothers associated with their education gap and the cost of a home is relevant in light of the systematization of evidence of the social consequences of adolescent pregnancy carried out by UNFPA (2020), which found that **early mothers not only have less access to a home of their own, but are excluded from public housing programmes because they are unable to meet their eligibility requirements**. This, in turn, perpetuates conditions of vulnerability resulting from economic dependence and subjugation.

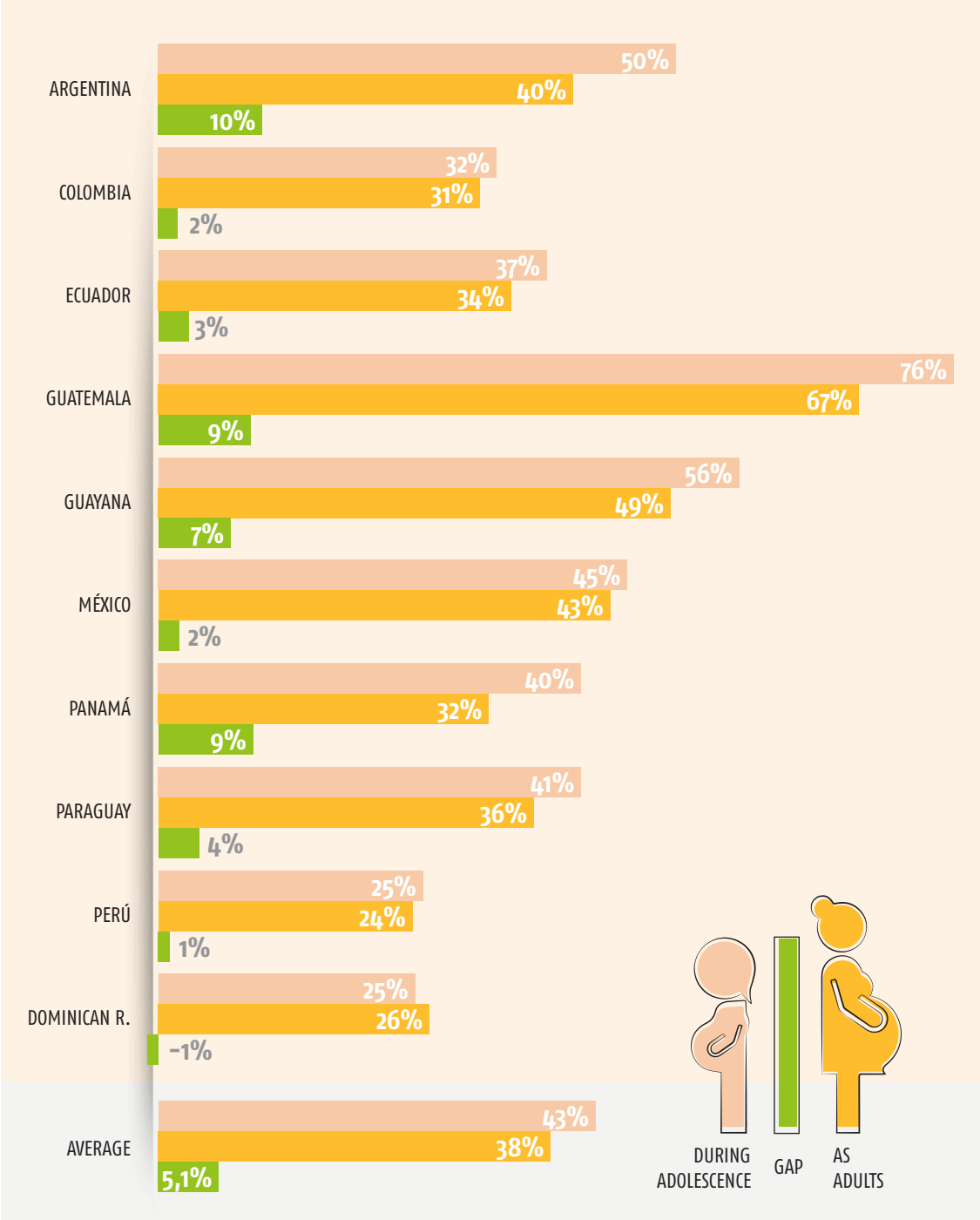
The figures mentioned here are average values, but some countries exceed, by far, the opportunity cost associated with the education gap. That is the case of Argentina, Paraguay and Panama (see Graph 4). The latter is the country with the highest per capita opportunity cost for adolescent pregnancy (USD $1,683). On the other hand, the country with the lowest per capita opportunity cost is Guatemala (USD $309), followed by Guyana (USD $314).

Graph 4. Per capita opportunity cost of education associated with early childbearing in the ten countries where the MILENA 1.0 methodology was implemented



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Graph 5. Inactivity by age at which women became mothers



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Consequences of adolescent pregnancy and early childbearing on labour market participation

Women who become mothers during adolescence are less available to work (i.e., they have higher levels of labour inactivity) and face greater difficulties to get a job compared to women who become mothers as adults. While the number of women who are the main breadwinners is increasing (ONU Mujeres, 2020), adolescent pregnancy continues to hinder women's entry into the labour market. **Estimates show that the total opportunity cost of adolescent pregnancy and early childbearing associated with labour market participation for the group of ten countries analyzed is USD $1,181,053.914 a year**. This figure was calculated by adding two components:

- Labour inactivity gap (labour availability) between early and adult mothers
- Unemployment gap between early and adult mothers

Women's availability to participate in the labour market is associated, among other things, with their participation in unpaid household work. **On average, the labour activity gap between early and adult mothers for the ten countries included in the study is 5.1%**. In all of them adolescent mothers have a higher percentage of labour inactivity compared to adult mothers, except for the Dominican Republic, where adult mothers had a higher level of inactivity than early mothers (see Graph 5).

The countries with the highest levels of labour inactivity for early mothers are Guyana, Argentina and Mexico, while the countries with the highest labour inactivity levels for early mothers are the Dominican Republic and Peru, with a 25% inactivity rate.

As regards the values that separate both groups in each country, Argentina is the country with the widest labour inactivity gap, with a difference of 10 percentage points between early mothers and adult mothers. The second place corresponds to Guatemala, where the labour inactivity gap between adolescent mothers and adult mothers is 9 percentage points. The labour inactivity figures for both groups are above the regional average, with 33 percentage points and 39 percentage points respectively.

Labour inactivity among early mothers can be explained by multiple factors. In an interview conducted by UNFPA for this study, an adolescent mother said the following:

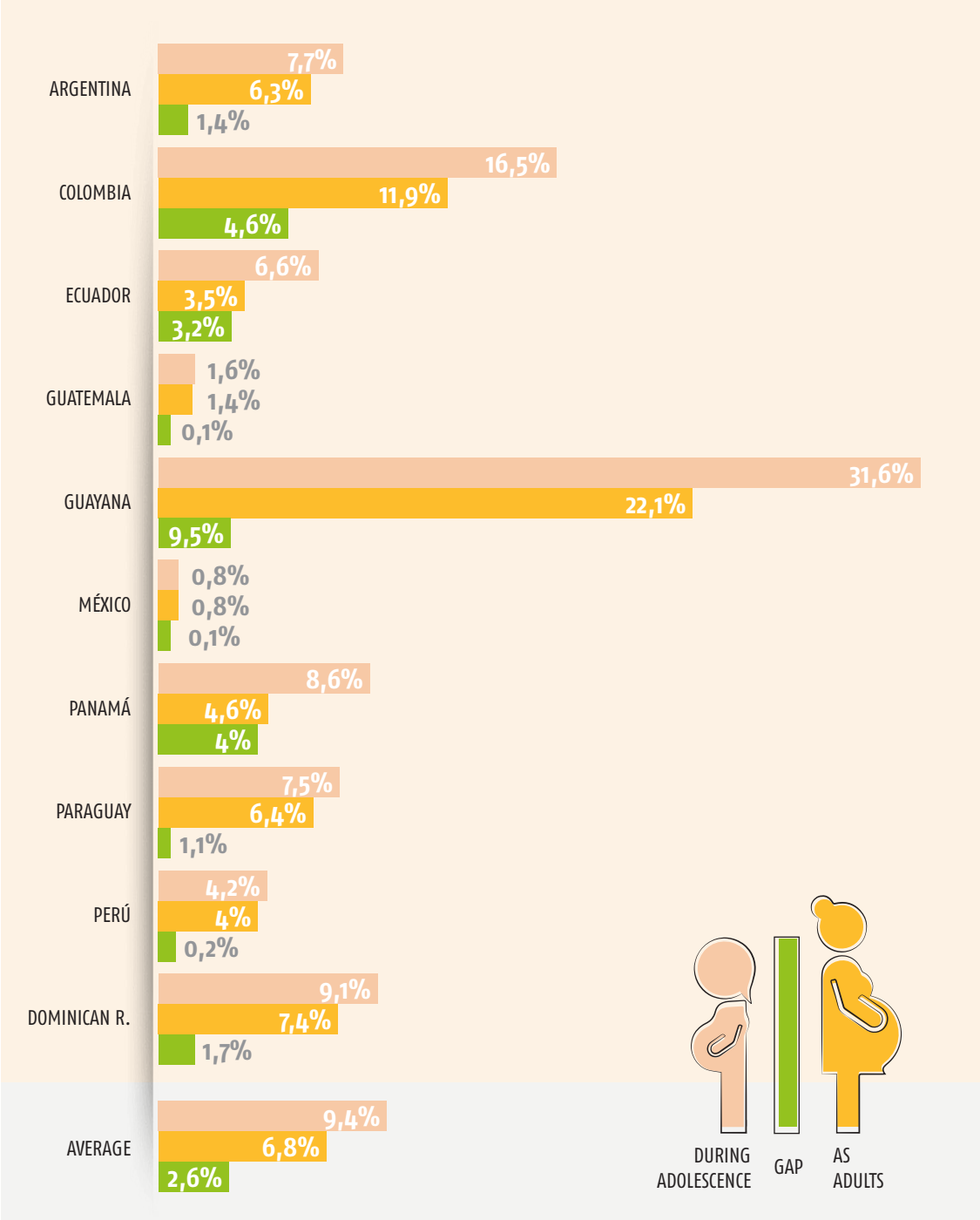
> *"The difference between a young woman without children and I is huge, because there is a difference in responsibilities, our commitment to our jobs, to the institution itself, to fulfilling tasks and always being on time. (...) And the difference with a childless young girl is that she doesn't have that pressure to get up in the middle of the night if the baby cries, if the baby is hungry (...) and if the baby is sick, he/she will require special care. To be honest, it's tedious."*
>
> SOURCE: INTERVIEW WITH AN ADOLESCENT AND EARLY MOTHER PARTICIPATING IN THE LAS CLARAS PROGRAMME (PANAMA). INTERVIEWED BY UNFPA LACRO FOR THIS STUDY.

Even if they are available to participate in the labour market, early mothers find it difficult to get a job. **Women who become mothers during adolescence have, on average, an unemployment rate of 9.4% compared to 6.8% for adult mothers** (see Graph 6). The gaps between both groups are as high as 9.5% in Guyana and 4.6% in Colombia, which are above the average percentage for the ten countries (2.6%). In the case of Guatemala and Mexico, it is not possible to determine an unemployment gap between early and adult mothers, because the difference in unemployment between age groups is not significant.

The lower level of labour market participation and the higher level of unemployment among mothers who become mothers at an early age also translate into an opportunity cost. **That lower level of activity by itself means that women who become mothers during adolescence fail to earn, on average, USD $355 a year**. This amount was calculated by comparing their income with that of women who became mother as adults (see Graph 7). This average is surpassed by Argentina, Guyana and Panama, the latter being the country where adolescent pregnancy has the highest per capita opportunity cost associated with unemployment (USD $1,109). The country with the lowest per capita opportunity cost is Mexico, with USD $59, followed by the Dominican Republic, Peru and Paraguay.

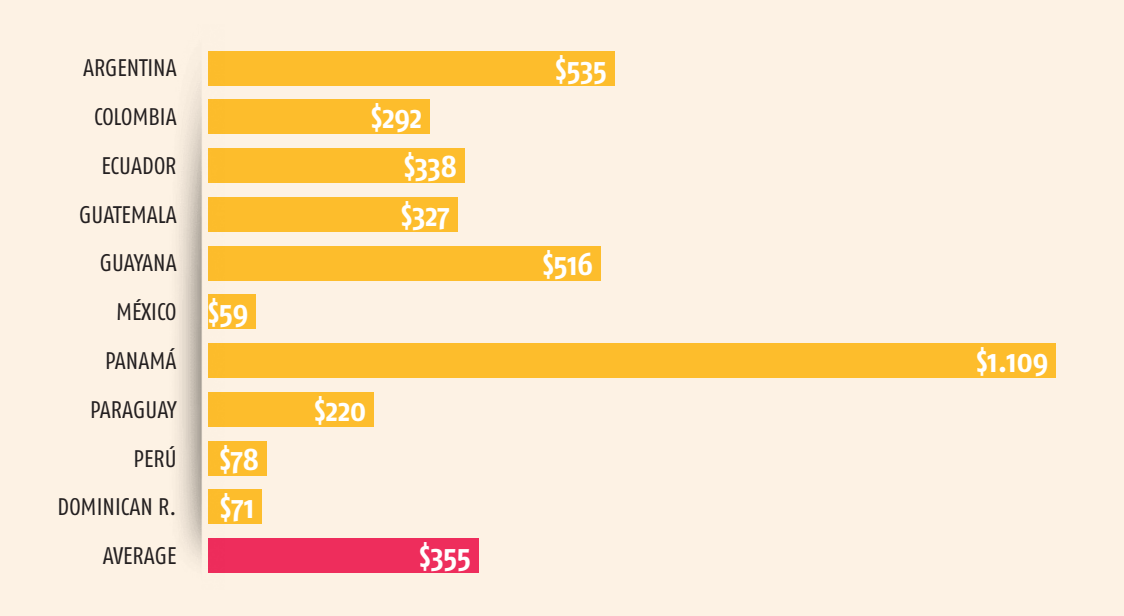
If we consider the absolute amount for the ten countries included in the study, the total opportunity cost of early childbearing associated with labour market participation amounts to USD $1,181,053,914 (see Table 3). This is the amount

Graph 6. Unemployment by age at which women became mothers



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Graph 7. Per capita opportunity cost associated with labour market participation



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Table 3. Total estimated cost of labour market participation gap resulting from adolescent pregnancy and early childbearing by country

Country	Total annual estimated cost of labour market participation gap in current USD (2021)
Argentina	$ 207.982.690
Colombia	$ 488.723.722
Ecuador	$ 54.813.427
Guatemala	$ 58.159.790
Guyana	$ 2.219.052
Mexico	$ 164.550.286
Paraguay	$ 28.012.965
Peru	$ 40.522.848
Panama	$ 113.096.117
Dominican R.	$ 22.973.018
TOTAL	**$ 1.181.053.914**

SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

that could have been injected into national economies if countries had had effective adolescent pregnancy prevention public policies in place.

Consequences of adolescent pregnancy and early childbearing on labour income

All the gaps analyzed so far (education gap, labour market participation gap and unemployment gap) translate into lower incomes for women who become mothers during adolescence compared to those who became mothers as adults. This prevalent labour income gap was found in the ten countries included in the study (see Graph 8).

