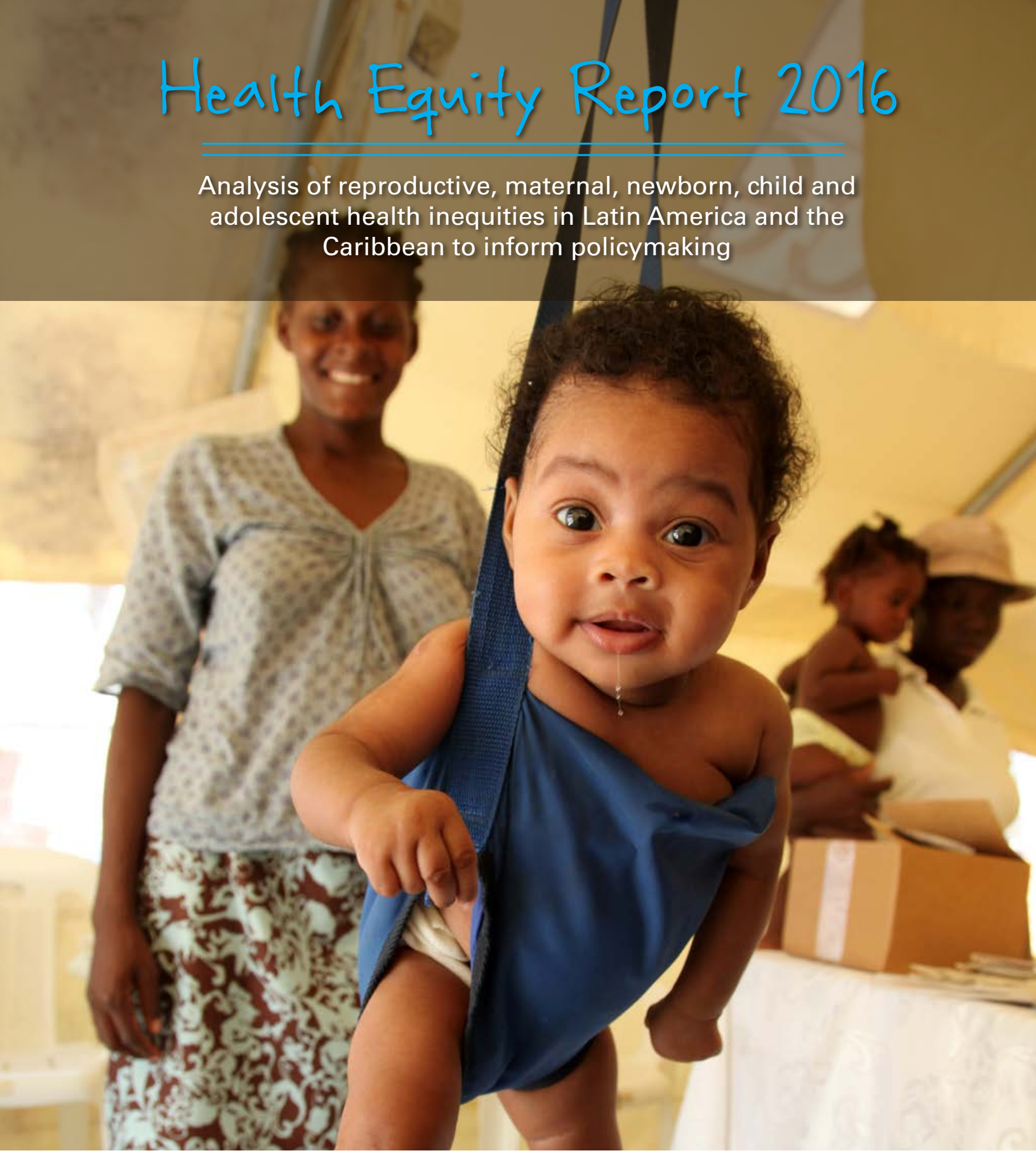
Health Equity Report 2016

Analysis of reproductive, maternal, newborn, child and adolescent health inequities in Latin America and the Caribbean to inform policymaking



Tulane University
School of Public Health and Tropical Medicine

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November 2016
Panama City, Panama
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ISBN: 978-92-806-4842-3

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Acknowledgement

This report was prepared jointly by a team from Tulane University and UNICEF, with inputs from members of the *A Promise Renewed for the Americas* (APR-LAC) Metrics and Monitoring Working Group.

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For the Tulane University Collaborative Group for Health Equity in Latin America (CHELA), Arachu Castro led the writing and conducted the quantitative data analysis, and Virginia Savage, Hannah Kaufman and Alejandra Leytón drafted sections of the report.

The authors wish to thank Madeline Noble, Mai Do and Erin Brock for their contributions to data collection as well as Ludovico Feoli, who provided overall support from the Center for Inter-American Policy and Research at Tulane University.

From APR-LAC, in addition to the UNICEF team, Marcela Barrios, Pablo Duran, José Antonio Escamilla, Isabel Espinosa, Oscar Mujica and Antonio Sanhueza contributed from PAHO, Amparo Gordillo from the World Bank, Emma Iriarte and Paola Zúñiga from IDB and Jennifer Slotnick from USAID.

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Foreword

"But no, Mom, I'm not on the moon.
I'm on the Earth and I need the elders to listen to me.
I have to tell them, Mom, what I want for each child,
before it's too late"
Mónica Laneri

Inequality is not inevitable

For UNICEF, it is urgent to understand that inequality is not inevitable in Latin America and the Caribbean (LAC), the most unequal region in the world, where, as of 2014, the richest 10 per cent of the population controls 71 per cent of the wealth and capital, while 70 per cent of the poorest people account for only 10 per cent of the wealth. Unfortunately, the region has gradually drifted towards either empty rhetoric or a cloaked indifference to this harsh reality.

The LAC region is not alone; in fact, it is situated in the wider context of an unbearably unequal world, where the richest 1 per cent possesses more wealth than the remaining 99 per cent of the people on the planet (Oxfam, 2016).

The situation of gross inequality calls for the entire world to change what is clearly an unsustainable development strategy (ECLAC, 2016).

This is the conviction of the plenary of the General Assembly of the United Nations, which adopted the 2030 Agenda for Sustainable Development and the Sustainable Development Goals in September 2015 and committed to change the dominant development paradigm and progressively move towards a sustainable, inclusive and long-term economic, social and environmental approach with concerns for human rights and equity at the center.

Although inequality is a tangible reality in our region, it is not the inevitable expression of an inalterable future. Fundamental change must occur to transform a world of privilege into a world with rights. A world with rights must confront and address the root causes of humiliating and violent inequalities which deny and ignore the right of all people to a dignified, free and healthy life and guarantee the right of children not only to survive but to enjoy comprehensive development, free of all types of privation, violence and fear.

This report clearly shows that inequality and lack of equity in access to and enjoyment of the right to health are not isolated facts. Inequality and inequity in health services are linked to and respond to wider contexts and complex economic, social, cultural or environmental differences that impede access and enjoyment of this right to thousands of children, adolescents and women.

Furthermore, the report asserts that inequality is neither neutral nor abstract; it has geographies and faces, colours and languages, genders and ages. Inequality it is a construct, the result of multiple inequities and deprivations since the early years, and in most cases, it lasts not only throughout the life cycle but carries enormous potential to replicate beyond particular individuals for generations and generations.

For this reason, issues such as reproductive health, maternal and neonatal mortality, child development and malnutrition, adolescent health and the impacts of violence on health cannot be held hostage by dogma or be buried in ideological arguments.

The report identifies an urgent need for reliable data, solid evidence and valid knowledge to overcome obscurantism, regressive ideology and inefficiency in decision-making processes. This will allow the design and implementation of universal, comprehensive and sustainable policies to address situations of vulnerability mainly affecting poor children, girls, adolescents, women (simply because they are women), those living with disabilities, those marginalized due to their sexual orientation and gender identity, those who are indigenous, those who are Afro-descendants or those living in rural areas or areas of social marginalization.