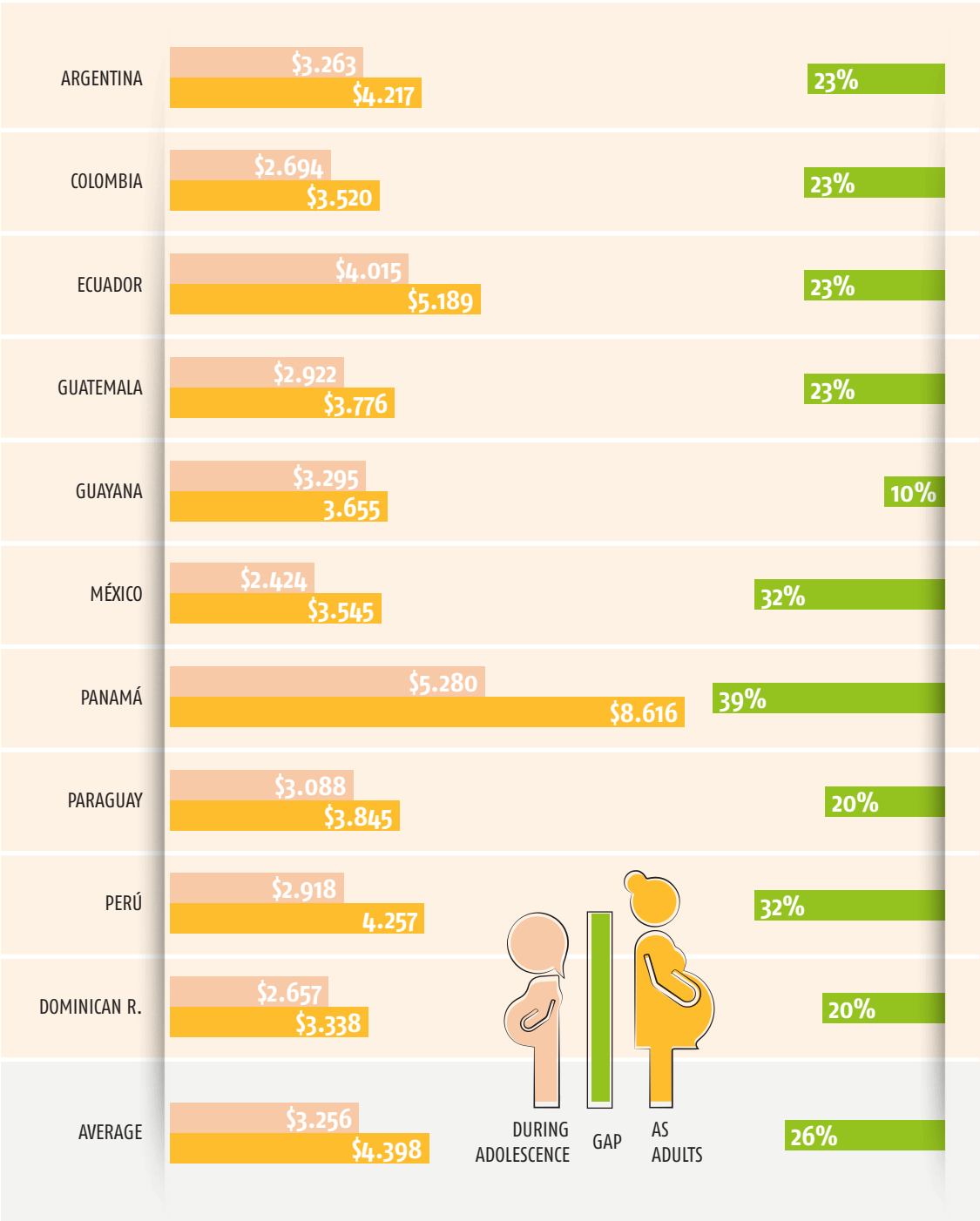
Considered as a whole, **the income early mothers fail to earn compared to the income earned by adult mothers amounts to USD $6,617,399,054 a year for the ten countries**. The calculation per woman shows that early mothers earn an annual income of USD $3,256 compared to adult mothers, who earn an annual income of USD $4,398. **The average income gap between early and adult mothers as**

a consequence of adolescent pregnancy and early childbearing is 26% (see Graph 8).

Panama is the country with the widest income gap (39%) between both groups of women. The average gap in Mexico (32%) is also significant. The country with the smallest gap is Guyana (10%), although it is still significant.

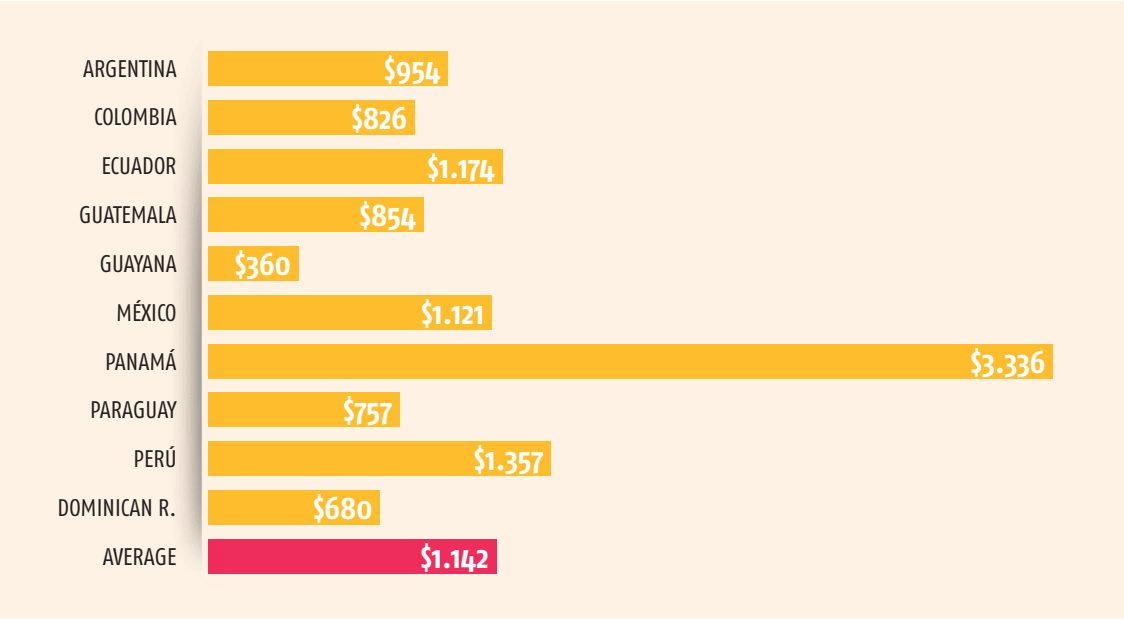
The low incomes of women who become mothers during adolescence, compared to adult mothers, limit the autonomy of women, who on many oc-

Graph 8. Labour Income by age at which women become mothers in the ten countries where the MILENA 1.0 methodology was implemented



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Graph 9. Per capita opportunity cost of income gap for women who become mothers during adolescence in the ten countries where the MILENA 1.0 methodology was implemented



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

casions are forced to depend on the father of their child or their own families to survive. In an interview conducted by UNFPA LACRO for this study, an adolescent said the following:

> *"It's really difficult to get a job. And if we manage to get one, the salary we get paid is sometimes below minimum wage. And adolescent women who have children must often pay someone else to care for their babies. (...) food, electricity and all those expenses we have, Pampers, milk, bus fares and all those things. So the salary we earn is not enough, because we get paid less. And since we don't have an education or training... (...) and if we go to university we must pay our university education expenses. And that's where we are at a disadvantage."*

SOURCE: INTERVIEW WITH AN ADOLESCENT AND EARLY MOTHER PARTICIPATING IN THE LAS CLARAS PROGRAMME (PANAMA). INTERVIEWED BY UNFPA LACRO FOR THIS STUDY.

The opportunity cost of adolescent pregnancy associated with labour income for early mothers is not homogeneous among the countries included in the study. Panama is the country where adolescent pregnancy and early childbearing have a higher per capita opportunity cost, which is above the regional average (USD $1,142). In the rest of the countries analyzed, the opportunity cost of adolescent pregnancy associated with labour income is below the regional average, with Guyana being the country with the lowest cost (USD $360), followed by the Dominican Republic, Paraguay and Guatemala (see Graph 9).

In total, the ten countries included in the study have an annual loss of almost six billion dollars in labour Income that women fail to receive each year as a result of becoming early mothers. This translates into an opportunity cost of adolescent pregnancy associated with labour income of USD $6,617,399,054 for the group of countries included in the study, with Mexico being the country with the largest weight (approximately 53.43% of the total) (see Table 4).

Table 4. Total estimated cost of labour income gap

Country	Total annual estimated cost of labour market participation gap in 2021 USD.
Argentina	$ 359.769.400
Colombia	$ 1.241.020.684
Ecuador	$ 131.951.572
Guatemala	$ 152.189.819
Guyana	$ 1.267.581
Mexico	$ 3.109.065.535
Paraguay	$ 97.147.328
Peru	$ 969.427.427
Panama	$ 382.263.576
Dominican R.	$ 173.296.131
TOTAL	**$ 6.617.399.054**

If the countries included in the study made the decision to implement policies so women can delay unintended adolescent pregnancy until adulthood, the incomes of those women would increase. In other words, **if the ten countries were able to delay childbearing until adulthood, that would automatically transfer approximately 6.6 billion USD to a segment of their most vulnerable population**. This would be a social investment without a precedent in history.

Consequences of adolescent pregnancy and early childbearing on health costs

Adolescent pregnancy not only affects the life projects and quality of life of early mothers. Sometimes it also affects their life expectancy, because maternal morbidity and mortality is higher among adolescent mothers compared to adult mothers. To estimate the health impact of adolescent pregnancy and early childbearing, MILENA 1.0 considers two dimensions: years of potential productive life lost (YPPLL) and direct welfare expenditures.

Every adolescent who dies as a result of adolescent pregnancy has a productive cost for society as a whole due to the loss of her potential labour market participation, consumption and tax and social security contributions. For this reason, in addition to estimating years of potential life lost (YPLL), MILENA 1.0 calculates years of potential productive life lost due to adolescent maternal mortality. **On average, for the ten countries of the study, 2,249 YPLL and 1,642 YPPLL were lost due to adolescent pregnancy and early childbearing** (Graph 11).

Mexico and Colombia are above the average, with 6,529 and 4,991 YPLL respectively, which means maternal mortality is more frequent in these countries. **This has a direct impact on the productivity of countries, because they have a smaller number of persons available to join the labour market**.

Adolescent women under the age of 15 are more likely to die from maternal causes (WHO, 2019). Maternal mortality is understood as "the death of a woman while pregnant or within 42 days of termination of pregnancy" (WHO, 2012) and it can be classified as direct or indirect (depending on whether it results from obstetric complications or previously existing conditions or diseases that developed during pregnancy for external reasons) (WHO, 2012). The direct causes of maternal deaths include pregnancies ending in abortion[2], hypertensive disorders during pregnancy, childbirth and puerperium, obstetric hemorrhage and infections, among others (WHO, 2012).

Another direct cause of maternal death identified by the WHO is the suicide of adolescents during pregnancy, childbirth or puerperium (OMS, 2012)[3]. Some of the main reasons that explain suicides associated with maternal deaths include the disruption of life projects due to pregnancy, social risk factors (such as poverty and extreme poverty), and the consequences of sexual violence and rape, among others. Following the suicide of a teenager who was sexually abused, the authors of a study conducted by FLACSO affirmed:

> *"Her sister mentioned that after she swallowed the pill to kill herself, she said: "I will die now, it's not my Mom or my Dad's fault, it's nobody's fault. It was that man's fault!"*[4].

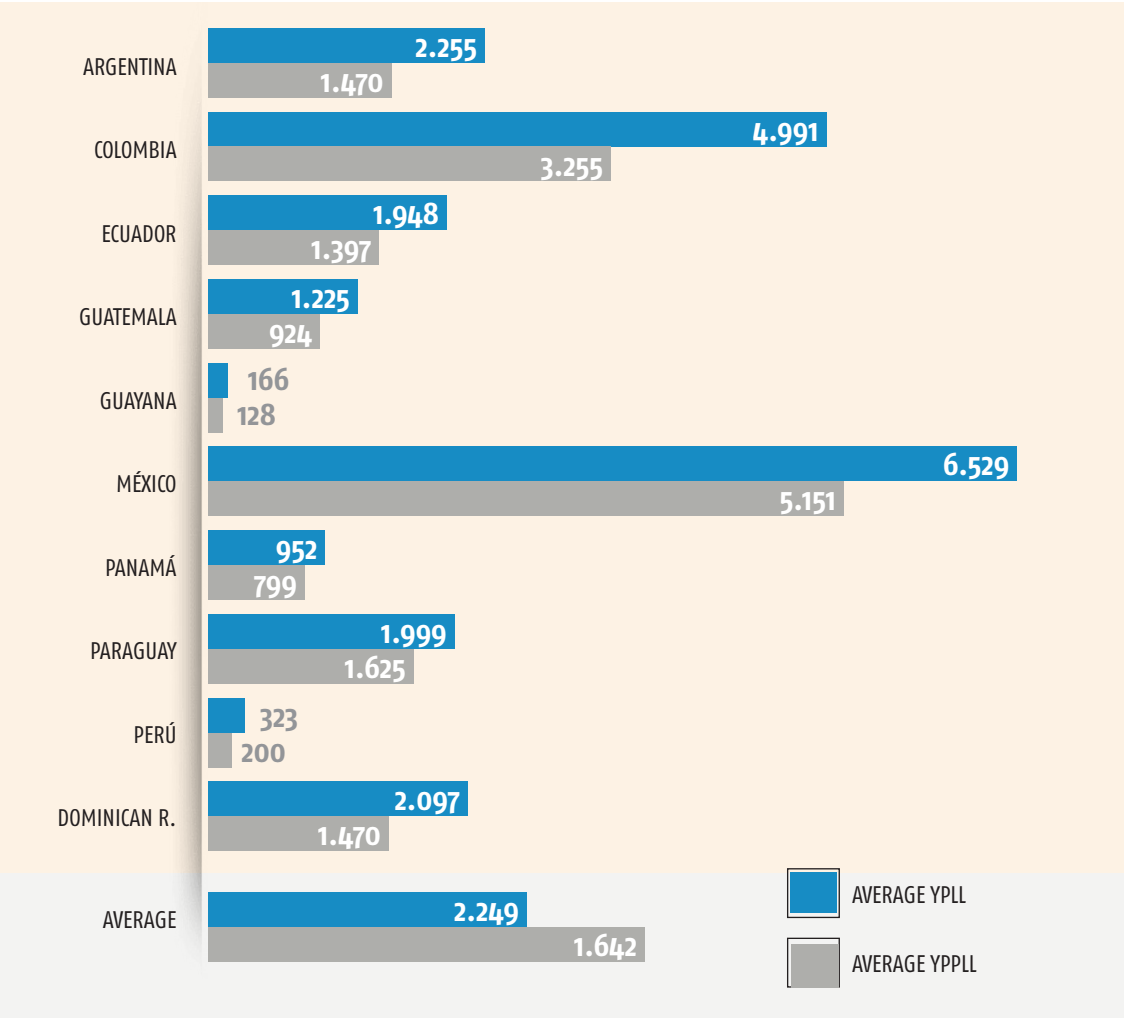
SOURCE: FLACSO GUATEMALA (2019). VIDAS SILENCIADAS.

2 UNSAFE ABORTIONS ARE ONE OF THE LEADING CAUSES OF MATERNAL DEATHS. IN COUNTRIES LIKE URUGUAY, WHERE VOLUNTARY TERMINATION OF PREGNANCY (VTP) IS LEGAL (WITH CERTAIN REQUIREMENTS), IT HAS BEEN POSSIBLE TO REDUCE MATERNAL MORTALITY DUE TO ABORTION FROM 40% TO 0% MATERNAL DEATHS SINCE 2012, THE YEAR IT WAS IMPLEMENTED FOR THE FIRST TIME (MSP URUGUAY, 2019).

3 HEALTH SERVICES IN MOST COUNTRIES IN THE REGION DO NOT CONDUCT PREGNANCY TESTS WHEN A WOMAN OF REPRODUCTIVE AGE COMMITS SUICIDE. HOWEVER, IN COUNTRIES LIKE EL SALVADOR, THE HEALTH SYSTEM CONDUCTS PREGNANCY TESTS TO DETERMINE THE CAUSE OF DEATH (FLACSO, 2019). ACCORDING TO DATA FROM EL SALVADOR'S MINISTRY OF HEALTH, 5 OF THE 20 MATERNAL DEATHS REPORTED IN 2015 WERE SUICIDES (UNFPA EL SALVADOR, 2017).

4 THIS IS WHAT NADIA'S SISTER SAID DURING AN INTERVIEW. NADIA COMMITTED SUICIDE AT AGE 18 WHEN SHE BECAME PREGNANT AFTER SHE WAS RAPED BY HER BROTHER-IN-LAW, WHO WAS 20 YEARS HER SENIOR (FLACSO GUATEMALA, 2019).

Graph 11. Years of potential life lost (YPLL) and Years of potential productive life lost (YPPLL)



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Even where no maternal deaths occur, pregnancy among early mothers generates higher expenditures for the State compared to pregnancy among adult mothers. This is because adolescent pregnancy is usually riskier and requires more prenatal care. In an interview conducted by UNFPA LACRO for this study, an adolescent who became a mother said the following:

"I also had pregnancy complications, because mine was a high-risk pregnancy. (...) by the time I was taken to the delivery room I no longer had any strength to have my baby. And then, one of the nurses sat on me, right here (she touches her upper abdomen) and pushed the baby several times. But I could no longer do it; I didn't have any strength. And I felt dizzy; I think the cold was affecting me. After some time, the doctor told me they had to cut me open, because I couldn't wait any longer. She cut me open and my baby was born, but by the time my baby was born he was no longer breathing. He was no longer breathing, he looked purple. A long time had gone by. They took the baby away, and I think they cleaned him up. I think this is the most traumatic event that has ever happened to me, because I felt how they were cleaning me up, how they were stitching me up. I felt it. That's something I haven't been able to forget after four year.

SOURCE: INTERVIEW WITH AN ADOLESCENT AND EARLY MOTHER PARTICIPATING IN THE LAS CLARAS PROGRAMME (PANAMA). INTERVIEWED BY UNFPA LACRO FOR THIS STUDY.

Table 5. Actual expenditures for adolescent pregnancy care provided by the public sector vs. expenditures that could be avoided through effective UAP prevention - USD 2021.

COUNTRY	Public sector expenditures for provision of AP care*	Expenditure that could be avoided through effective UAP prevention	Unintended adolescent pregnancy rate
Argentina	$ 200.520.723	$ 140.364.506	70%
Colombia**	$ 4.076.560	$ 2.922.894	72%
Ecuador	$ 76.898.454	$ 55.136.192	72%
Guatemala	$ 21.545.379	$ 12.991.864	60%
Mexico	$ 305.891.932	$ 211.371.325	69%
Paraguay	$ 6.707.859	$ 4.695.501	70%
Peru	$ 57.987.348	$ 41.576.929	72%
Panama	$ 14.322.125	$ 9.896.588	69%
Dominican Republic	$ 21.283.429	$ 12.833.908	60%

SOURCE: UNFPA LACRO BASED ON MILENA COUNTRY REPORTS.

* LEVELS OF EXPENDITURE ARE NOT STRICTLY COMPARABLE, BECAUSE EACH COUNTRY USED ITS OWN METHODOLOGY TO ESTIMATE THEM, AND NOT ALL OF THEM USED THE SAME CARE CATEGORIES.
**THE INFORMATION GATHERED IN COLOMBIA CORRESPONDS TO A GROUP OF EMPRESAS PROMOTORAS DE SALUD ("HEALTH PROMOTION ENTERPRISES"), ALSO KNOWN AS "SELECTED EPSS", THAT OPERATE UNDER THEIR CONTRIBUTORY SCHEME. THEREFORE, THIS INFORMATION CORRESPONDS TO A SPECIFIC SEGMENT OF A HEALTH INSURANCE SYSTEM WHOSE COVERAGE IS ESTIMATED AT ONE FOURTH OF THE TOTAL POPULATION AFFILIATED WITH THE COLOMBIAN HEALTH SYSTEM.

The welfare expenditure that could be avoided through adolescent pregnancy prevention strategies ranges from 4.7 to 211 million dollars a year. This translates into potential savings ranging from 60% to 72% if these pregnancies had been effectively prevented. To maximize these savings, it is necessary to reduce the unintended adolescent pregnancy rate. The following are public expenditure figures, by country, allocated to adolescent pregnancy care, as well as expenditures that could be avoided through its effective prevention (see Table 5).

Impact of adolescent pregnancy and early childbearing on tax collection

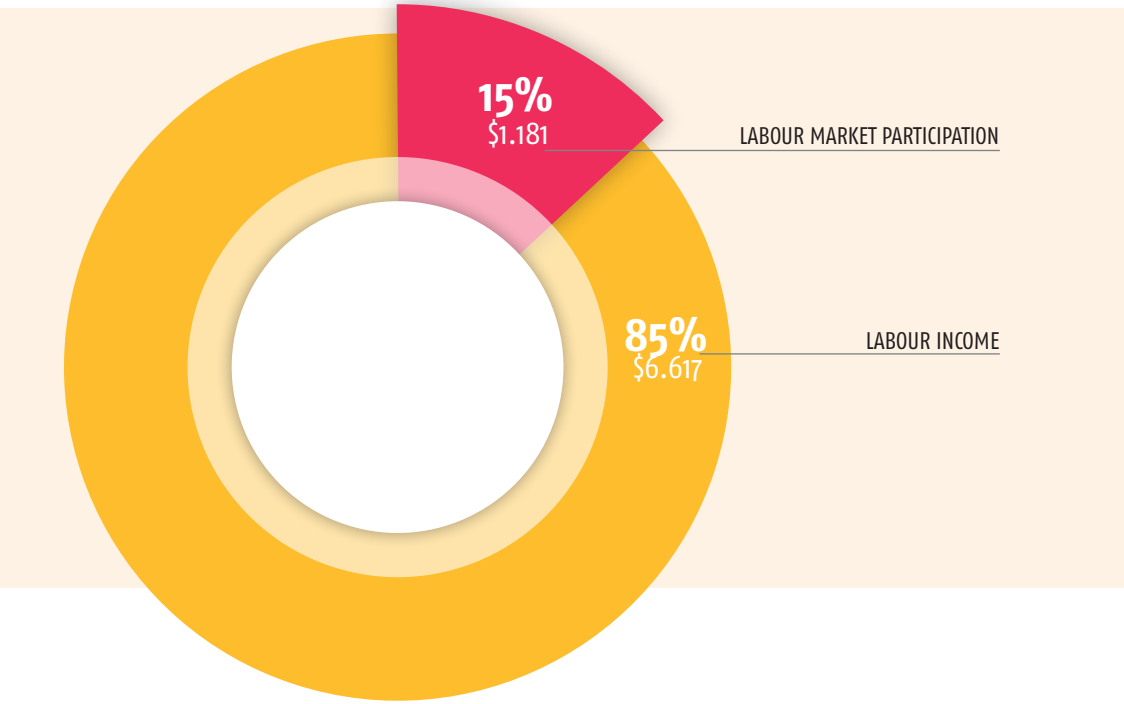
Women who became mothers during adolescence have a lower participation in productive tasks and pay less taxes than adult mothers. **The tax revenue loss (TRL) amounted to USD $995,646,229 in one year.**

To estimate the impact of adolescent pregnancy and early childbearing on tax collection, MILENA 1.0 considers two types of taxes (I) value added tax (VAT), also known as consumption tax (Impoconsumo) in some countries, and (II) income tax (IT, also known as "ISR", tax on individual income or Imporenta in some countries). The calculation of these two taxes is based on the dimensions of labour income and labour market participation that, combined, represent the total impact on the productive activity.

The cost in terms of productive activities was USD $7,798,452,968, 85% of which corresponds to the labour income early mothers failed to receive, compared to those who became mothers as young adults (see Graph 11)

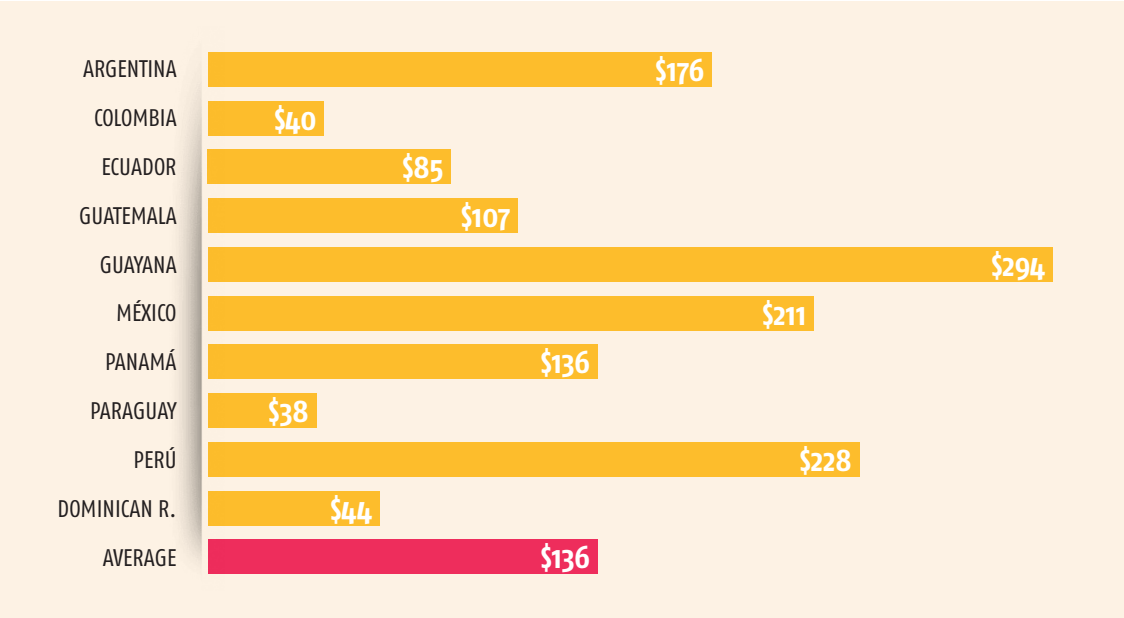
The tax revenue loss (TRL) is calculated by multiplying the VAT and IT rates times the productive activity cost of adolescent pregnancy and productive motherhood. According to estimates for the 10 countries, the per capita TRL was USD $136 a year. The countries with the highest per capita TRL were Guyana, Peru, Mexico and Argentina, with USD $294, $228, $211 and $176 respectively. On the other hand, the countries with the lowest per capita TRL are Colombia and Paraguay, with USD $40 and $38 respectively (Graph 13).

Graph 11. Productive activity opportunity cost (million USD)



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Graph 13. Per capita tax revenue loss (TRL)



SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

The States included in the study lost a total of USD $995,646,229 in VAT and income tax revenue due to adolescent pregnancy (see Table 6). These are resources that could have been invested in public works to improve the quality of life of people in the region, as well as education, health and social policies to ensure the growth and development of countries.

Table 6. VAT and income tax revenue loss

Country	Total tax revenue loss (VAT and income tax) in current USD (2021)
Argentina	$ 66.438.967
Colombia	$ 60.520.522
Ecuador	$ 9.585.687
Guatemala	$ 19.134.823
Guyana	$ 1.036.244
Mexico	$ 585.584.398
Paraguay	$ 4.853.925
Peru	$ 221.744.682
Panama	$ 15.603.830
Dominican R.	$ 11.143.150
TOTAL	**$ 995.646.229**

SOURCE: UNFPA LACRO (2021) BASED ON MILENA STUDIES FOR THE TEN COUNTRIES SELECTED

Conclusions

The evidence presented here allows us to infer that adolescents in Latin America and the Caribbean have not benefited from the demographic transition or the economic and social development of countries. Adolescent women in Latin America and the Caribbean have been hit the hardest, and they are being left behind with respect to their sexual and reproductive rights. This situation limits both their economic growth and that of local and national economies. The consequences of adolescent pregnancy have an impact on social and economic development that mainly affects early mothers and their children. But they also have an impact on a country's productive potential, tax base and welfare budgets.

Adolescent pregnancy and early childbearing compromise the benefits of the demographic dividend and the gender bonus, affect the creation of human capital and compromise the productive potential of countries.

In other words, adolescent pregnancy involves high costs for countries in the region. And far from reducing those costs, it increases them as countries' economies grow and their production is modernized.

With regard to the future development of countries in the region, if population dynamics or economic growth continue to follow the trends observed so far, we cannot expect them to result in a significant reduction of adolescent pregnancy rates in Latin America and the Caribbean, not to mention a reduction of its extremely high socioeconomic costs. On the contrary, we can infer that, if these dynamics persist, social and economic polarization will be exacerbated. Differences in reproductive behaviors between women with a lower level of education (who continue to become mothers at an early age) and women with a higher level of education (who are increasingly delaying the birth of their first child) are causing competitors in the development race to follow separate paths. While the latter can be expected to achieve wellbeing and the full realization of their rights imminently, the former will continue to lag behind along that path.

Adolescent pregnancy not only results in an unequal distribution of the benefits of growth among the population, but also involves economic and social costs that will only increase as the economy modernizes. Early childbearing also means increasingly larger populations could continue to live in conditions of subsistence similar to those of the last century. While one part of society becomes more modern and dynamic, groups of women maintain the same fertility rates, levels of education and incomes as their mothers and grandmothers, increasing polarization between standards of living and compromising the sustainability of the development process.

Preventing adolescent pregnancy is a key investment to accelerate economic recovery and sustainable social progress in Latin America and the Caribbean. It is essential for countries to implement adolescent pregnancy prevention policies and reduce the socioeconomic consequences of early childbearing. Adolescent pregnancy and early childbearing prevention investments not only improve the quality of life of thousands of girls and adolescent women, but also contribute to the region's development and growth.

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chapter 3

Impacts of the COVID-19 pandemic on adolescent pregnancy in Latin America and the Caribbean

After the World Health Organization (WHO) declared the COVID-19 pandemic, global health systems were forced to reorganize their services, infrastructure, human resources and supplies to meet an unprecedented demand for services.

This has led to countless consequences for the population, including **greater difficulty of access to contraceptive methods. Furthermore, as a consequence of lockdown measures to prevent the spread of the virus, thousands of girls and adolescent women were exposed to situations of gender violence and sexual abuse within the household. These two factors can contribute to a potential increase in the number of adolescent pregnancies in the region**. This chapter focuses on the potential impacts of the COVID-19 pandemic on adolescent pregnancy in Latin America and the Caribbean.

19% of all births in Latin America and the Caribbean are to adolescents between the ages of 15 and 19 (UNFPA, 2020), compared to 11% of births to adolescent mothers worldwide. This reflects the magnitude of the issue in the region, and it is a cause and consequence of persistent high levels of inequality. **In recent years there has been an increase in the number of births to adolescent women under the age of 14, in most cases as a result of sexual violence** (Alianza por la Solidaridad, 2020). But even where pregnancy is not the result of rape, the trajectories of these girls and adolescents are marked by different forms of violations of their rights and/or unequal power relations (UNICEF, 2017).

Public policies have only resulted in the slow inclusion of the issue in the agenda of countries in the region. While several countries have adolescent pregnancy prevention strategies in place, their approaches are not homogeneous, because each of them has different characteristics. The majority of these policies focus on access to contraceptive methods, which is necessary, but not enough. A multicausal phenomenon such as pregnancy among girls and adolescent women requires ecological strategies to address its multiple causes and consequences that involve the creation of adolescent friendly health services, the implementation of comprehensive sexual education programmes in schools, workshops, and the creation of community and participatory spaces where adolescents are the main protagonists. The design of adolescent pregnancy prevention strategies in countries in the region must take into account the aspect of relevance, which is closely related to the multiple social, health, economic and education consequences, among others, that affect girls and adolescent women throughout their life cycle and also have an impact on their families and society as a whole (UNFPA, 2020).