This study stresses that we work within a framework of theories and practices that take into account and assimilate the knowledge and experience of multiple actors and sectors. It emphasizes the need to work contextually, in a participatory manner and between and among various institutions from a human rights and equity and gender perspective approach that takes into account the integrity of the life cycle of specific human beings.

This comprehensive approach is the best antidote to prevent actions that perpetuate replication and immobility, annihilate innovation, promote short-term and short sighted solutions, or maintain the logic of business as usual; we are called to transcend the status quo of inequality and to guarantee access to quality services for all people, particularly children, adolescents and women.

While this work confronts us with the unfair and painful scars of inequality in the lives of millions of children, adolescents and women in LAC, it also shows us what we can do: work together to forge other more egalitarian, freer and fairer paths, where no child, adolescent or woman is left behind and where all advance together and on equal footing.

UNICEF is called to rise to the task of this profoundly necessary work.

Executive summary

Health inequity refers to the concept that certain differences in health stem from broader social and economic inequalities. According to a classic definition, these differences are 'systematic, avoidable, unfair and unjust' and obstruct individuals and communities from achieving their best health potential. Latin America and the Caribbean is a region marked by vast social inequalities between rich and poor, high and low levels of education, urban and rural populations and dominant and minority ethnicities. People who live in poverty, ethnic minorities and other populations who have been kept at the margins of economic and human development often lack access to goods and services and, as a consequence, cannot attain the same level of health outcomes as those who have benefited from development.

Although many countries throughout Latin America and the Caribbean have enacted efforts to expand health services for poor and vulnerable populations, health inequity remains widespread in the region, especially for women, infants and children. This report aims to inform policymakers about the trends of inequity affecting maternal, reproductive, neonatal, child and adolescent health outcomes, explain the mechanisms underlying those trends and recommend areas for prioritization. Drawing on an extensive analysis of national household surveys, global epidemiological estimates and a review of studies previously conducted throughout the region, the report finds that the inequities experienced by certain demographic groups are not isolated to a single health issue, but instead affect women and children throughout their lives. The health of pregnant women and women of childbearing age often directly affects the health of their children and thus creates a cycle in which health inequities remain concentrated in certain populations for generations.

Throughout the region, women and children from low-income populations are more likely to face lifelong health inequities. Following delivery, newborns from poorer families are less likely than those from wealthy families to be registered at birth. For example, in the Dominican Republic, 98 per cent of wealthier children were registered at birth in 2013 as opposed to only 65 per cent of children from the lowest wealth demographic. Without birth registration, infants are denied their fundamental human right to legally exist and often face difficulty in accessing health and education systems later in life. After infancy, children living in low-income urban areas are at increased risk for asthma and other respiratory conditions and are less likely to seek care for issues such as pneumonia. In Haiti, for example, 51 per cent of children from the wealthiest quintile of society receive medical attention for symptoms of pneumonia in contrast to only 23 per cent of children from the poorest quintile. Wealth position also impacts malnutrition, for example in Guatemala, where children from the poorest demographic groups are five times more likely to be stunted than children of wealthy families.

Subsequently, after reaching adolescence, girls from poorer demographics are more likely to attend poor-quality educational systems, to work to provide support for their families and to face barriers in accessing sexual and reproductive health services. Without a bright outlook for their futures, they become pregnant at earlier ages. The unmet need for family planning services is also significantly higher for poor adult women. In Suriname, 31 per cent of the women in union in the poorest quintile had an unmet need for contraception, as opposed to 11 per cent of the women in the wealthiest quintile. During pregnancy, low-income women often receive less adequate antenatal care than do wealthier women and also have a lower prevalence of delivering with a skilled birth attendant. Both of these factors, in addition to a woman's education level, affect the chance of survival for both women and children.

Additionally, women of indigenous populations frequently experience social and economic exclusion—an unequal situation that produces health inequities at numerous moments throughout their lives. According to available data, only 30 per cent of indigenous women in Guatemala and 57 per cent of indigenous women in Nicaragua received skilled birth attendance in comparison with 70 per cent and 81 per cent of non-indigenous women in their respective countries. Even within maternity facilities, indigenous women may experience discrimination and lower quality care that jeopardizes their maternal health outcomes. These inequalities are also reflected in infant mortality rates. In rural areas of Ecuador, for example, the infant mortality rate among indigenous children was nearly twice the rate for non-indigenous children. During childhood, indigenous Guaraní children in Brazil have a prevalence of anaemia that is three times higher than that of non-indigenous children. Extreme inequities in stunting and other forms of malnutrition have received attention in Guatemala, where half of all children under five years of age and 66 per cent of indigenous children suffer chronic malnutrition. Some studies note an adolescent pregnancy prevalence as high as 73 per cent among women with primary education in rural areas of the Dominican Republic. Not only are adolescent pregnancies associated with increased risk of perinatal complications, but daughters of adolescent mothers may be more likely to become adolescent mothers themselves, thus creating an intergenerational cycle that hinders their developing their own human capabilities. Adolescent pregnancy is another very common issue among indigenous and Afro-descendant populations.

Several common challenges arise in addressing reproductive, maternal, newborn, child and adolescent health inequities in Latin America and the Caribbean. One major challenge is the lack of systematic collection of data that are disaggregated by socioeconomic stratifiers to better monitor health equity trends, and the lack of research that would provide key information on how to better target population groups that have the worst health outcomes.

From social drivers of sexually transmitted infections (STIs) to unsafe abortions, adolescent sexual health to disabilities in children, more research is needed in order to affect change. While many of the topics included in this report have been the focus of large international studies, more information is needed about the status of the issues in Latin America and the Caribbean and how best to address them within the region. Those studies that do address important health issues in the region rarely take a health equity perspective.

Health inequity as it affects indigenous and other minority ethnic groups, including Afro-descendant populations, in particular requires further research. While evidence suggests that ethnic minorities may experience numerous inequities, these populations have been largely overlooked by national and international data collection mechanisms, quality-of-care studies and monitoring of their health trends. For example, only Costa Rica and Guyana systematically collect, analyse and report data on the ethnicity of the women responding to questions and their children in their demographic and health household surveys. Belize, Panama and Suriname also collect these data systematically, but only from the head of household. Some countries collect ethnicity information but do not publish it and other countries do not collect it at all. Information about their plights and progresses are a prerequisite to actively engaging these communities in dialogues that will inform public policies and investments and to measuring their impact.

In order to accomplish the challenge of reducing health inequities for women and children in Latin America and the Caribbean, a consistent process of fundamental social and structural changes must be developed. The evidence presented in this report is only the beginning of this process of change; creating awareness of the health inequities affecting marginalized populations is necessary but insufficient by itself. Further action is needed to operationalize these results and translate them into better health outcomes for all.

Future steps should include at least three processes:

1. Advocacy. This report and other health equity information systems should be disseminated among key stakeholders such as governments, donors, non-governmental organizations, research institutions, beneficiary populations and civil society organizations;
2. Measuring and monitoring. Measures of inequality need to be developed consistently and tracked across the region in order to monitor improvements and gains;
3. Establishment of multisectoral strategies. Key sectors such as health, environment, education, industry and energy are all interconnected and synergies among them have the potential to have a significant impact in reducing health inequity throughout Latin America and the Caribbean.