What was the situation of health systems in the region when the COVID-19 pandemic hit?

The health crisis created by the COVID-19 pandemic found a region with fragmented coverage, poor infrastructure and limited resources. This scenario varies between countries depending on the structure of their health systems and institutional policies. The spread of the virus, on the other hand, did not affect all the population equally. **The coronavirus spread rapidly in the poorest neighborhoods of large urban centers in Latin America**. As in previous health crises, we can expect this crisis to have negative consequences for the health of women and girls.

We have identified at least two key aspects that have linked the COVID-19 pandemic to a potential increase in adolescent pregnancy in the region: 1) increased barriers to contraceptive access, and 2) increased exposure to situations of gender violence, rape and abuse (UNFPA, 2020). Both of them are analyzed below.

1. Increased barriers to contraceptive access and sexual and reproductive health services during the COVID-19 pandemic

Despite improvements in access to contraceptives in Latin America and the Caribbean in recent years, the unmet need for modern contraception remains high. According to data from UNFPA (2014), 62% of women aged 14 to 48 years in the region want to avoid pregnancy. United Nations projections from early 2020 estimated that 19,720,000 women lacked access to modern contraceptives (UN, 2020). It is also worth noting that the availability of these commodities in health systems was already irregular prior to the current health crisis (Martich, 2018).

UNFPA LACRO estimated the impact of the COVID-19 pandemic on contraceptive access in the Latin America and the Caribbean countries (UNFPA, 2020). To this end, it took into account two access channels: first, public distribution channels and, second, private purchases via pharmacies (the market). Both channels experienced disruptions that, at some point between March 2020 and March 2021, led 20.4 million women who had been using contraceptives to discontinue their use.

Access to contraceptives through public channels was mainly limited by the reorganization of health systems to address and unprecedented demand for services and the prioritization of health emergencies. One of its many consequences was the total or partial closure of primary health care clinics, which are usually the main suppliers of contraceptive methods closest to the population.

The impact of the COVID-19 pandemic on private contraceptive purchases is related to changes in the economies of families. Lockdown measures imposed to contain the spread of the coronavirus have not only limited the population's mobility, but have also had an impact on economic activities and the economy of households, reducing income levels. If we consider that access via the market (i.e., purchases in pharmacies) is, in many cases, the main form of access to contraceptive methods in the region (UNFPA, 2020), this will have a negative impact on sexual and reproductive rights.

Based on the above, we can infer that there has been a reduction in contraceptive access, both through the public and private (market) channels. In the case of adolescents, in addition to barriers created by the pandemic, it is important to consider legal barriers to the delivery of contraceptives to underage girls (UNFPA, 2017) and cultural issues (UNFPA and Pathfinder, 2012), which compound the problem and pose challenges to health systems.

With the months that have passed since the COVID-19 pandemic began, several countries have already collected data on difficulties of access to contraceptive methods for adolescents and young people. The following table shows the situation of a group of countries in the region:

Table 1. Access to contraceptive methods during the pandemic for a group of countries in Latin America

Access channel	Country	Contraceptive access
Purchases in pharmacies	Argentina Brazil Colombia Chile Peru Uruguay	During the pandemic, prices of contraceptives rose above inflation and, in some cases, above medicine price increases in general. (see graph)
Public distribution	Bolivia	In April 2020, the public distribution of modern contraceptive methods declined by 64% for women in the 20 to 24 age range, compared to April 2019. In the case of adolescents aged 15 to 19, the reduction was 75%.
	Chile	In 2020 there was a decline in the number of adolescents receiving contraceptive methods.
	Guatemala	Contraceptive distribution to adolescent women declined by 41% (April 2020) compared to a 6% reduction for women in the 20 to 24 age range.
	Mexico	Between 2000 and 2019, contraceptive prevalence increased from 43% to 52.4%. However, due to the pandemic, more than 2 million women discontinued the use of modern contraceptive methods, with a 14.4% reduction that led to a 38% contraceptive use rate.

SOURCE: PREPARED BY THE AUTHORS BASED ON RICHIONE, D. & TOBAR, F. (2021); TOBAR, F. (2020); SIGSA (2021); MINSAL (2021) AND TOBAR, F. AND RODRÍGUEZ BERNATE I. (2021).

2. Increased exposure to situations of gender violence, rape and abuse

As already mentioned, **one of the main measures adopted to contain the spread of the coronavirus was that of lockdowns**, which in some countries in the region have lasted for more than 100 days. **This type of strategies tend to increase tensions within households and situations of gender violence and abuse**. Evidence available also shows the majority of perpetrators are part of the victims' inner family and social circles; in other words, many girls, adolescents and women have been trapped with their abusers under the same roof (CLACAI, 2019).

Adolescent pregnancy and gender violence are two of the most critical social problems in Latin America. They are closely related and, in turn, reproduce structural inequalities in the region. WHO estimates that 36% of women in the region have experienced physical or sexual violence at the hands of a partner, or sexual violence at the hands of another person, at least once in their lifetime. The rate of women above the age of 15 who have experienced sexual violence (at the hands of a person other than a partner) is two times the global average of 6%.

This situation of vulnerability has been exacerbated by the pandemic. During the first COVID-19 wave, the number of calls to gender violence support hotlines increased by as much as 50% in some countries in the region, including Argentina, Bolivia, Brazil, Colombia, Mexico and Peru (ONU Mujeres, 2020).

Conducting a regional analysis of gender violence in Latin America and the Caribbean is rather complicated, and the same applies to strategies to address it. This complexity is due in part to deficiencies in information systems in the different countries. Violence often goes unreported out of fear or lack of trust in institutions, which results in an underreporting of cases. The prosecution of crimes of violence and sexual abuse within the household may lead to the revictimization of women reporting them. The authorities responsible for taking those reports cannot only be hostile to children or adolescents, who must relive the traumatic event, but usually fail to prosecute the perpetrators. According to a 2018 study conducted by UNFPA LACRO, UNICEF LACRO and PAHO in 14 countries in the region, only 6 of them had official data on the rape of children under the age of 14, and where those rapes were reported, levels of impunity were as high as 90% (UNFPA LACRO, UNICEF LACRO and OPS, 2018).

On the other hand, not all countries have unified information systems. This means reports of domestic violence are not comparable within and between countries, because the type of information collected is different. This also results in duplicity of information from different sources and makes it difficult to implement measures based on evidence. The legal definition adopted by countries to refer to harmful practices also tends to be different, making comparisons between countries difficult. All of the above makes it very difficult to conduct regional analyses and comparisons and relate them to a possible impact on the adolescent pregnancy rate.

In this context of high vulnerability, school dropout is an unintended adolescent pregnancy risk factor. It is estimated that more than 3 million children and adolescents dropped out of school due to the pandemic (CEPAL, 2021). UNICEF estimates show school dropout rates increase exposure to harmful practices such as child marriage, early unions and adolescent pregnancy by approximately 25% (UNICEF, 2021). It can be inferred that school closures during the pandemic led to a significant increase in the risk of adolescent pregnancy. There are countries like Panama, for example, that have kept schools closed for two years (Agencia EFE, 2021; CNN, 2021).

What is the current situation of adolescent pregnancy?

It can be inferred that the COVID-19 pandemic has had a negative impact on the reduction of adolescent pregnancy in Latin America and the Caribbean. In previous health crises, such as the Ebola outbreak in Sierra Leone, where lockdown measures and school closures were also implemented, there was an increase in levels of sexual abuse, adolescent pregnancy (which had a twofold increase in some regions of the country) and child marriage (Girls not brides, 2020).

Now that several months have passed, some countries in the region already have data on the impact of COVID-19 on adolescent pregnancy rates. In 2020 Guatemala reported an increase in maternity levels among girls aged 10 to 14 (1,962 cases) compared to 2019 (1,816 cases) (Plan International, 2021). However, it also reported a decline in adolescent pregnancy rates (among adolescents below the age of 19) compared to 2019, from 114,858 cases to 104,837 in 2020 (Observatorio en Salud Reproductiva, 2021). In 2020 Peru reported a threefold increase in the number of girls under the age of 10 forced to become mothers (UNFPA, 2021). Similarly to Guatemala, in the case of pregnancy among girls under the age of 19, there

was also a reduction in the number of births, from 53,299 in 2019 to 48,551 in 2020 (UNFPA Peru, 2021).

There are two aspects of the above-mentioned data that are worth mentioning. On one hand, **the number of adolescent pregnancies in both countries increased among girls under the age of 15, but declined in the 15 to 10 age group, although this reduction was smaller compared to overall fertility** (in Guatemala, the number went from 400,981 births in 2019 to 335,000 in 2020, and in Peru from 566,059 to 418,917 in 2020) (FADEP, 2021; Andina Pe, 2021). The latter is consistent with a demographic anomaly reported in Latin America and the Caribbean countries. **This anomaly shows that the decline in adolescent fertility in the 15 to 19 age group in countries in Latin America and the Caribbean has been slower compared to other regions of the world (OPS, 2016), and it is also smaller than overall fertility in the region**. Based on available data for Guatemala and Peru, it can be inferred that the COVID-19 pandemic may have exacerbated this demographic anomaly.

Conclusions

The COVID-19 pandemic had a significant impact on the determinants of adolescent pregnancy in Latin America. We are talking about a multicausal and widespread social problem that already existed in the region (32% above the world average) prior to the pandemic.

One of the main factors is that of limited access to contraceptives. If the pandemic caused more than twenty million women who had been using modern contraceptives to discontinue their use, it is reasonable to expect that adolescent women will be the ones affected the most. This is a consequence of the lack of financial resources to access contraceptives through commercial channels, as well as cultural and legal barriers to access them through public distribution channels. The second reason has to do with lockdowns, which increase the risk of sexual abuse and rape, especially for early mothers (under the age of 15). And the third reason is that of school closures and high school dropout rates, which also increase risks.

One of the main consequences of the pandemic, which has exacerbated social inequalities in the region, is that on the lives of early adolescents who became mothers during the lockdown period. Higher levels of adolescent fertility rates not only increase social risks, but also public policy failures. This will have short and long-term consequences at a micro level (for early mothers and their children), but also for the State and society as a whole.

For these reasons, it is essential to implement a rapid public response to:

A) Restore access to contraceptive methods by making public investments in the procurement of contraceptive supplies. This must be combined with actions such as counseling and strengthening Comprehensive Sexual Education (in and outside of schools), as opposed to the mere distribution of contraceptives.

B) Increase school reintegration for children and adolescents. Considering this is an important risk factor, it is extremely important to implement measures such as scholarships or conditional cash transfers so those children and adolescents who have dropped out of school can go back to school.

C) Improve the quality of data on gender violence and other harmful practices. To design evidence-based public policies, it is crucial to have adequate and up-to-date data at the regional level. However, it is also essential to strengthen the coordination of the different government sectors involved in addressing this issue within countries.

Understanding that the COVID-19 pandemic can result not only in a setback for adolescent pregnancy rates in the region, but also an increase in its demographic anomaly, it is necessary to redouble efforts to strengthen responses implemented by countries in the region. Becoming a mother at an early age violates the rights of girls and adolescent women, hinders their full development and subjects them to the perpetuation of the intergenerational transmission of poverty and gender inequality that are so prevalent in countries in the region. For all of the above, this issue requires an urgent response.

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chapter 4

What would be the cost of preventing unintended adolescent pregnancies and early childbearing in Latin America and the Caribbean?

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."

Margaret Mead

Introduction

The Specific Adolescent Fertility Rate (SAFR) is a particularly critical indicator in the Latin America and the Caribbean region. First, due to its magnitude: LAC is the world region with the second highest adolescent fertility rate, only after Sub Saharan Africa.

In 2019, the SAFR in the LAC region was 32% above the world average, and 65% above that of developed (OECD) countries. Second, the region's SAFR is critical due to the slow pace of its decline. Between 2000 and 2016, the SAFR only declined by 21% in Latin America and the Caribbean as a whole.

In light of the alarming situation in the region, UNFPA set out to estimate the cost of preventing adolescent pregnancy through the procurement of contraceptive methods. The methodology implemented to that end is the Impact Goals Estimation Model (IGEM), developed by the UNFPA Latin America and the Caribbean Regional Office (UNFPA LACRO).

The IGEM measures the cost of interventions to promote access to contraceptives[1]. Its application makes it possible to evaluate, ex ante, the possible impact of those interventions by defining goals in terms of expected results and monitoring the performance of such goals (ex post), facilitating the cost efficiency evaluation of policies[2]. In the study described in this chapter, the estimates of the IGEM focus on accomplishing two adolescent fertility reduction goals. The first goal is for Latin America and the Caribbean to reach, by 2023, the average global Specific Adolescent Fertility Rate (SAFR) that existed prior to the pandemic (41.6 per thousand adolescents aged 15 to 19). The second is for the region to reach the SAFR reported by OECD countries (21.6 per thousand adolescents aged 15 to 19) by 2024. The free choice of contraceptive methods and the effective coverage of the sexually active population through family planning counseling are also considered desirable by the IGEM.

This chapter is divided into six sections. Section one includes the definition of the baseline values to be considered in the simulation. This includes an estimation of the target population, that is, the number of sexually active adolescent women aged 15 to 19, as well as an estimation of the number of births to adolescent women in Latin America and the Caribbean, and the basket of methods to consider. Section two addresses the two contraceptive method supply scenarios and the purchase prices of those contraceptives. Section three presents the number of adolescent pregnancies that should be prevented for the region to reach the global SAFR during the first year of intervention (2023) and that of the OECD countries in the second year (2024). Section four explains how key reproductive health indicators would change if the region reached both Specific Adolescent Fertility Rate reduction goals. Section five estimates investments needed to reach both rates through the purchase of the number of contraceptive methods required for each year and scenario. Section six describes the benefits Latin America and the Caribbean countries would receive if they made investments to reduce the Adolescent Pregnancy Rate, expressing those benefits in economic terms. To this end, it presents the results of a cost benefit analysis for each alternative investment in contraceptives from the perspective of society and the State. Finally, it shares conclusions reached through the evaluation conducted.

1 THE IGEM ALSO MEASURES THE COST OF COMPREHENSIVE SEXUALITY EDUCATION (CSE) INTERVENTIONS, WHICH IS NOT ADDRESSED HERE DUE TO THE LACK OF SYSTEMATIZED DATA AT THE REGIONAL LEVEL.

2 CHAPTER 6 PRESENTS THE IMPACT GOALS ESTIMATION MODEL AS PART OF THE TOOLBOX MADE AVAILABLE BY UNFPA LACRO TO COUNTRIES WITH THE AIM OF PROMOTING UNINTENDED ADOLESCENT PREGNANCY PREVENTION POLICIES.

Table 1. Estimated number of live births to adolescent mothers and female population aged 15 to 19 in Latin America and the Caribbean by year from 2021 to 2024.

Years	Live births	Female population
aged 15 to 19	1,600,945	26,181,216
2022	1,590,238	26,006,073
2023	1,579,894	25,836,860
2024	1,571,008	25,691,484

SOURCE: ESTIMATES BASED ON DATA FROM ECLAC AND THE WORLD BANK

Assumptions made to estimate adolescent pregnancy reduction goals in Latin America and the Caribbean

The IGEM estimates the Modern Contraceptive Methods Effective Coverage (MCMEC). This means it not only estimates the number of contraceptive methods necessary to reduce the adolescent fertility rate, but also adjusts this estimate based on the clinical efficacy and adherence for each method. Thus, it considers the population effectively covered as those who received appropriate family planning counseling and are using the modern contraceptive methods of their choice, adjusted by: a) the duration of the method, b) the clinical efficacy of each method, and c) the level of adherence observed after one year.

To determine that population, the IGEM relies on three regional data sets: 1) the number of sexually active adolescent women, 2) the number of live births to adolescent mothers (see Annexes 3 and 4), and 3) the composition of the basket of modern contraceptive methods to be supplied[3].

1- *Number of sexually active adolescent women*. It is estimated that **11,074,654 adolescent women are sexually active in the region**. The population of women aged 15 to 19 in Latin America and the Caribbean in 2021 has been estimated at 26,181,216 (CEPAL, 2019), 42.3% of whom are sexually active (J. Rodríguez Vignoli and San Juan Bernuy, V., 2020).

2- *Live births to adolescent mothers*. It is estimated that **1,600,945 of live births are to adolescent mothers**. This number is the result of projections for 2022 and 2024 based on the 2019 SAFR reported by the World Bank (61.18). The assumption made here is that during the years considered (baseline calculated with 2019 data) and years analyzed (2022 and 2023), the ratio between adolescent pregnancies and the total number of adolescent women would remain constant. The estimated number of live births to adolescent mothers was calculated based on these parameters (see Table 1).

3- *Composition of basket of modern contraceptive methods to be supplied*. **The analysis considered the six most commonly used contraceptive methods** (see Table 2).

Evidence shows long-acting reversible contraceptive (LARC) methods are more cost-effective than short-acting contraceptive methods, especially in adolescents and, therefore, two investment scenarios were considered depending on the MCM composition. In scenario 1, the basket of contraceptive methods consists of six methods, 4 of which are short-acting and 2 are long-acting. In scenario 2, the basket consists of the IUD and subdermal implants[4].

The average value of the contraceptive method mix in adolescents from 5 countries in the region (the Dominican Republic, Guatemala, Nicaragua, Paraguay and Peru) and data from the UN projection (UN, 2019) on Women of Childbearing Age (WCA) not living in union and sexually active globally were used as reference. Table 2 shows the mix used, while Annex 4 includes additional information on the methodology used to calculate it.

3 COMPREHENSIVE SEXUALITY EDUCATION (CSE) WAS NOT INCLUDED IN THE ANALYSIS DUE TO THE DIFFERENT LEVELS OF IMPLEMENTATION IN THE COUNTRIES ANALYZED, IN ADDITION TO THE WEAKNESSES OF REGIONAL INFORMATION SYSTEMS IN TERMS OF COVERAGE OF ADOLESCENTS AND THE QUALITY OF SAID COVERAGE.

4 THE CALCULATION DID NOT CONSIDER THE CURRENT COVERAGE OF METHODS AMONG ADOLESCENTS IN THE REGION BECAUSE THAT INFORMATION IS NOT AVAILABLE AT THE REGIONAL LEVEL.

Table 2. Composition of basket of modern contraceptive methods used by adolescent women aged 15 to 19 in Latin America and the Caribbean

Method	%
Male condom	35%
3-month injectables	13%
1-month injectables	13%
Combined oral contraceptives	30%
Intrauterine Devices (IUDs)	4%
Implants	5%
Total	**100%**

SOURCE: PREPARED BY THE AUTHORS BASED ON THE METHODOLOGY DESCRIBED IN ANNEX 3

To calculate the purchase cost for each basket of contraceptive methods, three price lists were used as reference:

1) Current purchase prices for countries in the region (referred to herein as regional prices) reported in the Platform to Track the Evolution of Prices of Contraceptive Methods and SRH Supplies (SEPREMI SSR)[5].

2) Prices of the UNFPA Procurement Services Branch (UNFPA PSB) catalogue.

3) Optimal prices paid by countries for each method at the lowest price reported, either regional prices or UNFPA PSB prices.

The price used will determine the variations in the cost of investments in contraceptive methods in the region to reduce the Specific Adolescent Fertility Rate, as well the variations in the cost for each unintended adolescent pregnancy prevented.

Definition of contraceptive coverage expansion scenarios for adolescents in Latin America and the Caribbean

The IGEM estimates and compares the purchase costs of contraceptives in two different scenarios using different baskets of methods. The first scenario assumes countries are provided with a basket of six modern contraceptive methods, including three short-acting methods (male condoms, combined oral contraceptives, and monthly and quarterly injectable contraceptives) and three long-acting (LARC) methods (intrauterine devices (IUDs) and single and double rod subdermal implants). The second scenario only assumes the provision of long-acting methods (IUD and single and double rod subdermal implants).

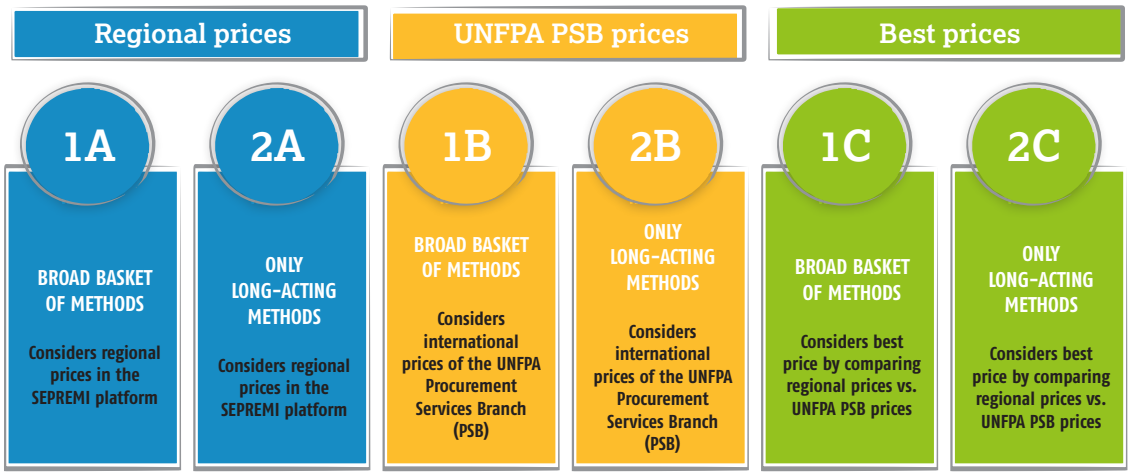
The ideal scenario will depend on the purchase price for each contraceptive method in each country. For this reason, the IGEM calculates the total purchase cost by combining each scenario with a different price list. First, it uses the purchase (re-

Box 1. Alternative analysis scenarios to evaluate the feasibility of reaching global and OECD SAFR levels in Latin America and the Caribbean

Scenario	Assumptions
1	In this scenario, to reach the Global SAFR by 2023 and the OECD SAFR by 2024, **it was estimated that 17.2% of sexually active adolescent women in 2023 and 32.3% in 2024 would be effectively covered**. In this scenario, six modern contraceptive methods would be distributed to the target population: male condoms, combined oral contraceptives, monthly and quarterly injectable contraceptives, intrauterine devices and subdermal implants.
2	In this scenario, to reach the global SAFR by 2023 and the OECD SAFR by 2024, **11.7% of sexually active adolescent women should be effectively covered by 2023 and 11.9% by 2024** (20% with intrauterine devices (IUDs) and 80% with subdermal implants (40% of double rod levonorgestrel implants and 40% of single rod etonogestrel implants)). The hypothesis for this scenario is based on the provision of LARCs only.

5 FOR A DESCRIPTION OF SEPREMI, SEE CHAPTER 6.

Diagram 1 - Alternative scenarios for the supply of contraceptive methods and purchase prices considered



gional) prices reported by the different countries to SEPREMI SSR as a reference. Second, it assumes purchases are made at the prices listed in the UNFPA PSB catalogue. Finally, it suggests the best option or the ideal price for countries to purchase contraceptives and expand their coverage by buying supplies at the best prices available (either domestic prices reported to SEPREMI or international prices listed in the UNFPA catalogue) or the ideal price (See Diagram 1).

The expression "regional prices" is used to refer to domestic purchase prices calculated by considering the mean purchase prices available in the SEPREMI platform in 2019 and 2020. The UNFPA PSB prices were obtained from their product catalogue (available at www.UNFPAprocurement.org). In both cases, a 25% was added to purchase prices to cover the country's internal logistics expenses, considering the costs necessary for the distribution of modern contraceptive methods from central warehouses to points of delivery to users (see Annex 4).

How many adolescent pregnancies should be prevented annually to reach the average global Specific Adolescent Fertility Rate and the average rate for developed countries?

After a series of simulations with the IGEM model, we found that. **in scenario 1, 17% of adolescent women should be effectively protected with the basket of six modern contraceptive methods to reach the 2019 global SAFR (41.58), and 32.3% of them should be effectively protected to reach, by 2024, the SAFR reported by OECD countries in 2019 (21.57)**. This would prevent 857,454 unintended pregnancies in 2023 and an additional 1,724,656 in 2024.

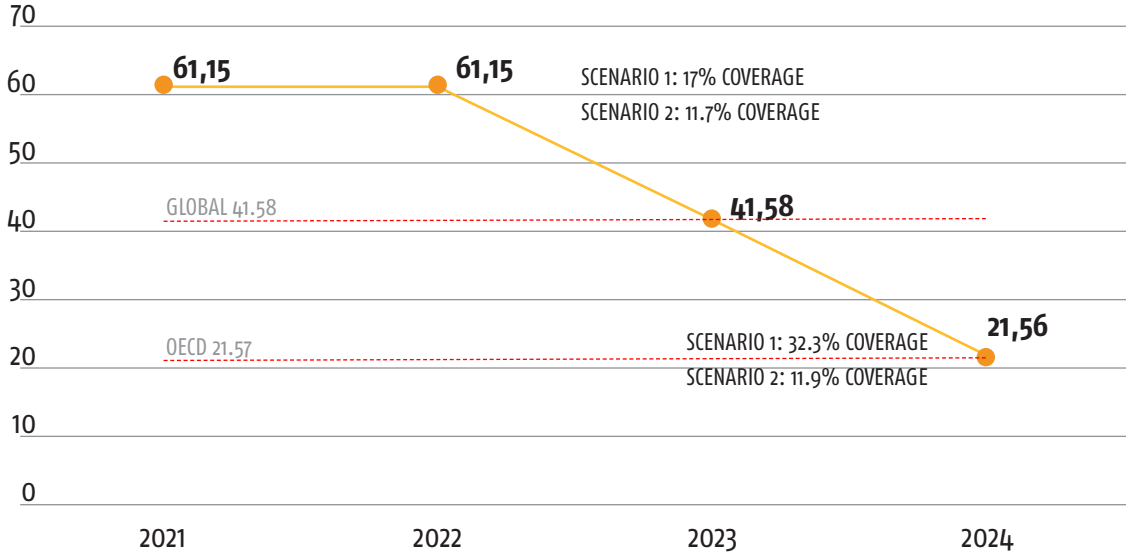
In scenario 2, on average, 20% of adolescents would be effectively protected through the exclusive use of long-acting reversible contraceptive (LARC) methods such as IUDs and subdermal implants. This would prevent a total of 858,124 unintended adolescent pregnancies in 2023 and 1,726,006 in 2024 (see Table 3 and Graph 1).

Table 3. Results expected in each alternative scenario - 2022-2024

Results expected	Scenario 1: (Broad basket of methods)		Scenario 2: (Only short-acting contraceptive methods)	
	2023	2024	2023	2024
Adolescent pregnancies prevented by year and scenario	857,464	1,724,656	858,124	1,726,006
Adolescent pregnancies prevented through the intervention evaluated as a whole	**2,582,120**		**2,584,130**	

SOURCE: UNFPA BASED ON IGEM

Graph 1. Specific Adolescent Fertility Rate (SAFR) estimated by year in Scenario 1



FUENTE: UNFPA EN BASE A MEMI

How would reproductive health outcomes change if the region reached the average global Specific Adolescent Fertility Rate and the average rate for developed countries?

According to our estimates, scenario 2 (that is, the contraceptive coverage through LARCs only) would be more effective in preventing adolescent pregnancy than scenario 1. Maternal, child or neonatal deaths do not show any variations in both scenarios, although scenario 2 would be a little more effective in preventing the number of abortions in 2024 (see Table 4).

Table 4. Impact of interventions considered on Reproductive Health outcomes selected for each scenario - 2023-2024

Goals	Scenario 1 (with the provision of a broad basket of methods)		Scenario 2 (with the provision of short-acting contraceptive methods only)	
	2023	2024	2023	2024
Number of pregnancies prevented	857,454	1,724,656	858,124	1,726,006
Number of abortions prevented	114,327	229,954	114,416	230,134
Number of maternal deaths prevented	433	871	433	871
Number of child deaths prevented	5,716	11,497	5,720	11,506
Number of neonatal deaths prevented	2,679	5,389	2,681	5,393

SOURCE: UNFPA BASED ON IGEM

Despite the better performance of scenario 2 in terms of adolescent pregnancy prevention, scenario 1 is more aligned with a Reproductive Health Rights approach, because it includes a broad offer of short-acting and long-acting modern contraceptives that would give adolescents more choices.

What is the investment required to reach the average global Specific Adolescent Fertility Rate and the average rate for developed countries?

Table 5 shows the quantities the region should purchase by type of method, scenario and year. As can be seen, male condoms are the contraceptive method that requires the largest quantities to purchase in scenario 1, as opposed to scenario 2, where subdermal implants are the ones requiring the largest quantities.

Table 6 shows the investments required to make available the variety and quantities of modern contraceptive methods considered in each scenario and reach the average global Specific Adolescent Fertility Rate by 2023 and the OECD rate by 2024. In scenario 1, national purchase prices reported to SEPREMI are lower than those in the UNFPA product catalogue. On the contrary, in scenario 2, prices listed in the UNFPA catalogue are far lower than those of domestic purchases (reported in SEPREMI). In total, an effective coverage of adolescents with a broad basket of contraceptive methods (scenario 1) would require an investment of between USD 12.6 million in 2023 and USD 36.4 million in 2024.

Table 5. Quantities for each modern contraceptive method that should be made available to reach annual goals, by scenario

Contraceptive method	Scenario 1:		Scenario 2:	
	2023	2024	2023	2024
Male Condoms	78,391,100	146,382,882		
Combined oral contraceptives	8,399,046	15,683,880		
Monthly Injectables	3,154,309	5,890,168		
Quarterly Injectables	970,556	1,812,359		
IUD	74,658	139,412	253,925	256,812
3-year subdermal implants	55,994	104,559	507,849	513,624
5-year subdermal implants	55,994	104,559	507,849	513,624

SOURCE: UNFPA BASED ON IGEM

Table 6. Investments required in modern contraceptive methods based on scenarios and regional prices - SEPREMI and UNFPA PSB (in current USD)

Scenario	Investment required for Latin America and the Caribbean to reach the average global SARF by 2023.	Investment required for Latin America and the Caribbean to reach the average SARF for OECD countries, including 2023 and 2024
Scenario 1. With a broad basket of methods		
a) Regional price reported in SEPREMI	US$ 15,503,707	US$ 44,454,407
b) UNFPA Procurement Services Branch (PSB) price	US$ 18,210,999	US$ 52,217,137
c) Best purchase price (of all options available in a and b).	US$ 12,695,425	US$ 36,410,709
Scenario 2. Long-acting contraceptive methods only		
a) Regional price reported in SEPREMI	US$ 40,056,590	US$ 80,568,683
b) UNFPA Procurement Services Branch (PSB) price	US$ 18,336,523	US$ 36,881,560
c) Best purchase price (of all options available in a and b).	US$ 18,336,523	US$ 36,881,560

SOURCE: UNFPA BASED ON IGEM, SEPREMI AND UNFPA PSB

Table 7. Analysis of cost per pregnancy prevented among adolescents aged 15 to 19 in LAC considering 2 alternative scenarios for 2023 and 2024. (in current USD)

Prices considered	Scenario 1. With a broad basket of methods		Scenario 2. Long-acting contraceptive methods only	
	What would be the cost for Latin America and the Caribbean to reach the average global SAFR by 2023?	What would be the cost for Latin America and the Caribbean to reach the average OECD SAFR by 2024?	What would be the cost for Latin America and the Caribbean to reach the average global SAFR by 2023?	What would be the cost for Latin America and the Caribbean to reach the average OECD SAFR by 2024?
Regional price reported in SEPREMI	US$ 18.1	US$ 17.2	US$ 46.7	US$ 31.2
b) UNFPA Procurement Services Branch (PSB) price	US$ 21.24	US$ 20.2	US$ 21.37	US$ 14.3
c) Best purchase price	US$ 14.8	US$ 14.1	US$ 21.4	US$ 14.3

SOURCE: UNFPA BASED ON IGEM

On the other hand, an investment in long-acting contraceptive methods only (scenario 2) would require approximately USD 18.3 million in 2023 and USD 36.8 million in 2024.