The main findings of the report are summarized in four points:

1. Most of the differences found in perinatal, neonatal, infant and under-five mortality are related to the mother's wealth and education, more so than rural or urban residence;
2. The mother's wealth, place of residence and education are all associated with differences in utilization of health services along the maternal and child continuum of care and with poorer nutritional status among children.
3. Latin America and the Caribbean is the region with the highest concentration of adolescent pregnancies in the world. Adolescent pregnancy is more frequent among uneducated women, the poorest women and indigenous women.
4. Available data show that indigenous and Afro-descendant women and their children present worse health outcomes and have lower utilization of health care. In addition to generalized social exclusion, increasing evidence points to the association of mistreatment in health care settings with the poor health outcomes of populations from ethnic minorities.

Key findings on health equity

1. Key findings about equity in reproductive health

- Vulnerable women face various barriers to accessing routine reproductive health care, resulting in an unmet need for contraception, unintended pregnancies and undiagnosed STIs and cancers.

Unmet need for contraception

- In every country with available data, the prevalence of unmet need for contraception is higher among the poorest and least educated women, although recent progress in some countries shows that it is possible to address these persistent inequities:
  - Women from the poorest quintile have an unmet need for contraception that is four times higher than the wealthiest in El Salvador, Guatemala, Bolivia and Panama, and more than twice as high in Belize, Colombia, Costa Rica, Peru and Suriname.
  - In Costa Rica, El Salvador, Guatemala, Panama, Peru and Suriname, women with no education have an unmet need for contraception that is at least twice as high as that of women with secondary or higher education.
- Inequalities in wealth and education level, along with ethnicity, affect women's abilities to access to quality SRH rights and services. This in turn creates differential health outcomes among socioeconomic groups, with vulnerable women largely bearing the brunt of unplanned and mistimed pregnancies, as well as abortion-related complications and long term disabilities. Consequently, existing gaps in access to effective contraception and safe abortion are highly inequitable.
- Especially among indigenous populations inhabiting rural or remote areas, women do not enjoy comprehensive access to convenient, affordable or culturally appropriate reproductive health services and education.

Sexually transmitted infections

- Gender inequality contributes to increasing the vulnerability of women to acquiring HIV and other STIs; indigenous women and women who live in poverty are particularly vulnerable given the superposition of gender inequality, socioeconomic exclusion and discrimination and their limited access to health services that cater specifically to their needs. This suggests that policies to increase social equity and access to health services may serve to mitigate the transmission of HIV and STIs in the region. This is particularly true for indigenous women and women who live in poverty, who are particularly vulnerable to acquiring HIV and other STIs.
  - A high prevalence of HIV has been found among indigenous populations in Brazil, Mexico, Peru and Venezuela.

Cancer prevention and treatment

- Women living in poverty and who have low levels of education bear most of the burden of cervical cancer in Latin America. More programmes are needed to suit the specific needs of disadvantaged female populations. In addition to improving the financial and geographic accessibility of health services, initiatives should seek to improve general knowledge about the prevention and treatment of cervical cancer, and to alter social norms to create supportive environments that motivate women to seek screening.
- Women from ethnic minorities may also face more barriers to obtaining cancer screenings and experience higher incidence of cervical cancer and related mortality than other groups, as found in Brazil and Colombia.
- Breast cancer has become the leading cause of cancer-attributed deaths for women in most countries in the Latin American and Caribbean region. Low levels of education and income and belonging to a minority ethnicity are associated with lower coverage of mammograms and other screenings. The lack of supplies and equipment and shortages of trained personnel are key barriers that limit the effectiveness of breast cancer screening programmes, creating inequitable access to diagnosis and treatment of breast cancer. Health policies should consider expanding coverage for breast cancer under public health plans to improve equity in access to diagnosis and treatment.

2. Key findings about equity in maternal health

- Women with socioeconomic disadvantages are less likely to have contact with the health system during one of the most critical times in their lives – pregnancy and childbirth. The data indicate that disadvantaged women have less access across the continuum of antenatal visits and birth attendance, but particularly troubling are the very low levels of health care utilization around the time of birth, the most vulnerable period for mother and child. Birth services must be available 24 hours a day, seven days a week and include referrals for birth and obstetric complications and emergencies. Quality birth services are a critical component of addressing the poorer health outcomes, including maternal mortality, among the most vulnerable women.

Having at least four antenatal visits

- Although 90 per cent of women in Latin America and the Caribbean have at least four antenatal visits during their last pregnancy, large inequalities exist.
- In Haiti and Nicaragua, the difference in having at least four antenatal visits between the poorest and wealthiest women is greater than 30 percentage points (51 and 88 per cent in Haiti and 61 and 92 per cent in Nicaragua). In Bolivia (63 and 84 per cent) and Panama (74 and 97 per cent), the gaps are between 20 and 23 percentage points.
- In Haiti and Panama, less than half of women with no education have at least four antenatal visits (41 per cent in Panama, 50 per cent in Haiti). Other countries with a low proportion of women with no education who receive at least four antenatal visits are Suriname (52 per cent), Nicaragua (56 per cent) and Bolivia (57 per cent).
- Various studies suggest that pregnant women from minority ethnicities have unequal utilization of antenatal care:
  - In Brazil, various studies have noted that Afro-descendant women have less than the recommended number of antenatal care visits, are less likely to receive the recommended antenatal procedures and examinations and their care is of lower quality.
  - Similar findings have been documented for indigenous women in Guatemala, especially those who do not speak Spanish.
- The barriers that obstruct indigenous and Afro-descendant women from obtaining antenatal care are likely connected to broader trends of discrimination and vulnerability that affect these populations.
- In addition to the unequal utilization of antenatal care, the statistics do not reflect the quality of those services, but studies show that poorer women receive substandard antenatal care.

Skilled birth attendance

- Gaps in skilled birth attendance exist for women from different wealth, geographic and education demographics. These gaps are most apparent in Haiti, where only 10 per cent of women from the poorest quintile and 14 per cent of those with no education have skilled birth attendance.
- Inequalities in utilization of skilled birth attendance are particularly marked by wealth. The gap between the poorest and the wealthiest is 75 percentage points in Guatemala, 69 in Haiti, 42 in Bolivia and 41 in Honduras. In Peru, despite having 90 per cent of skilled birth attendance, women from the poorest wealth quintile lag behind the wealthiest by 32 percentage points.
- The greatest gaps between rural and urban women are in Guatemala (41 percentage points), Haiti (35 percentage points) and Bolivia (26 percentage points).
- Great gaps exist in utilization of skilled birth attendance by education level, particularly in Guatemala (65 percentage points), Panama (56), Haiti (47) and Honduras (41).
- Studies indicate that indigenous and Afro-descendant women experience greater barriers to skilled birth attendance:
  - According to available data, only 30 per cent of indigenous women in Guatemala and 57 per cent of indigenous women in Nicaragua were attended by skilled birth personnel in comparison with 70 and 81 per cent of non-indigenous women in their respective countries.
- Skilled birth attendance for indigenous women in Mexico and Peru has increased throughout the past decade. Although gaps have decreased, ethnic inequalities still remain in those countries.

Caesarean sections

- Despite the exorbitant increase in caesarean sections in the region, this life-saving surgery occurs less frequently among women in the poorest quintiles and with no education.
- Low provision of caesarean sections may indicate that not all women who need one will receive an emergency caesarean section. Haiti is the only country in the region where the national average of caesarean sections, at 6 per cent, is below 10 per cent. In addition to Haiti, less than 10 per cent of women from the poorest quintiles in Bolivia, Guatemala, Guyana, Honduras, Nicaragua and Peru deliver by caesarean section.

Maternal mortality

- Regional statistics mask inequalities in maternal health outcomes between and within Latin American and Caribbean countries.
- Inequities in maternal health outcomes exist between women of different socioeconomic backgrounds, ethnicities and age groups.
- Several studies have associated poverty and low levels of education with a greater likelihood of maternal mortality and morbidity.
- Other studies have documented higher maternal morbidity and mortality ratios among indigenous and Afro-descendant women:
  - A 2010 report noted that Afro-Brazilian women in Paraná state, Brazil had triple the risk of maternal death as did women of predominantly European descent.
  - It has been estimated that indigenous women in Guatemala may have a maternal mortality ratio that is three times that of their non-indigenous counterparts.
- The vast majority of maternal deaths throughout Latin America and the Caribbean are preventable with quality obstetric care during pregnancy, delivery and postpartum.
- Unsafe abortions are a major source of maternal morbidity and mortality throughout the region. The practice of unsafe abortion perpetuates social inequality among poor or marginalized women. These trends also reflect regional gender inequalities; women must undergo potentially dangerous procedures to access their reproductive rights, but abortion laws do not affect the men involved in unwanted pregnancies and the policies serve to establish family planning as a 'women's issue'. The expansion of access to abortion would most directly benefit women from low-income, rural and other vulnerable groups and thus aid in mitigating regional inequities in maternal health outcomes.

Anaemia in pregnancy

- Studies over the past decade in the Latin American and Caribbean region have repeatedly shown an association of anaemia with low socioeconomic position.

Foetal deaths and stillbirths

- Foetal deaths are associated with low utilization of antenatal care and low levels of maternal education.
- Stillbirths are mostly underreported and are associated with maternal mortality.

HIV and syphilis during pregnancy

- Inequity in access to screening and treatment for HIV and syphilis during pregnancy is most commonly experienced by women with low education levels and from poorer demographics.

3. Key findings about equity in neonatal health

Perinatal care and neonatal mortality

- Among countries with disaggregated data, the perinatal mortality rate (PMR) is highest among Bolivian women with no education (66 deaths per 1,000 live births).
- Gaps in the neonatal mortality rate (NMR) by urban or rural residence are small. In some countries, the NMR is higher in urban areas. One exception is Bolivia, where the NMR is 17 percentage points higher in rural than in urban areas.
- Studies show that indigenous and Afro-descendant populations have higher NMRs than other population groups.
- The decline in neonatal mortality in Brazil has been smaller among Afro-descendant populations than among other groups. Differences in neonatal mortality have been explained in part by poverty, inadequate antenatal care and socioeconomic inequality.
- The NMR is higher among boys than among girls, but the gap related to the sex of the child is smaller than differences by wealth, place of residence and education.
- In all countries with disaggregated data, the percentage of newborns whose birth weights are reported is higher among those whose mothers belong to the wealthiest quintile, live in urban areas and have secondary or higher education. The countries with the lowest coverage of reported birth weights are Haiti (24 per cent) and Bolivia (72 per cent).
- Studies in Brazil have shown that poorer health outcomes among Afro-descendant children—including higher prevalence of low birth weight, preterm and small-for-gestational age, and higher early neonatal and infant mortality—were attributable to differences in the quality of antenatal care.
- In Chile, a statistically significant relationship was found between poverty and foetal and neonatal mortality, with significantly higher rates among the Mapuche population. However, despite socioeconomic disadvantages and other documented health inequalities, a well-established antenatal control programme contributed to reducing the impact of social inequalities in health between indigenous and non-indigenous infants.
- Birth records from 2000 to 2004 showed weight differences between indigenous and Afro-Ecuadorian newborns compared to mestizo newborns in Ecuador, although in Chile, no significant differences in weight and length at birth were seen between indigenous Mapuche and non-indigenous infants.

Early initiation of breastfeeding

- In contrast to indicators for service utilization and health outcomes, overall, women who are poorer, less educated, rural and indigenous initiate breastfeeding earlier and breastfeed for longer durations. Nonetheless, this is not an issue for complacency as some of the available evidence indicates a downward trend in breastfeeding.
- The lowest prevalence of early initiation of breastfeeding is among the wealthiest women in El Salvador (21 per cent) and Brazil (27 per cent). In El Salvador and Peru, women in the poorest quintile initiate breastfeeding early at twice the prevalence found among the wealthiest: 71 versus 35 per cent in Peru and 42 versus 21 per cent in El Salvador. Although in most countries, the poorest women initiate breastfeeding earlier than other women in their countries, 62 per cent of wealthier women in Colombia start early compared to 51 per cent of the poorest.
- In Bolivia, Dominican Republic, Honduras, Panama and Suriname, women with no education and those with primary education initiate breastfeeding earlier than women with secondary or higher education.
- Prevalence of early initiation of breastfeeding is similar for boys and girls.
- Both in Guatemala and Panama, the prevalence of early initiation of breastfeeding is higher among indigenous populations than among other groups (60 per cent in Guatemala and 63 per cent in Panama). In Panama, 41 per cent of Afro-descendant children begin breastfeeding early, 22 percentage points below the prevalence for indigenous children and 2 percentage points below that for children of other etnicities.
- Although indigenous women throughout the region maintain a high breastfeeding prevalence, downward trends among certain groups, both in the national median duration and in exclusive breastfeeding, are a cause for concern.
- Breastfeeding duration and exclusivity in Latin America and the Caribbean vary due to numerous factors including socioeconomic position, education and geography.

Birth registration

- As of 2013, 8 per cent of children under five years of age in Latin America and the Caribbean had not been registered at birth, meaning that the births of roughly 4 million children have never been recorded.
- Despite having more favourable birth registration outcomes compared to other regions in the world and no large differentials by wealth, residence or sex of the child, there is considerable heterogeneity across and within countries in the region.
- Of countries with available disaggregated data, the Dominican Republic and Haiti present the highest contrasts between social groups, particularly between wealth quintiles:
  - In the Dominican Republic, 35 per cent of children under age five years from the poorest quintile were not registered in 2013, 33 percentage points below those in the wealthiest quintile. The average registration coverage for the country is 84 per cent.
  - In Haiti, 29 per cent of children under five years of age from the poorest quintile were not registered in 2012, 21 percentage points below those in the wealthiest quintile. The average for the country is 80 per cent.

- In both countries, differences between rural and urban areas are between 5 and 8 percentage points.
- Data on education have not been published for either country.

- In other countries with available data, differences in birth registration by wealth and place of residence are small (except in Paraguay in 2008).
- In all countries with available data, the coverage of birth registration for boys and girls is similar.
- Very few countries have data on birth registration disaggregated by education of the mother or ethnicity.

Postnatal care for mothers and newborns

- There are great variations between countries in the percentage of newborns who receive postnatal care within two days after birth. In Colombia, it is only 7 per cent.
- The lowest percentage of newborns with postnatal care are Colombian children of all income groups (below 8 per cent) and Haitian newborns of the four lowest income groups (ranging between 9 and 20 per cent). The widest gaps between the poorest and the wealthiest are in Bolivia (46 percentage points), Haiti (35), Honduras (24) and Panama (24).
- Postnatal care is lower for rural newborns, with the lowest coverage found among rural Haitian newborns (14 per cent). The widest gaps are in Bolivia (26 percentage points), Paraguay (21), Panama (18), Dominican Republic (16), Haiti (15) and Honduras (14).
- In all countries, postnatal care is less frequent among newborns whose mothers have no education, particularly in Haiti (9 per cent). The gaps between newborns whose mothers have no education and those with secondary or higher education are as large as 51 percentage points in Panama, 39 in Bolivia, 29 in Honduras, 22 in El Salvador and 20 in Peru.
- A study in Brazil found that the majority of post-neonatal deaths among the Guaraní, which were caused by acute respiratory infections and diarrhoea, occurred in hospitals and may have been associated with late access or ineffective care at the hospital.
- The timeliness of postnatal care is similar for girls and boys in the four countries with data.
- In Panama, 100 per cent of Afro-descendant newborns receive care within two days after birth, but indigenous children lag 30 percentage points behind, with only 70 per cent of newborns receiving postnatal care.