Table 7 shows the cost per pregnancy prevented for each adolescent aged 15 to 19 to reach the global goal by 2023 and the OECD goal by 2024 in each scenario. That cost is calculated by dividing the investment amounts required by the number of unintended adolescent pregnancies that would be prevented. The scenario with the lowest cost per adolescent pregnancy is scenario 1.

What would be the benefits for Latin America and the Caribbean countries if they made the investments necessary to reduce the Adolescent Pregnancy Rate?

To estimate the concrete benefits countries in the region would receive if they made the investments necessary to reduce adolescent pregnancy and early childbearing, a coverage cost-benefit analysis was conducted for scenarios 1 and 2. Table 8 shows the results of the cost-benefit ratio analysis for each alternative investment in contraceptives to reduce the SAFR in Latin to the same level of OECD countries, from the perspective of mothers and society as a whole. Table 9, on the other hand, shows the same cost-benefit analysis from the perspective of the State.

The total investment amount was calculated by adding the cost of supplies to that of other interventions necessary to materialize access to and the availability of supplies in health services. To do that conversion, we considered a ratio of 3.25 (the ratio of the total costs of the programme providing access to reproductive health services / costs of supplies), extrapolating parameters from previous studies conducted in the region.

The last column of Table 8 shows the estimated performance of each dollar invested to prevent adolescent pregnancy from the perspective of women. In other words, the actual benefit for society of each dollar invested in prevention, considering this would increase women's integration into the economy[6]. Results show that for every dollar invested in contraceptive methods to prevent adolescent pregnancy[7], women receive a social return on investment of between USD $11.49 and 25.41, depending on the scenario. This benefit is measured in terms of potential income earned as a result of not experiencing adolescent pregnancy, as described in note 4 of Table 8.

However, as explained in Chapter 2 of this report, the benefits of preventing adolescent pregnancy are not limited to mothers, but also extend to the State. The MILENA 1.0 methodology quantifies the opportunity cost of adolescent pregnancy in terms of savings for the State in medical care for pregnancy, childbirth and puerperium, as well as direct and indirect tax collection. Table 9 shows the benefits of adolescent pregnancy prevention in Latin America and the Caribbean if adolescent pregnancy prevention policies were implemented with a focus on access to contraceptive methods from the State's perspective. As can be seen in the last

Methodological observations on the cost-benefit estimates of alternative interventions from the perspectives of society and the State.

(1) The number of pregnancies prevented is based on estimates made for both scenarios using the IGEM for the entire region. This includes disaggregated data for the intervention as a whole, that is, assuming the regional SAFR reaches the value reported by the OECD in 2019.

(2) To estimate the investment required, the investment in contraceptive supplies was multiplied by a 3.25 factor to calculate the total cost of the intervention, including not only supplies, but also all the elements necessary to ensure access by adolescent women to reproductive health services. This includes staff, infrastructure, logistics and distribution costs. That factor was extrapolated from previous case studies conducted by UNFPA LACRO in Brazil, Mexico, Argentina and Colombia.

(3) To calculate the benefits from the perspective of society, we took into account the average opportunity costs of adolescent pregnancy considered in MILENA studies in ten countries (presented in Chapters 2 and 3 of this report). This equals the potential income earned by adolescent pregnancy prevented multiplied by the number of pregnancies prevented.

(4) The Benefit-Cost Ratio is the quotient of (3)/(2).

6 AS EXPLAINED IN FIGURE 3 IN CHAPTER 2 OF THIS REPORT.

7 THIS INVESTMENT INCLUDES THE DIRECT COST INVESTED IN CONTRACEPTIVE METHODS, AS WELL AS OVERHEAD, CAPITAL, HUMAN RESOURCES COSTS AND OTHERS ASSOCIATED WITH THE PROVISION OF METHODS.

Table 8. Cost-benefit ratio of alternative contraceptive interventions to reach OECD adolescent pregnancy levels in Latin America and the Caribbean from the perspective of society.

	Adolescent pregnancies prevented (1)	Total Investment in current USD (2)	Benefits in current USD from the perspective of society (3)	**Cost-benefit ratio** (from the perspective of society) (4)
1.A Broad basked paid at domestic prices reported in SEPREMI at the regional level	2,582,110	141,698,422	2,948,769,620	20.81
1.B Broad basket paid at UNFPA prices	2,582,110	166,442,124	2,948,769,620	17.72
1.C Broad basket paid at the lowest price	2,582,110	116,059,135	2,948,769,620	25.41
2.A Long-acting methods only. Two methods paid at domestic prices	2,584,130	256,812,677	2,951,076,460	11.49
2.B Long-acting methods only paid at UNFPA prices	2,584,130	117,559,973	2,951,076,460	25.10
2.C Long-acting methods only paid at the lowest price	2,584,130	117,559,973	2,951,076,460	25.10

SOURCE: UNFPA BASED ON IGEM AND MILENA

column, while the cost-benefit ratio is somewhat lower than that of the analysis from the perspective of society, the ratio is still significant. Thus, for every dollar invested in contraceptive methods to prevent adolescent pregnancy, the State receives a social return on investment of between USD $6.96 and $15.4, depending on the scenario. This benefit is measured in terms of: I) the cost averted by the health system in the form of care for pregnancy, childbirth and puerperium for adolescents, and II) direct and indirect taxes the State could collect because, by preventing adolescent pregnancy, women can increase their potential incomes and, consequently, their tax contributions.

Conclusions

What would be the cost of preventing unintended adolescent pregnancies and early childbearing in Latin America and the Caribbean? Reducing the Specific Adolescent Fertility Rate for Latin America and the Caribbean to reach average global values through the provision of a broad basket of modern contraceptive methods would have a cost of between USD 12.7 and 18.2 million (depending on how supplies are purchased). But the most important thing is that this could be achieved in one year. We are talking about an achievable goal that involves relatively low unit costs (that is, by unintended adolescent pregnancy prevented) of between USD $14.8 and $21.24. In other words, it is a soft goal.

But even if the objective of the intervention was to reduce the Specific Adolescent Pregnancy Rate to the average rate of the wealthiest (OECD) countries, which means the goal would no longer be a soft one, it would still be achievable. The investment required to allow access to a broad basket of modern contraceptive methods would be between USD 52.2 and 36.4 million (depending on the modality used to purchase contraceptives). This goal could be achieved with a two-year intervention. The first year would lead to a reduction of the Specific Adolescent Fertility Rate to reach the global average, while the second would result in increased access to modern contraceptives by adolescents to reach the average OECD level.

Table 9. Cost-benefit ratio of alternative contraceptive interventions to reach OECD adolescent pregnancy levels in Latin America and the Caribbean from the perspective of the State.

	Adolescent pregnancies prevented (1)	Total Investment in current USD (2)	Benefits in current USD from the perspective of the State (3)	**Cost-benefit ratio** (from the perspective of the State) (5)
1.A Broad basket paid at domestic prices reported in SEPREMI at the regional level	2,582,110	141,698,422	1,786,820,120	**12.61**
1.B Broad basket paid at UNFPA prices	2,582,110	166,442,124	1,786,820,120	**10.74**
1.C Broad basket paid at the lowest price	2,582,110	116,059,135	1,786,820,120	**15.40**
2.A Long-acting methods only. Two methods paid at domestic prices	2,584,130	256,812,677	1,788,217,960	**6.96**
2.B Long-acting methods only paid at UNFPA prices	2,584,130	117,559,973	1,788,217,960	**15.21**
2.C Long-acting methods only paid at the lowest price	2,584,130	117,559,973	1,788,217,960	**15.21**

SOURCE: UNFPA BASED ON IGEM AND MILENA

If the intervention focused on expanding coverage through the exclusive use of long-acting reversible contraceptive methods, the investment required would increase to USD 80.6 million. However, if those methods were purchased through UNFPA's procurement services, the investment required would drop to USD 36.8 million. This is a viable investment for the region as a whole, especially considering the benefits (return) of such investment.

Regardless of the alternative considered, public investments to prevent unintended adolescent pregnancies through the use of modern contraceptive methods have a very high social return for the development of countries. In all the alternatives considered, investments to promote access by adolescent women to modern contraceptive methods are profitable from a social perspective and have a higher return compared to investments in modern contraceptives in general. These outcomes, which contribute to the reduction of the Specific Adolescent Fertility Rate and generate results in the area of sexual and reproductive health, are also advocacy tools that can be used with those funding policies for the procurement of modern contraceptives.

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chapter 5

What can Latin America and the Caribbean countries do to prevent adolescent pregnancy?

Adolescent pregnancy is a serious public health, development and human rights issue that reflects the deep inequalities that exist in countries in the LAC region. Adolescent pregnancy prevention, care and reduction actions require comprehensive, intersectoral and participatory approaches to ensure inclusion, especially the inclusion of adolescents.

As shown in this document, in addition to health risks, adolescent pregnancy and early childbearing have other consequences that reproduce social inequality, increase the burden of care tasks and contribute to intergenerational cycles of poverty among girls and adolescent and young women.

The increase in the number of early pregnancies (below age 15) has raised red flags in the entire region and demands urgent actions to prevent and eliminate its potential causes such as sexual abuse, sexual violence and forced child marriage or unions, which have biological, psychic and social consequences. And the poorest girls from rural areas, indigenous and with lower levels of education are the ones most exposed.

The context created by the COVID-19 pandemic has hindered actions aimed to prevent and reduce adolescent pregnancy in the region. In addition, lockdown measures, which forced girls and adolescent women to stay home, where they were more exposed to sexual violence and abuse, as well as limited access to family planning methods and sexual and reproductive health services, have led to an increase in the number of unwanted pregnancies among girls and adolescents.

UNFPA, through its different programmes, partners with and provides technical assistance to countries in the region for the implementation and fulfillment of international commitments and frameworks that promote adolescent pregnancy prevention and reduction within the context of human rights, sexual and reproductive rights, gender equality and sustainable development.

UNFPA believes it is essential to formulate policies that place girls and adolescent women at the center, with broader development objectives, in addition to facilitating coordination between sectors. It works to promote education, economic empowerment, violence prevention and sexual and reproductive health and rights, with a particular focus on those persons that have been historically marginalized, such as those belonging to indigenous peoples, living in rural areas, living in union, with disabilities, and those living with HIV, among others.

Despite the implementation of adolescent pregnancy prevention policies by States in the region, it is still necessary to strengthen those that have not been implemented effectively. This report includes a series of recommendations for governments, which must act as duty bearers and protect girls and adolescent women.

To prevent adolescent pregnancy and early childbearing, UNFPA has proposed four interrelated intervention areas:

1. **Reduce equity and inequality gaps**
2. **Strengthen public policies with a comprehensive and multisectoral approach (including social protection interventions)**
3. **Ensure universal access to sexual and reproductive health services and rights.**
4. **Strengthen the participation of adolescents, communities and civil society in the creation of public policies.**

The following are a series of specific recommendations for the implementation of these areas of intervention:

Girl participates in a public demonstration in Montevideo, Uruguay

PHOTO: MARTÍN VARELA UMPIERREZ (MONTEVIDEO, 2020)

Recommendations for the design and implementation of adolescent pregnancy prevention actions in Latin America and the Caribbean

Line of Action	Specific recommendations
Equity and inequality gaps	Promote and incorporate an intersectional approach in plans and programmes to address the social inequalities that characterize adolescent pregnancy, with a focus on actions to bridge gaps. Design, implement, monitor and follow up on programmes aimed at transforming gender norms and addressing the structural causes of inequality and gender violence. Build capacities and increase awareness and the political will of government decision-makers to address the needs of adolescents effectively, with budget allocations and planning for interventions that promote the full development of adolescent women. Address the causes of school dropout among girls and adolescent women, including measures to ensure they remain in school and can develop a life project. Ensure the implementation of social protection policies through scholarships, work opportunities for young people and education bonuses, among other measures to bridge gaps and reduce poverty.
Public policies	Promote and incorporate a multisectoral and comprehensive approach in public policies for the prevention of adolescent pregnancy and early childbearing, which requires reviewing and improving coherence and coordination between the different policies on social protection, sexual violence prevention, access to sexual and reproductive health services and education, including contraception, youth employment and youth leisure and recreation initiatives. Taking into account that early childbearing occurs more frequently in rural areas, in communities with fewer economic resources and in particular in indigenous populations, where access to education, contraception and comprehensive sexual education is less common, it is essential to reinforce intercultural and territorial approaches to guide actions that are appropriate to the contexts of adolescents. Raise the visibility of pregnancy among girls under the age of 15 through the generation, analysis and dissemination of data that reflect the magnitude and consequences of pregnancy, childbirth and motherhood in the 10-14 age range. Prioritize pregnancy prevention and care policies and plans aimed at girls under the age of 15, developing roadmaps and specific protocols to provide comprehensive decision-making support depending on each country's policy framework. Strengthen monitoring systems, public budgets and the territorial approach to facilitate adjustments and the operationalization of prevention actions based on local characteristics within the context of national policies. Allocate public resources for the development of communication campaigns, identifying risks and protection measures offered by the State to prevent sexual violence and early unions among girls. Create and strengthen Comprehensive Sexual Education in-school and out-of-school programmes based on international standards, including a gender and empowerment perspective and the exercise of sexual and reproductive rights, as well as actions targeted at families and communities. Have quality and up-to-date information systems in place for the appropriate assessment of the issue of adolescent pregnancy, in addition to the monitoring and evaluation of results and impact of actions, including the cost of adolescent pregnancy. Promote capacity building and develop a continuous human resource training system, especially for primary levels of care. Strengthen participation and collaboration between civil society organizations, academic institutions and international agencies for the fulfillment of international commitments with the meaningful participation of adolescents and young people in the design, implementation and evaluation of public policies.

Line of Action	Specific recommendations
Universal access to sexual and reproductive health services	Ensure the availability of adolescent SRH services based on WHO and UNFPA global standards on quality health care for adolescents. A package of tools validated for this implementation is available. Ensure the availability of and free access to long-acting contraceptive methods within a context of informed choice, autonomy and counseling/guidance. Increase the availability of confidential counseling / guidance services appropriate for adolescents. Incorporate protocols of care for sexual and gender violence in support, counseling and referral processes. Ensure the availability of human resources with the technical skills required for the provision of care for adolescents based on the principles of human rights, non-discrimination and a gender perspective. Eliminate barriers to access to the comprehensive package of sexual and reproductive health services for the diversity adolescents, with respect for their progressive autonomy. Avoid rules or regulations that require the presence and/or authorization of guardians for access to health services. Ensure the existence of legal rights, policies and guidelines that respect, protect and fulfill the human right of adolescents to receive contraception information, products and services regardless of their age, sex, marital status or parity. Consider the distribution, at the community level, of family planning methods and counseling provided by community health promoters or other agents who can expand access in remote areas.
Participation	Promote young people's participation and empower them to participate in the design, implementation and follow-up of strategic interventions. Promote and strengthen youth and adolescent organizations with comprehensive agendas that include sexual and reproductive rights, gender equality, prevention and punishment of sexual violence and abuse, in addition to equal opportunities in the areas of education, participation and employment, among others. Strengthen NGOs with strategies to scale up successful local adolescent pregnancy prevention projects. Develop workshops and mechanisms for neighborhood consultation and creative activities to promote mutual respect in the community. Promote successful community action models and experiences based on dialogues leading to adolescent pregnancy prevention and/or actions in support of pregnant adolescents' life plans. Community-based organizations empowered to eliminate institutional barriers that affect the continuity of education, civic participation and employment opportunities for adolescent mothers. Identify and address, through a participatory approach, cultural norms that reproduce the traditional roles of girls in communities (availability of intercultural methodologies). Promote successful adolescent pregnancy prevention models and experiences targeted at parents and/or caregivers.