4. Key findings about equity in child health

Child mortality

- The greatest gaps in the infant mortality rate (IMR) and the under-five mortality rate (U5MR) are found within wealth quintiles and within education groups:
  - In the countries with disaggregated data, in Bolivia the IMR is highest among infants whose mothers have no education, those from the poorest quintile and those from rural areas; in the Dominican Republic, in children whose mothers have no education; and in Haiti, among infants whose mothers have no education and those from the poorest quintile. The highest U5MR in countries with disaggregated data is among the poorest children in Bolivia and in Haiti.
  - The difference in the IMR among infants whose mothers have no education and among those whose mothers have secondary or higher education is as much as seven times in El Salvador, three times in Bolivia, Guatemala, Colombia and the Dominican Republic and twice in Peru.
- There is not a clear pattern in the mortality indicators by urban or rural residence:
  - The IMR is higher among rural infants in Bolivia, Guatemala, Nicaragua and Peru, higher among urban infants in Haiti, Guyana and Paraguay and similar in rural and urban areas in the other countries.
  - The U5MR is similar in rural and urban areas, except in a few countries. In Bolivia, Guatemala, Nicaragua and Peru, it is higher in rural areas and in Guyana and Haiti, it is higher in urban areas.
- The IMR and U5MR are higher among boys in most countries.

Child growth and malnutrition

Chronic malnutrition

- Chronic malnutrition or stunting (measured by height for age), caused mostly by protein-energy malnutrition and anaemia as result of an iron deficiency, is the most common growth deficiency in the region.
- The prevalence of stunting is consistently higher among the poorest children than those of other wealth quintiles. The lower the quintile, the higher the prevalence of stunting. The highest prevalence of stunting is in Guatemala, where 70 per cent of the poorest children are stunted (five times more than among the wealthiest). Other countries with wide gaps in the prevalence of stunting are El Salvador (seven times) and Guatemala, Honduras and Haiti (five times). In Belize, Bolivia, Guyana and Mexico, it is between three and four times higher, and it is at least twice as high in Barbados, Brazil, Colombia, Dominican Republic and Suriname.
- The prevalence of stunting is higher in rural than in urban areas in most countries. In Peru, stunting is four times more prevalent among rural than among urban children.
- The prevalence of stunting is consistently higher among children whose mothers have no education. The gaps are widest in Guatemala, where 69 per cent of children whose mothers have no education are stunted (49 percentage points higher and three times more than among the most educated), Honduras (38 percentage points and five times more), Peru (36 percentage points and five times more) and Bolivia (30 percentage points and four times more). The gap is three times greater in Belize, Colombia, El Salvador and Haiti.
- The prevalence of stunting is similar for girls and boys.
- In Guatemala, the country with the highest prevalence of stunting in Latin America and the Caribbean, there are wide gaps by ethnicity: 66 per cent of indigenous children are stunted versus 36 per cent of non-indigenous children.

Wasting

- The highest prevalence of wasting in the region is among the poorest children in Barbados, with a prevalence of 10 per cent. Of the 14 countries with disaggregated data, the prevalence of wasting is highest among urban children in Barbados, at 8 per cent (twice more than among rural children). In other countries, the differences between rural and urban children are small. In most countries, the differences between education groups are small. The prevalence of wasting is higher among boys than among girls, although the differences are small.

Overweight

- Around 20 to 25 per cent of children under 19 years old are overweight or obese in Latin America and the Caribbean. Among children under age five years, the prevalence of obesity and overweight has rapidly increased.
- The prevalence of overweight is higher among the wealthiest, the urban and the most educated, but according to household survey data the differences are small.

Anaemia

- During childhood, indigenous Guaraní children in Brazil have displayed a prevalence of anaemia that is three times higher than that of non-indigenous children.
- Studies conducted in Brazil, Colombia and Peru have found higher prevalence of anaemia among indigenous children than among non-indigenous.
- Evidence from Brazil showed that children from socioeconomically vulnerable populations, such as indigenous communities and those who live in rural settlements and urban slums, are almost three times more likely to be anaemic than the national average.

Immunization and vitamin supplementation

- The greatest gaps in tuberculosis vaccinations (BCG), three doses of combined diphtheria/pertussis/tetanus vaccine (DPT3) and measles vaccination are found along wealth and education groups. The coverage of BCG, DPT3 and measles vaccination for rural and urban children and girls and boys are similar. The greatest gaps in BCG vaccination occur in Haiti, where 74 per cent of the poorest and 91 per cent of the wealthiest are inmunized, and where 69 per cent of children whose mothers have no education and 89 per cent of those who have secondary or higher education are inmunized. The greatest gaps in DPT3 vaccination are between the wealthiest and the poorest in Suriname, Panama, Haiti and the Dominican Republic and between the least and most educated in Haiti, Colombia and Panama. The greatest gaps in measles vaccination are between the poorest and the wealthiest in Guyana, Panama and Suriname and between the least and most educated in Colombia and Haiti.
- In countries with available data, the prevalence of vitamin A supplementation for children under five years of age ranges from 73 per cent in Honduras to 6 per cent in Peru. Differences in vitamin A supplementation by wealth groups, place of residence, mother's education and sex of the child are small, except in Belize, where 65 per cent of children of mothers with secondary or higher education vitamin A supplementation, compared to 46 per cent of children of mothers with no education.

Care for the sick child

- The prevalence of administration of oral rehydration salts (ORS) in case of diarrhoea is similar in rural and urban areas, except in Suriname, where the administration of ORS is greater in rural areas. The prevalence is similar among boys and girls, except in Costa Rica, where boys receive ORS more frequently than girls.
- Haiti has the lowest prevalence of children with symptoms of pneumonia taken to a health care provider (38 per cent), with 51 per cent among the wealthiest children and those whose mothers have secondary or higher education, compared to 23 per cent among the poorest and those whose mothers have no education.
- The widest gaps in children with symptoms of pneumonia taken to a health care provider are within wealth and education groups. Children of mothers with no education are taken to a health facility less frequently in case of symptoms of pneumonia than those of mothers with secondary or higher educations.
- There is no trend in the differences between rural and urban areas.
- In most countries with available data, there are no differences between girls and boys taken to a health care provider in case of symptoms of pneumonia, except in Belize, Costa Rica, Dominican Republic and Suriname, where more girls than boys are taken for care, and Jamaica, where more boys than girls are taken for care.

Asthma

- The urban poor in Latin America experience the highest prevalence of asthma as they live in poor-quality and overcrowded housing and in neighborhoods with limited or no access to basic services including clean water, sanitation and healthcare resources.

Living conditions and access to health care among indigenous populations

- Indigenous populations in Latin American and Caribbean countries may have limited access to safe water and sanitation services, which fuels higher prevalence of diarrhoeal diseases among indigenous children.
- Among indigenous populations, poor living conditions, inadequate nutrition and high exposure to infection cause a heavy burden of disease in infants and children, including upper and lower respiratory tract infections.
- Additionally, inequities in the probability of accessing appropriate health care exist within these populations.

5. Key findings about equity in adolescent health

Early marriage and sexual initiation

- Early marriage of adolescent girls is another manifestation of gender inequities that persist throughout Latin America and the Caribbean. Girls in formal and informal unions may have fewer social and economic opportunities, as well as increased risk for negative health outcomes.
- More efforts are needed to delay the age of marriage. As the majority of girls entering into early unions are from disadvantaged backgrounds, those efforts will likely require an examination of social and gender inequalities and an expansion of the opportunities available to women in vulnerable situations.

Sexual and reproductive health services for adolescents

- More progress is needed to create and implement youth-friendly sexual and reproductive health services throughout Latin America and the Caribbean. Implementing these services will require a gender and equity perspective to ensure equitable access to care for adolescents of different demographics.
- Indigenous adolescents in Bolivia, Guatemala, Ecuador and Nicaragua had a larger unmet need for family planning than non-indigenous youth.
- Studies have found that indigenous adolescents were significantly less likely to receive sexual education in schools, partly due to lower school attendance. This lack of access may stem from widespread discrimination against indigenous persons that permeates health service delivery, lack of cultural appropriateness in sexual and reproductive health services, and cultural norms stigmatizing adolescent sexuality.

Adolescent pregnancy

- The widest gaps in the prevalence of adolescent pregnancy are within education groups: in all countries with data, adolescent pregnancy is consistently more prevalent among girls with the least education. The second widest gaps are within wealth groups: adolescent pregnancy is consistently more prevalent among the poorest girls in all countries with available data. On the contrary, across all countries, less than 12 per cent of the wealthiest girls are pregnant or have had children. Although adolescent pregnancy tends to be higher among rural girls, the differences between rural and urban girls are less marked than by education and wealth quintile.
- Discussions of adolescent pregnancy in Latin America and the Caribbean require a broader examination of gender equity. Reducing adolescent pregnancy can be seen as a means to reduce the disproportionately high level of poverty affecting women in Latin America. Policies encouraging general educational attainment, health equity and socioeconomic opportunities will likely contribute to decreasing the prevalence of adolescent pregnancy.
- The prevalence of adolescent pregnancy among indigenous populations has fallen throughout the past decade, but is still generally higher than among non-indigenous women.
- The prevalence of adolescent pregnancy is five times greater among indigenous girls in Costa Rica (49 per cent among indigenous and 10 per cent among non-indigenous girls) and almost twice as great in Panama (17 per cent among indigenous and 10 per cent among non-indigenous girls).
- According to a 2011 report of the United Nations Population Fund (UNFPA), the prevalence of adolescent pregnancy is higher among Afro-descendant populations than national averages. As with indigenous populations, there may be differences in the prevalence of pregnancy among Afro-descendant adolescents that are correlated with varying levels of educational achievement.

Vulnerability, agency and lifestyle

- The prevalence of obesity and excess weight is growing and the ages of first substance use are decreasing.
- Increased research is necessary to monitor these trends and create policies that target the most vulnerable populations, especially given the associations between substance use and violent crimes and accidents.
- Amidst efforts to reduce substance use, initiatives should work to target not only individual knowledge, but also broader social and economic inequities that permeate adolescents' home environments and affect their autonomy.

Vulnerability and HIV

- The HIV epidemic increasingly affects adolescents who are subject to broader gender, social and economic inequalities in the Latin America and Caribbean region.
- Successful efforts to curb the prevalence of HIV infection for youth in the region will likely need to address the social inequalities that fuel these vulnerabilities.
- HIV prevention efforts should work to bridge the divide between adolescents' knowledge of HIV and healthy sexual behaviours and create contexts in which adolescents are able to assume more autonomy in those behaviours.
- Increasing evidence highlights indigenous youths as a vulnerable population for HIV infection.

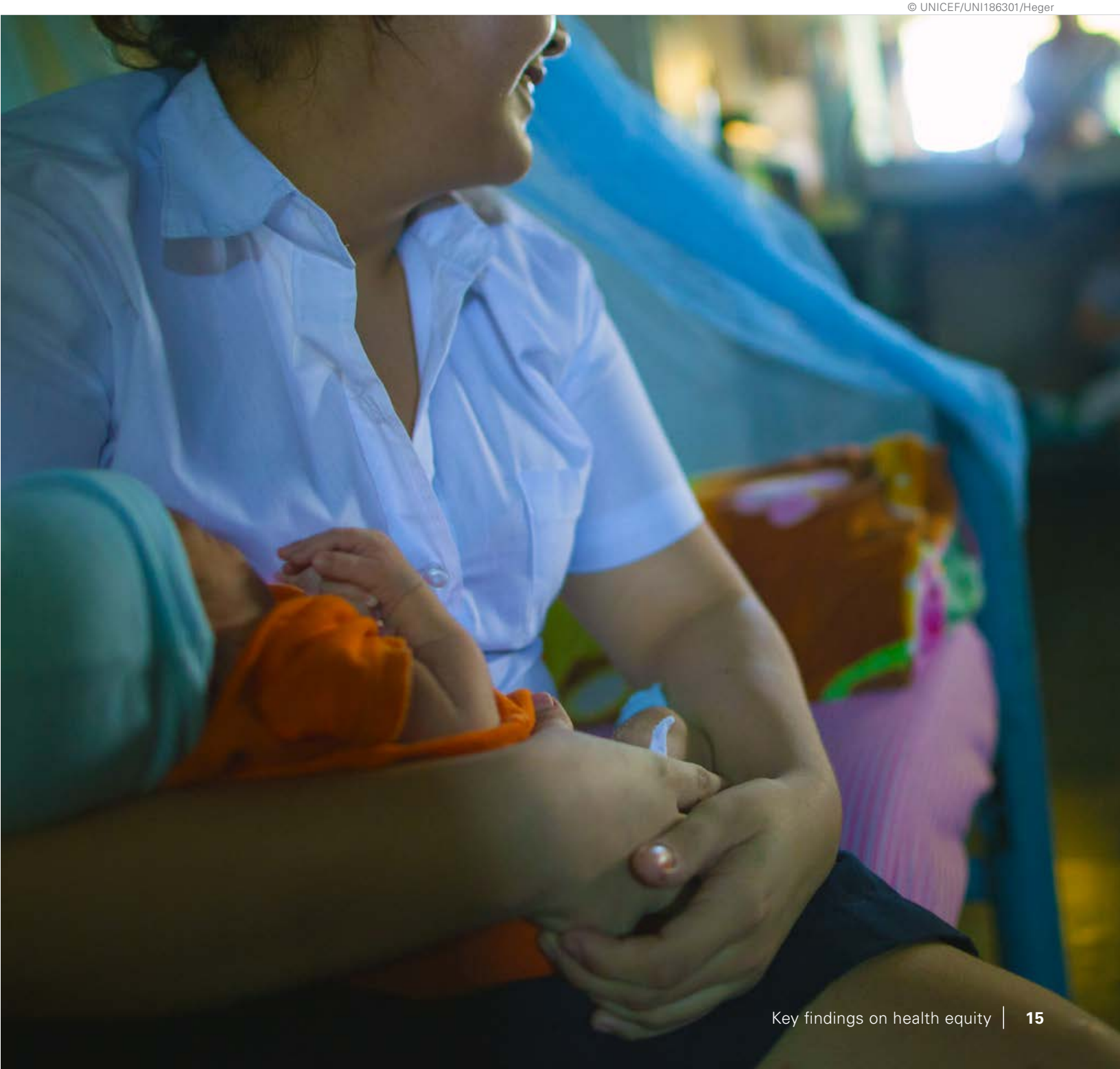
Transition from childhood to adolescence for youth with HIV

- Stigma is a key factor that affects the transition to adolescence of children with HIV. While perinatally infected youths frequently are subject to discrimination because of their HIV status, this stigma also reflects broader patterns of social exclusion of adolescents from vulnerable populations. More efforts are needed to ensure equitable access to

antiretroviral therapy among adolescent populations and to support caregivers in providing the best care possible.

LGBT adolescents and discrimination

- Although increasing research has brought to light the issues affecting the region's lesbian, gay, bisexual and transgender (LGBT) youth, discrimination continues to obstruct these adolescents from obtaining optimal mental, physical and sexual health outcomes.
- Given the extent to which this discrimination permeates health services, educational settings and social climates—areas that all have a meaningful impact on adolescent health and well-being—there is a pressing need for policies and research to identify the needs of LGBT adolescents and take action to address those needs.
- To combat discrimination against LGBT adolescents and prevent the inequitable health outcomes that they experience, Latin American and Caribbean societies should also reexamine gender inequities and work to expand narrow definitions of gender identity.