DOMINICAN ADOLESCENTS AT A ONE-DAY ACTIVITY ORGANIZED BY UNFPA.

PHOTO: COURTESY OF UNFPA DOMINICAN REPUBLI.

chapter 6

Adolescent pregnancy prevention tools made available by the United Nations Population Fund to Latin America and the Caribbean countries

The United Nations Population Fund has a set of tools countries in the LAC region can use for the implementation of policy responses to address the issue of unintended adolescent pregnancy. The following is a brief introduction to those tools, which are divided into the following categories: a) advocacy tools; b) planning tools; c) data processing supply management tools; d) evaluation and follow-up tools; and e) efficient procurement tools.

A) Advocacy tools

Only a few Latin America and the Caribbean countries have implemented explicit adolescent pregnancy prevention policies. UNFPA's Latin America and the Caribbean Regional Office (UNFPA LACRO) plays a key role in the promotion of political commitments made by governments to expand coverage and increase access to modern contraceptives by the most vulnerable groups. Among them, adolescents occupy a prominent place, considering there is a major gap in access to contraceptives in the region compared to the average of women of childbearing age. For this reason, UNFPA has developed and promotes the implementation of two econometric models to advocate for governments to make budget allocations with the aim of expanding coverage and access to modern contraceptive methods, in addition to other high-impact interventions, such as Comprehensive Sexuality Education.

MILENA

La Metodología de Impactos Laborales, Educativos, The Employment, Education, Payroll and Welfare Impacts Measurement Methodology (MILENA) measures and analyzes the socioeconomic consequences of adolescent pregnancy at the national and subnational levels. If focuses on comparisons between two population groups: early mothers (women who have given birth before the age of 20), and adult mothers (women who have given birth after the age of 20). The purpose of these comparisons is to assess their: a) levels of education, b) labour market participation, c) personal levels of income, d) health care expenditure, and e) (direct and indirect) taxes paid to the State.

In previous chapters of this report we have already described the main findings of the MILENA methodology implementation in ten countries in the region (Argentina, Colombia, Ecuador, Guatemala, Guyana, Mexico, Panama, Paraguay, Peru and the Dominican Republic). The purpose of the different national reports prepared, regional comparisons and this report is to provide evidence of the high opportunity cost of adolescent pregnancy in the region. The ultimate goal is to place the issue in the public policy agenda so countries can design, fund, implement and evaluate evidence-based adolescent pregnancy prevention policies.

Costing UNFPA's transformative results

The United Nations Population Fund has defined three transformative results to be reached by 2030: 1) zero preventable maternal deaths, 2) zero unmet need for modern contraceptive methods, and 3) zero gender-based violence and harmful practices. To achieve the three transformative results, UNFPA LACRO prioritizes political dialogue and advocacy to promote commitments and implement public interventions.

The advocacy tools deployed by UNFPA LACRO include the implementation of national studies to cost the achievement of those objectives. To facilitate the conduction of these studies, it has developed and implemented specific tools not only to determine the increases in public allocations necessary to reduce coverage gaps, but also the potential social returns of these investments in different dimensions, such as disease burden, adjusted life years,

reduction of fertility rates, reduction of preventable (maternal and child) deaths, savings in health care, and even productivity gains (measured in terms of per capita gross domestic product variations).

UNFPA's toolkit to cost its transformative results is a powerful advocacy tool that also seeks the incorporation and expansion of prevention policies. In this regard, it not only measures the opportunity cost of adolescent pregnancy, but also the cost of moving towards each of the three transformative results, as well as the benefits of such progress for the economic and social development of countries.

B) Planning tools

All the countries in the LAC region have incorporated public policies for the free distribution of modern contraceptives to their population. Assessing and measuring the effectiveness of these responses, taking into consideration modern contraceptive needs in each country, poses a major challenge. Despite the increased coverage of these programmes in the last three decades, approximately one half of women using contraceptives in the region still purchase them in commercial pharmacies out of their own pockets. Public distribution of contraceptives is still limited in our region, and those countries with more resources are not always the ones guaranteeing higher levels of access and coverage. For these reasons, UNFPA LACRO, working together with strategic partners such as ForoLAC, promotes the development of tools country governments can use to track the performance of their investments in contraceptives.

Family Planning Investments Impact Model

The Family Planning Investments Impact Model (MiPLAN) is a tool designed to analyze the outcomes of public investments in contraceptives in terms of their coverage, performance and efficiency. It was developed by ForoLAC/RHSC and UNFPA to help Latin America and the Caribbean countries estimate the impacts of investments in contraceptive methods in the areas of coverage, sexual and reproductive health (SRH) and maternal and child health (MCH) of the population. It consists of two modules: 1) Situational Assessment, to measure the performance of current investments in contraceptives, and 2) Prospective Analysis, to track their performance towards 2030 based on projected investments in contraceptives.

MiPlan comes preloaded with population data from the United Nations Population Division. However, the data it contains can be modified, either to replace it with information from national sources or by disaggregating the analysis at the subnational level. In addition, MiPlan contains information on clinical efficacy parameters and duration of different contraceptive methods from specialized scientific literature.

One of the limitations of MiPlan is that it assumes full governance conditions exist in the supply chain. In other words, it assumes that all the contraceptive methods purchased by the government will be appropriately distributed to the target population, without any losses or missing or expired methods. While corrections can be made assuming loss percentages, the objective of MiPlan is to determine the performance level under different contraceptive method procurement hypotheses.

MiPlan has been used to evaluate levels of performance reported, as well as alternative intervention hypotheses in fourteen countries in the region. It can generate fact sheets on population coverage, reproductive health results achieved and purchase costs for each alternative.

Measurement of contraceptive shortage risks in Latin America and the Caribbean countries

In response to the COVID-19 pandemic, in March 2020, as part of a ForoLAC and UNFPA initiative, a process to monitor contraceptive shortage risks in the public sector was implemented at the country level. The methodology can assess risks and measure contractions in the public coverage of modern contraceptive methods. Based on information from 13 countries reporting data, projections were made for the rest of the region, which were complemented with consumption forecasts for the private sector. The conclusion was that approximately 20.4 million sexually active women of reproductive age discontinued the use of modern contraceptive methods at some point between March 2020 and March 2021. That impact represents an increase in the unmet need for modern contraceptive methods that, measured for all women of childbearing age, increased from 11.4% to 17%. That represents a setback if we consider the more than 30 years of advances in the area of sexual and reproductive rights in the region.

During 2021, countries in the region made significant efforts to normalize contraceptive procurement and distribution. However, most of them continued to report difficulties in the procurement and distribution of contraceptive supplies. For these reasons, and given the need to update the analysis of contraceptive shortage risks in the region, ForoLAC and

UNFPA LACRO made the decision to conduct, once again, a contraceptive shortage risk analysis.

This analysis measures shortage risks by comparing the Monthly Average Consumption (MAC) for each method against Months of Stocks Available (MSA). The comparison of both variables makes it possible to operationalize the Contraceptive Shortage Risk (CSR) as an ordinal variable with three categories (appropriate supply, low shortage risk and high shortage risk).

To measure the disaggregated country shortage risk (considering all contraceptives) the MSA and the MAC for each method are converted into Couple Years of Protection (CYPs). Once the shortage of modern contraceptives is quantified in terms of CYPs lost, estimates of the impact on other relevant reproductive health outcomes are obtained by using existing evidence.

C) Supply management data processing tools

One of the limitations for governments when they decide to implement adolescent pregnancy prevention policies is the availability of reliable and timely information on the users of modern contraceptive methods, their ages, where they live, where they seek health care, the methods they use and whether they have changed or discontinued the use of methods. This is key information to ensure the proper and timely availability of supplies to meet the needs of their populations.

UNFPA LACRO has two types of tools countries can use to address this information challenge. The first is a logistics management and information system to manage not only contraceptives, but all kinds of health supplies and medicines. The second is an App that works on smartphones, tablets and computers and facilitates the collection of information about female users of contraceptive methods.

Logistic Management Information System for Medicines and Supplies

The Logistic Management Information System for Medicines and Supplies (SALMI) is a logistic management software for the management of all kinds of medicines and supplies. It is a non-profit social technology developed with the reality of Latin America and the Caribbean countries and, in particular, the skills of personnel and infrastructure in the public health sector, in mind. This tool is designed for the management of health supplies throughout the entire supply chain, from the first level of care to hospitals and warehouses, from the local to the national level. It is also designed to ensure the last-mile delivery of supplies and solve challenges in the management of services and traceability of medicines and supplies (included but not limited to sexual and reproductive health supplies) with a logistics approach.

SALMI is in a constant process of evolution and improvement. It is also aimed at the development of a network of users in different countries that make up a community of practice. This includes the review and collection of information about their needs and experiences, which makes SALMI a friendly information system easy to learn, manage and sustain. In the short time since its introduction, it has become an essential work tool for its users, generating logistic information and information about health services at all levels and empowering their decisions.

It is easy to install, easy to use and highly intuitive: it uses a color coded (traffic light) system to bring attention to stock depletion and expiration risks. It works both on and off-line, which means connectivity is not a barrier to its implementation. If there is no connectivity, information about services can be sent by email (or even transferred using a thumb drive) within the region. Users can enter and collect data from the entire health network through the follow-up of supplies and patients and the mapping of available stocks for each supply.

In low and high-income countries, logistic management information systems and health information systems are difficult to expand because they require advanced technology that can be too expensive. In this regard, SALMI provides a great solution that leverages existing skills, budget, infrastructure and technology without requiring high costs for its implementation, maintenance and sustainability.

SALMI is much more than a simple data processing tool, because it encompasses training, implementation, follow-up and evaluation strategies. It facilitates changes in the culture of information to transition from manual to automated processes that promote empowerment and build the capacities of health workers.

For these reasons, UNFPA LACRO has adopted this approach to guarantee the success of the project and ensure the sustainability required by information systems. The implementation of the SALMI strategy in low and middle-income countries facilitates

the deployment of comprehensive, sustainable and short term systems, depending on the reality of the country, with the capacity to collect historic logistic data and monitor national indicators and Sustainable Development Goals (SDGs) from the outset of its implementation.

Access to UNFPA's SALMI is completely free of charge for the governments of countries in the region. Countries also have access to free technical assistance to adapt SALMI to their needs and national and/or local conditions, in addition to training to start operating the system and use reports for decision-making. Countries implementing SALMI usually start with a pilot project that is then scaled up at the national level.

Contraceptive Information Device

The Contraceptive Information Device (DIA) is an app for the collection and processing of contraceptive use information. It was designed to support the introduction and scale-up of long-acting reversible contraceptive methods (LARCs), but its use can also be extended to all contraceptives. It can generate reports to identify the users of individual methods in each health service, their continuity of use of the method and which methods are replaced by others. This is key information for effective contraceptive management, especially when the objective is to reach the most vulnerable populations (such as adolescents, people living in rural and/or critical areas, and population groups with increased difficulties of access associated with income limitations, ethnicity, disabilities and/or situations of violence, among others).

In addition, it is a multichannel tool that works on cell phones, tablets or computers. It consists of 2 components: 1) A data collection form (in real time or near real time) to record information on admission and interruption of LARC use, and 2) a dashboard that can generate custom reports.

The information collected is reliably hosted on a landing page and involves the use of two technologies: service workers and IndexedDB. The former stores the page's static files (html, css and js) in the browser cache, and the latter is a database used to store records in case there is no Internet access. The data flow in the form page is the following (see figure 1): once the user fills out the form, data is sent to the data management system (1). In case this process fails due to a lack of Internet access, data is stored in the browser's internal database (2).

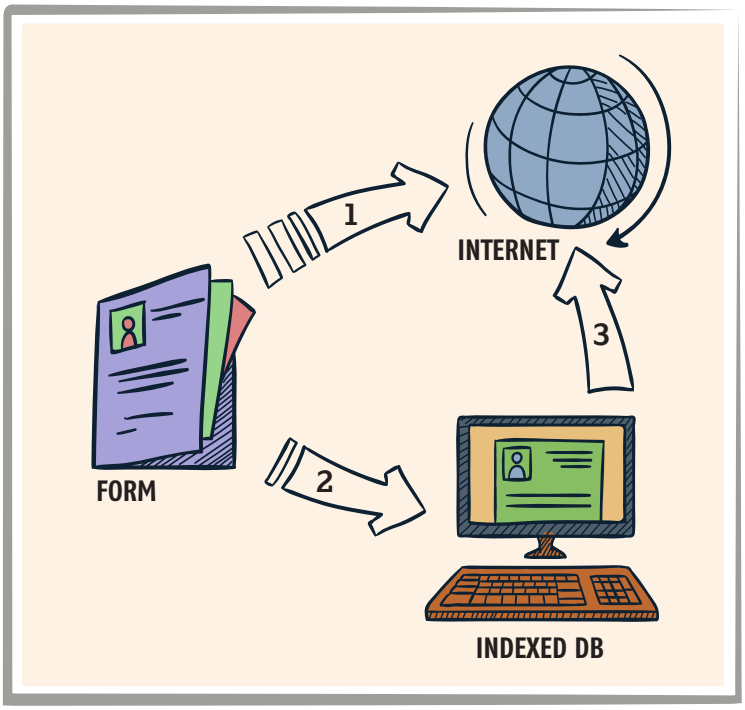

FIGURE 1. FLOW OF DATA COLLECTED IN THE FORM

Once Internet access is restored, the data stored in the browser is automatically sent to the data management system (3). The data management system relies on the NocoDB tool, an open-source alternative to Airtable. As of the writing of this report, the tool was hosted on a Datasketch server and can be accessed at https://unfpa.datasketch.co. NocoDB not only provides a data management interface; it also provides an API to create, read, update and delete data. This means that future services can be implemented by using records stored as the main information source.

The Dashboard tool includes tracking controls to view and access the data in information records for different countries. The first panel allows users to select the country of interest and make comparisons by country, type of form and type of method; select a particular health facility and select dates of interest, as well as other relevant information such as methods removed or expelled, or the cause of interruption of use of a given method. The second panel provides data views based on data filtered and selected in the first panel. Users can also choose between different types of graphs, which can also be downloaded in different formats.

D) Evaluation and follow-up tools

When a country or subnational government makes the decision to implement adolescent pregnancy prevention policies, one of the main challenges is that of defining quantitative goals that reflect achievements made. To address this need, UNFPA LACRO developed a model that defines a metric for outcomes expected from interventions. Once adolescent pregnancy prevention policies are implemented, it is essential to verify they have achieved the outcomes expected. To make this verification process easier, UNFPA LACRO has developed a series of evaluation procedures governments can use, which are described below.

Impact Goals Estimation Model (IGEM)

The adolescent pregnancy Impact Goals Estimation Model (IGEM) is a quantitative planning tool developed by the United Nations Population Fund Regional Office for Latin America and the Caribbean. The IGEM allows you to: 1) conduct an ex ante evaluation of scenarios to estimate the potential impact of adolescent pregnancy prevention interventions to be implemented based on the definition of expected outcome goals; 2) develop a metric for policies on the provision of modern contraceptive methods and CSE for adolescents based on the definition of coverage goals, and 3) monitor the level of performance of those goals ex post and facilitate the cost efficiency evaluation of policies.