6. Key findings about equity in violence and health

Violence and abuse of children with disabilities

- In Latin America and the Caribbean, along with the prevalence of poverty, there are links with violence and maltreatment among children with disabilities that can take the form of discrimination, social exclusion and stigma.

Sexual abuse

- In addition to age, studies have associated living in poverty, being female, having low levels of education or poor academic performance, low self-esteem, multiple sexual partners and tobacco or alcohol use with greater likelihood of experiencing sexual violence among adolescents.
- Evidence has suggested that mental health disorders may be concentrated among female adolescents from poorer socioeconomic backgrounds, indigenous or other minority ethnicities, and those with low levels of education and those living in areas with high levels of violence or limited opportunities for employment.
- Sexual abuse is both the product of gender inequity and a primary driver of gendered inequalities in reproductive and mental health outcomes. More research and programmatic initiatives are needed to mitigate the widespread abuse of adolescents and expand services for youth who have already experienced sexual abuse. Such programmes will be critical for the success of achieving gender equity within Latin American and Caribbean countries.
- Studies have documented a high prevalence of sexual violence committed against indigenous adolescent women, as well as gender norms that reduce women's autonomy in negotiating condom use in relationships.

Intimate partner violence during pregnancy

- In countries with available data, the highest prevalence of violence during pregnancy is among Peruvian women with no education (17 per cent) and the lowest is among Haitian women employed for in-kind payment (5 per cent). Although there are no clear patterns across countries, violence during pregnancy tends to occur more frequently among the poorest, urban, least educated and those employed for cash.

Discrimination and violence in health facilities

- Widespread provider discrimination and violence are chief barriers that prevent women from ethnic minorities from accessing quality health services in Latin America and the Caribbean.
- The effects of provider discrimination directly compromise access to treatment, as it can become a key factor that deters women from ethnic minorities from seeking medical care and may obstruct the development or implementation of policies promoting indigenous rights.

Urban violence

- With thousands of persons affected by violence each year, this is a public health issue that deserves urgent attention. Violence in Latin American and Caribbean cities is largely the product of social and economic inequalities that divide urban areas. Consequently, efforts to mitigate urban violence should consider inequalities in the distribution of wealth, labour opportunities and quality housing—all divisions that are becoming increasingly apparent through the spatial fragmentation of cities.
- Various studies indicate that Afro-descendants are more likely to be victims of homicide and other violent crimes in urban areas of Brazil.

Introduction

1. Health equity and social inequality

Over the past quarter century, Latin American countries have experienced rising incomes[2] and have substantially improved healthcare coverage for people who live in poverty as well as health outcomes for most of their populations.[3] Despite these achievements, social inequalities persist between and within countries,[2,4-6] creating inequity and exclusion in health systems across the region.[3,7] The concept of health inequity, which refers to differences in health that are "systematic, avoidable, unfair and unjust",[8] is not value-neutral9 and draws from the premise that "ideally everyone should have a fair opportunity to attain their full health potential and, more pragmatically, that no one should be disadvantaged from achieving this potential, if it can be avoided".[10] Since these inequities are avoidable, reducing them becomes an issue of social justice.[11] Even though when defining fairness, no analytic rigour, expert panel or representative sampling can provide the intrinsic social and moral values that are required to define an inequality as fair or unfair,[12-14] recent models have been developed to help make those determinations.[15]

Heavier burden of disease, onset of chronic illness and disability at younger ages, and poorer survival chances are more frequent among the most marginalized[10] such as indigenous and Afro-descendant women.[16] In nine countries in the region, the poorest wealth quintile of the population showed a prevalence of stunting that was 3 to 10 times higher than the richest quintile, and the poorest provinces in several countries have maternal mortality ratios 10 to 44 times higher than in other areas.[17] Social inequality also shapes equity in health care utilization, defined as "equal access and utilization to available care for equal need and equal quality of care for all",[10] as has been shown in several equity analyses conducted in the region.[18-24] In Brazil, for example, a study found that lack of access to health care and longer waiting times to receive care was most prevalent among the poorest and those with fewer years of education.[25] Therefore, social inequality is one of the greatest challenges for health equity in Latin America and the Caribbean.

Inequalities in income, wealth and consumption have tended to dominate the global discussion on social inequalities since they contribute directly to the well-being of individuals and families.[26] However, there are other forms of social inequalities determined by gender and ethnicity that lead to important differences in health and that demand to be prioritized. In addition to income and gender inequity, indigenous and Afro-descendant populations are subjected to widespread social exclusion and discrimination—the denial of rights, resources and services available to dominant ethnic groups based on racist prejudicial treatment—that negatively impact their health outcomes.[16]

2. The relevance of health equity for the achievement of universal health care, the human right to health and the Sustainable Development Goals

While several countries in Latin America and the Caribbean have enacted measures to achieve universal health care, national and regional reports indicate that health equity remains a goal unrealized and an impediment to reaching universal health care—a movement launched by the World Health Assembly in 2005 "to contribute to meeting the needs of the population for health care and improving its quality, to reducing poverty, to attaining internationally agreed development goals, including those contained in the United Nations Millennium Declaration and to achieving health for all".[27] As the Sustainable Development Goals take over for the 2015-2030 period and Governments resolve to reduce inequality within and among countries (Goal 10), achieve gender equality (Goal 5), ensure healthy lives (Goal 3) and foster social inclusion (Goal 16),[28] the time is ripe for a stronger focus on the differential distribution in access to health services and of health outcomes along social gradients—instead of focusing on achieving targets that are only representative of national averages—to narrow and eliminate existing health equity gaps. The health equity momentum has transpired to other global initiatives such as the Global Strategy for Women's, Children's and Adolescents' Health, launched in September 2015 by WHO.[29] After all, excluded populations "have the greatest scope for gains in survival and development outcomes".[30]

We have the knowledge base to achieve these goals. Pro-poor health sector interventions have been shown to improve health equity[31] and overall progress[32] by narrowing existing gaps in access to health services and health status.[33] But strengthening health systems and improving coverage are not enough to improve population health and social well-being.[6] As stated in the 2030 Agenda for Sustainable Development, "sustainable development recognizes that eradicating poverty in all its forms and dimensions, combatting inequality within and among countries, preserving the planet, creating sustained, inclusive and sustainable economic growth and fostering social inclusion are linked to each other and are interdependent".[28]

To produce relevant health equity information for policymakers, data that can be disaggregated at the lowest administrative level possible need to be collected and analysed, preferably annually.[12,34] National initiatives to measure and monitor health equity have been initiated in countries such as Brazil,[35] Chile,[36] Colombia,[37] Mexico[38] and Uruguay.[39] But, as this report reflects, efforts are still needed to understand the magnitude of health inequity with improved data collection systems that inform policymaking.

3. Methodology and limitations of the report

Each section of the report combines quantitative analysis of household surveys and a review of published research findings that help to explain the context of health inequity in Latin America and the Caribbean and the mechanisms through which socioeconomic inequalities create lack of health equity. The household surveys used in the report, listed in Table 1, include 21 countries that had Demographic and Health Surveys (DHS), Reproductive Health Surveys (RHS) or Multiple Indicator Cluster Surveys (MICS) published between 2008 and 2015.[1] Occasionally, some national indicators have been extracted from UNICEF global databases,[40] which in addition to those surveys, use other nationally representative surveys. Data in this report draw from the most recent survey for each country, except when key variables were not included or when only preliminary data had been published; in those cases, we included data from the previous survey.

Despite the fact that DHS, RHS and MICS share a comparable methodology, the degree to which they all include the same health indicators and social stratifiers varies. A total of 23 indicators, listed in Table 2, have been included. To facilitate health equity analysis across the life course of women and children and across countries in the region, for each of these 23 indicators and for each country with available data we have created equity gap graphs for four key social stratifiers that reflect social conditions: wealth quintiles; rural or urban residence; education level; and sex. Ethnicity has been included in the few instances when data were available. Each graph shows the absolute differences between the values of each indicator per stratifier and per country, similar to the equiplots developed by the International Center for Equity in Health,[7,41] as well as the mean for each value. The equity gap graphs are intended to serve as an easy visualization tool of absolute inequalities.