The IGEM can develop a metric of the expected impact of Adolescent Pregnancy prevention policies and analyze the sensitivity of dependent variables to different intervention hypotheses. The model's dependent variables are: effective coverage of adolescents with modern contraceptive methods, Specific Adolescent Fertility Rate, number of unintended pregnancies prevented, abortions prevented, maternal deaths prevented and neonatal deaths prevented.

It is a mathematical parametric model that generates outputs (reports) based on a set of linked spreadsheets that must be fed with baseline information on the country, both related to the target population and alternative adolescent pregnancy interventions considered.

The IGEM makes it possible to predict, prior to the intervention, how the model's dependent variables will react to different intervention options. The IGEM can also generate reports on the cost of individual variables, such as cost per adolescent effectively covered or cost per pregnancy prevented, in addition to cost-benefit ratios for the different interventions.

Impact Evaluation

LThe methodology to evaluate adolescent pregnancy prevention interventions is another tool made available by UNFPA LACRO to countries and subnational governments committed to implementing responses to address the widespread issue of adolescent pregnancy. The main advantage of this methodology is its focus on the analysis of vital statistics generated and processed all throughout the continent. This means that, in order to conduct the impact evaluation, it is not necessary to produce additional primary information, thus reducing costs and simplifying analysis processes.

However, that advantage is also its limitation, because it does not provide information regarding which intervention hypothesis can work better than others. Therefore, UNFPA LACRO's recommendation is to combine this methodology with a process analysis, such as the evaluation of independent variables that show the intensity of the response implemented through the use of public policies. For example, it can be complemented with a population coverage analysis of CSE content, the number of adolescent women reached with contraceptive methods and the number of counseling or guidance sessions provided, among others. Having access to that information with the same spatial and temporal disaggregation used for the SAFR variation analysis makes it possible to analyze hypotheses as to what works and does not work well in the adolescent pregnancy prevention intervention implemented.

The impact assessment of an adolescent pregnancy prevention policy allows you to answer questions like:

- *What was the evolution of the Specific Adolescent Fertility Rate (SAFR) since the beginning of the policy?*
- *Was there a higher reduction of the SAFR in certain subnational jurisdictions or areas?*
- *It the policy has a geographical focus, was there a higher SAFR reduction in the priority departments, areas or jurisdictions of that policy compared to the rest?*
- *Is there an impact on early adolescent fertility different from that on late adolescent fertility?*

E) Efficient procurement tools

All Latin America and the Caribbean countries purchase contraceptives for their subsequent distribution and free delivery to the population (with the only exception of Haiti, where public distribution depends exclusively on international donations). However, the list of products purchased, quantities and prices paid vary significantly. A 2017 analysis of public procurement in 14 countries found that, in the case of combined oral contraceptives, the difference between the country paying the lowest price and that paying the highest price was 13 times, 33 times for emergency hormonal contraceptives, 19 times for monthly injectables, 18 times for intrauterine devices, 8 times for condoms and 7 times for implants. For these reasons, working to promote efficient contraceptive purchases remains a priority in the region.

UNFPA procurement services

The United Nations Population Fund has a Procurement Services Branch (PSB) that has a broad catalogue of more than 500 products (including contraceptives, essential drugs for pregnancy and childbirth care, essential medicines in general and equipment) available from suppliers whose quality and safety have been prequalified following the highest international standards defined by the World Health Organization, UNFPA itself and/or international expert committees.

UNFPA procurement services operate under 2 procurement modalities: a) programme procurement (that is, purchases made by UNFPA itself when, either with its own funds or through agreements with governments, it undertakes a project to increase access), and b) Third Party Procurement (TPP).

To use UNFPA's Procurement Services, countries can start by consulting the product catalogue available at www.unfpaprocurement.org. To get an accurate price quote including insurance and freight costs, as well as estimated lead times, countries must make a specific request. In case a government confirms its interest, the next step will be signing an agreement with that country. Once a purchase order has been placed, a payment covering the full amount of the other must be made so the PSB can proceed with the bidding process.

Platform to Track the Evolution of Prices of Sexual and Reproductive Health Methods and Supplies (SEPREMI-SSR)

Considering the wide range of public procurement prices for contraceptives, the representatives of the 14 countries in the region agreed on the convenience of working together to consolidate a database on prices paid. To this end, the Platform to Track the Evolution of Prices of Sexual and Reproductive Health Methods and Supplies (SEPREMI-SSR) was created. The Platform is a tool that can generate technical reports on the evolution of prices of sexual and reproductive health supplies purchased by Latin America and the Caribbean countries. It is consulted permanently by negotiation areas and facilitates quality purchases at the best market prices.

SSEPREMI–SSR was developed and is maintained by ForoLAC, with UNFPA LACRO's technical support. By accepting its terms and conditions agreement, governments can access an Intranet, where they can share information on their purchases and, at the same time, run queries and compare prices. The system can generate standard and special reports. The output information is managed on Tableau and can be exported to other formats.

The use of SSEPREMI–SSR has helped users to reduce variability margins in public procurement prices for contraceptives. All the SSEPREMI–SSR user countries have identified opportunities to make more affordable purchases, and some of them have already made purchases of supplies with significant savings.

ANNEXES

Annex 1. Main sources used by country to estimate the cost of adolescent pregnancy and early childbearing.

Honduras

- 55th Continuous Multi-purpose Household Survey (EPHPM) (2019)
- National Population and Housing Census 2013 and its population projections (2019 review of the National Institute of Statistics (INE)).
- National Demographic and Health Survey ENDESA / MICS (2019).
- Statistical Yearbook - Honduran Ministry of Health (SESAL) / Health Statistics Area (AES) (2018).

Dominican Republic

- Continuous National Labour Force Survey (ENCFT) (Central Bank of the Dominican Republic (BCDR), 2018).

Panama

- Multi-purpose Survey (EPM) (National Institute of Statistics and Censuses (INECE), Panama, 2019).

Peru

- National Household Survey (ENAHO) (2019).

Guyana

- Quarterly Labour Force Surveys (BUREAU STATISTICS, 2019).

Argentina

- Permanent Household Survey (EPH) conducted by the National Institute of Statistics and Censuses (INDEC) with data collected between 2018 and 2018.

Ecuador

- National Employment, Unemployment and Underemployment Survey (ENEMDU) (2017).

Colombia

- Great Integrated Household Survey (GEIH) 2018, vital statistics, census and population projections, information produced by the National Administrative Department of Statistics (DANE).
- Ministry of Health and Social Protection (MSPS).

Paraguay

- Permanent Household Survey (EPH) (2017).
- National Population and Housing Census (2012).
- Population projections (DGEEC, 2015).

Mexico

- National Household Income and Expenditure Survey (ENIGH) (National Institute of Statistics and Geography (INEGI), 2018).
- Ministry of Health (SS) dynamic cubes.

Annex 2. Projections – Adolescent women ages 15 to 19

Year	2019	2020	2021	2022	2023	2024
Argentina	1 734 206	1 739 689	1 745 230	1 749 301	1 752 900	1 757 760
Bolivia	553 845	557 073	559 370	560 494	560 903	561 280
Brazil	8 097 851	7 964 694	7 827 868	7 683 356	7 540 604	7 413 085
Chile	620 555	611 781	607 340	605 263	604 965	605 746
Colombia	2 102 840	2 079 569	2 042 505	1 997 514	1 948 556	1 902 550
Costa Rica	180 407	177 679	175 910	174 902	174 500	174 409
Cuba	319 505	312 225	305 873	299 673	294 384	290 990
Ecuador	766 741	765 542	762 727	759 832	757 597	756 844
El Salvador	300 067	292 083	285 514	280 898	277 770	275 226
Guatemala	948 771	953 920	954 490	950 564	944 250	938 946
Haiti	565 536	568 686	569 789	571 093	572 801	575 026
Honduras	511 066	510 080	508 274	506 522	504 574	501 946
Mexico	5 516 572	5 514 580	5 505 171	5 483 700	5 456 791	5 434 874
Nicaragua	290 712	291 125	292 408	294 133	296 178	298 322
Panama	174 294	175 437	176 809	178 204	179 640	181 118
Peru	1 284 719	1 256 814	1 260 701	1 284 292	1 317 673	1 344 465
Puerto Rico	86 473	85 717	91 460	97 610	103 234	106 972
Paraguay	324 148	322 314	321 535	322 457	324 471	326 453
Dominican Republic	470 683	470 057	468 745	467 937	467 797	468 378
Uruguay	121 612	120 242	118 736	117 066	115 438	114 147
Venezuela	1 217 115	1 225 539	1 251 578	1 275 902	1 299 727	1 323 464
Antigua and Barbuda	3 546	3 490	3 443	3 403	3 375	3 362
Aruba	3 596	3 559	3 523	3 505	3 489	3 450
Bahamas	16 361	16 324	16 305	16 331	16 330	16 199
Barbados	9 263	9 218	9 140	9 040	8 917	8 765
Belize	19 869	19 806	19 713	19 515	19 261	19 039
Curaçao	5 322	5 410	5 348	5 246	5 172	5 163
Grenada	3 736	3 678	3 680	3 756	3 881	4 012
Guadalupe	14 813	14 698	14 532	14 405	14 266	14 015
Guyana	37 944	37 138	36 065	34 922	33 870	33 110
French Guiana	14 135	14 385	14 554	14 625	14 618	14 569
Virgin Islands	3 239	3 265	3 300	3 359	3 429	3 485
Jamaica	120 328	117 374	114 512	112 095	110 259	109 082
St. Lucia	6 847	6 561	6 293	6 041	5 816	5 632
Martinique	12 158	11 986	11 804	11 665	11 519	11 282
Suriname	24 302	24 377	24 408	24 420	24 430	24 466
Trinidad and Tobago	43 604	44 187	44 829	45 505	46 162	46 734
St. Vincent and the Grenadines	4 455	4 380	4 303	4 224	4 151	4 096

SOURCE: UNITED NATIONS (2019)

Annex 3. Estimation of modern contraceptive methods (MCM) mix for LAC

One of the key inputs of the IGEM is the modern contraceptive methods (MCM) mix. For this exercise, we used as a reference the 5 most used MCMs (male condoms, combined oral contraceptives, 1-month and 3-month injectables, IUD and 3 and 5-year implants) based on information available from UN projections, publications, demographic and health and MICS surveys. The UN does not have a consolidated mix of MCMs for adolescents ages 15 to 19 for LAC and, therefore, we had to conduct a review of publications and projections available. We also found that, in most cases, there was no available or up-to-date data or there is no specific information for adolescents ages 15 to 19.

In this regard, we found a UN projection for 2019 and a publication that weighed that projection (GHSP Journal, 2020), both of them without disaggregated data for adolescents. To complement this data, we relied on the use of disaggregated information for adolescents from the MICS survey for the Dominican Republic, Peru's ENDES, Nicaragua's ENDESA, Guatemala's IGEM and Paraguay's IGEM[1]. The data obtained show that the behaviour of the modern contraceptives mix is different for WFAs in general compared to WFAs not living in union. The data is also different in the case of adolescents ages 15 to 19, which also varies depending of their union status. Based on the above description, to calculate the approximate value of the MCM mix for adolescents ages 15 to 19, we excluded the total WFA values, considering that the behavior of the mix for WFAs not living in union could be similar to that of sexually active adolescents ages 15 to 19.

The values available from the different sources used include the whole mix of contraceptives (modern and traditional) and not only the 5 methods prioritized and, therefore, we weighed them based on 100% of the 5 MCMs selected. By calculating the % represented by the specific MCM divided by the total of the 5 MCMs, we obtained the value known as "Final mix weighed at 5 MCMs". We also considered the totality of injectable methods with the exception of Guatemala, where 1-month and 3-month injectables were separated. Therefore, for the countries selected we considered 50% of 1 month injectables and 50% of 3-month injectables. We followed the same procedure for 3- and 5-year implants.

Finally, as part of the process to obtain a more accurate value for LAC and adolescents ages 15 to 19, we observed a wide dispersion in the use of different MCMs between countries and, therefore, we did not consider extreme values in order to only observe values following a central trend. Based on the above-mentioned procedures, we defined a mix of the 5 modern contraceptive methods considered for the LAC IGEM that, in our opinion, reflect the general behaviour of adolescents ages 15 to 19 in LAC (see Table 1a).

1 REFERENCES TO THE STUDIES CITED CAN BE FOUND IN THE "BIBLIOGRAPHIC REFERENCES" SECTION IN CHAPTER 4.

Table 1a. Mix of 5 modern contraceptive methods for IGEM LAC[2]

Métodos	UN, 2019				República Dominicana. MICS 2018	
	MEF Total LAC		MEF Mundial no unidas		15-19 años sexualmente activas	
	Mezcla 5 MAC	Mezcla final ponderada a 5 MAC	Mezcla 5 MAC	Mezcla final ponderada a 5 MAC	Mezcla 5 MAC	Mezcla final ponderada a 5 MAC
	%	%	%	%	%	%
Condon masculino	8,8%	24%	33%	43,42%	22,9%	30%
Inyectables en general (cuando aplicaba se colocó de tres meses)	6,8%	18,6%	8%	10,53%	22,8%	29,8%
Inyectables 1 mes						
Orales combinados	14,9%	40,7%	26%	34,21%	21,9%	28,7%
DJU	4,6%	12,6%	6%	7,89%	2,2%	2,9%
Implantes	1,5%	41%	3%	3,95%	6,6%	8,6%
Total	**36,6%**	**100%**	**76%**	**100%**	**76%**	**100%**

2 THE SUM OF THE VALUES FOR NICARAGUA EXCEEDS 100% BECAUSE SOME OF THEM USE MORE THAN ONE METHOD.

Annex 4. Price of modern contraceptives by source

A 25% is added to the unit price of the contraceptives described below (Table 2a) to cover internal logistical costs and ensure contraceptive availability in the points of delivery demanded by the population.

Table 2a. Price of modern contraceptives by source

Supplies	Unit of Measurement	UNFPA PSB price	SEPREMI regional price
Male condom	condom	0,030	0,034
Combined pill (COC)	cycle	0,780	0,300
Monthly injectable	vial	1,000	8,880
Quarterly injectable DMPA	vial	0,890	0,900
Copper T (IUD)	IUD	0,650	0,760
3-year subdermal implant (etonogestrel 68 mg)	Implant	18,940	39,190
5-year subdermal implant (levonorgestrel 75 mg x 2)	Implant	9,620	23,530

SOURCE: SEPREMI REGIONAL PRICE AND UNFPA PSB PRICE

	Perú ENDES 2020		Nicaragua ENDESA 2011/12		Ponderado en base a UN Population Division (UN Departamet of Economic and Social Affairs) in its 2019		MEMI Guatemala. Año 2019	MEMI Paraguay. Año 2020	Mezcla Utilizada para MEMI LAC
	15-19 años sexualmente activas		15-19 años Total		MEF Total LAC				
	Mezcla 5 MAC	Mezcla final ponderada a 5 MAC	Mezcla 5 MAC	Mezcla final ponderada a 5 MAC	Mezcla 5 MAC	Mezcla final ponderada a 5 MAC	15-19 años	15-19 años	Adolescent es 15-19 años
	%	%	%	%	%	%	%	%	%
	40,6%	64,75%	15,6%	15,1%	13,2%	22,45%	3,9%	5%	**35%**
	16,8%	26,79%	61,6%	59,63%	10,7%	18,2%	67,9%	35%	**13%**
							22,2%		**13%**
	3%	4,78%	19,1%	18,49%	23,2%	39,46%	5,9%	25%	**30%**
	0,4%	0,64%	7%	6,78%	9,2%	15,65%		10%	**4%**
	1,9%	3,03%			2,5%	4,25%		25%	**6%**
	62,7%	**100%**	**103,3%**	**100%**	**58,8%**	**100%**	**99,9%**	**100%**	**100%**


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