Relative differences between the highest and the lowest values have been incorporated into the descriptive analysis but not always presented in the report. Although it is widely accepted in economic circles that using both absolute and relative differences is desirable, we argue that it is intrinsically different to measure inequalities in income than to measure inequalities in health. First, because health outcomes—from life expectancy to glucose levels in the blood—do not, unlike elite wealth in the twenty-first century, have infinite values. Second, because even though most people strive for both better health and wealth, dying at a young age or due to a preventable cause such as most maternal deaths is, unlike fortunes, irreversible.

Table 1. List of household surveys from 21 Latin American and Caribbean countries

Country	Year	Type of survey
Argentina	2011	MICS
Barbados	2012	MICS
Belize	2011	MICS
Bolivia	2008	DHS
	2012	Encuesta de Evaluación de Salud y Nutrición
Colombia	2010	DHS
Costa Rica	2011	MICS
Cuba	2014	MICS
Dominican Republic	2013	DHS
El Salvador	2008	RHS
Ecuador	2011	Encuesta Nacional de Salud y Nutrición
Guatemala	2008-09	RHS
Guyana	2009	DHS
Haiti	2012	DHS
Honduras	2011-12	DHS
Jamaica	2008	RHS
	2011	MICS
Nicaragua	2011-12	DHS
Panama	2013	MICS
	2009	Encuesta Nacional de Salud Sexual y Reproductiva
Peru	2014	DHS
Paraguay	2008	RHS
Saint Lucia	2012	MICS
Suriname	2010	MICS

Source: Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[40]

Table 2. List of 23 indicators included in health equity gap analyses

Reproductive health

1.	Unmet need for contraception	Women aged 15-49 years with an unmet need for contraception (for spacing and limiting) (%)

Maternal health

2.	Antenatal care (at least four visits by any provider)	Women aged 15-49 years with an unmet need for contraception (for spacing and limiting) (%)
3.	Skilled attendance at birth	Live births in the last 2-5 years attended by skilled birth attendants (%)
4.	Deliveries by caesarian section	Live births in the 2-5 years preceding the survey delivered by caesarean section (%)

Neonatal health

5.	Perinatal mortality rate	Perinatal mortality rate for the five-year period preceding the survey, defined as the sum of the stillbirths and early neonatal deaths per 1,000 pregnancies
6.	Neonatal mortality rate	Neonatal mortality rate (neonatal deaths per 1,000 live births)
7.	Infants weighed at birth	Most recent live births in the last two years who were weighed at birth per total number of most recent live births in the last two years (%)
8.	Early initiation of breastfeeding	Last-born children in the two years preceding the survey who started breastfeeding within one hour of birth (%)
9.	Birth registration	Children aged 0-4 years whose births are reported registered (%)
10.	Postnatal care check-ups for newborns	Last children born in the two years preceding the survey who had their first postnatal checkup within the first two days after birth (%)

Child health

11.	Infant mortality rate	Deaths among children under 1 year of age per 1,000 live births
12.	Under-five mortality rate	Deaths among children under 5 years of age per 1,000 live births
13.	Stunting	Children stunted (below -2 standard deviation of height for age according to the WHO standard) (%)
14.	Wasting	Children wasted (below -2 standard deviation of weight for height according to the WHO standard) (%)
15.	Overweight	Children overweight (above +2 standard deviation of weight for age according to the WHO standard) (%)
16.	Vitamin A supplementation	Children aged 6-59 months who received vitamin A supplements in the six months preceding the survey (%)
17.	BCG vaccine	Children aged 12-23 months who had received BCG vaccination (%)
18.	DPT3 vaccine	Children aged 12-23 months who had received DPT3 vaccination (%)
19.	Measles vaccine	Children aged 12-23 months who had received measles vaccination (%)
20.	Diarrhoea treatment with oral rehydration salts (ORS)	Children born in the three or five years preceding the survey with diarrhoea in the two weeks preceding the survey who received ORS (%)
21.	Care-seeking for symptoms of pneumonia	Children born in the three or five years preceding the survey with symptoms of pneumonia taken to a health facility (%)

Adolescent health

22.	Early childbearing	Women aged 15-19 years who have begun childbearing (%)

Violence

23.	Violence during pregnancy	Women who experienced violence during pregnancy (%)

In number of antenatal visits, we have focused on at least four visits and excluded at least one, given that pregnant women who only have one, two, or three visits are already on an unequal footing to receive all the recommended interventions. We have included the percentage of births by caesarean section given the practice of surgical births in the region that is well above and beyond the medical needs of women in labour. In neonatal health, we have included perinatal and neonatal mortality, infants weighed at birth and early initiation of breastfeeding, among others. In child health, we have limited the immunizations covered to BCG, DTP3 and measles, and for malnutrition, we have included overweight given its increased prevalence across socioeconomic groups in the region. Finally, we have included adolescent pregnancy and violence during pregnancy.

For the review of research findings, we conducted literature searches in Spanish and English for the years 2000-2015 on Scielo, Google Scholar and Pubmed; Portuguese was also used in some sections. The review included studies that used quantitative and qualitative methodologies that varied in sample sizes; only studies that provided data and/or explanation of mechanisms that create health inequality and inequity were retained. When synthesizing the evidence brought by research studies, we analysed the contexts that create inequitable vulnerability to acquiring and developing a health condition; inequitable access to timely diagnosis and treatment; and inequitable impact of health conditions on other human development dimensions. It is the analysis of those contexts and the tracing of pathways that allow us to gauge whether health gaps along social conditions are unfair, systematic and preventable, in which case we have supportive evidence to argue that the differences are not only health inequalities, but also health inequities.

1. Reproductive health

1.1 Contraception use and access to safe abortion

Fertility has decreased steadily since at least the 1970s in most countries in Latin America and the Caribbean, mostly due to increased access to modern contraception.[42,43] While fertility rates and unwanted pregnancy generally have been declining throughout the region, inequity in access to contraception remains high in some countries.[44,45] Despite the decrease in unmet need for contraception (for spacing births and for limiting the number of children) that the availability of contraceptive methods has generated, differences exist between social groups.

Just as the poorest and least educated women have a greater unmet need for contraception, they also experience higher levels of contraception discontinuation. In Colombia, a 2009 study found that discontinuation of contraceptives was associated with lower socioeconomic position and level of education; the study also found that users of traditional contraceptive methods were less likely to practice the method regularly.[46] Another study focusing on Guatemala, Bolivia, Nicaragua, Colombia, Brazil, Dominican Republic and Peru found that women with lower education were more likely

Box 1. Gaps in unmet need for contraception (Figure 1)

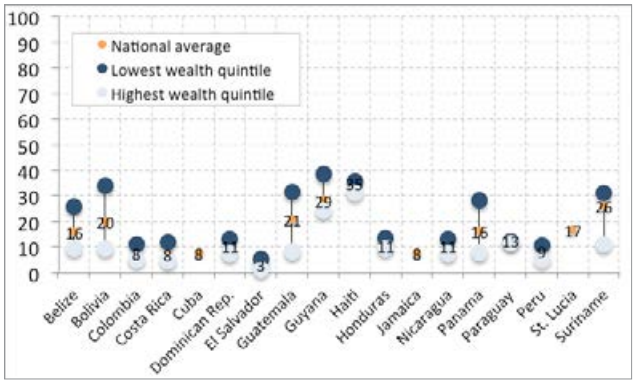
- The prevalence of unmet need for contraception is higher among the least educated and the poorest women.

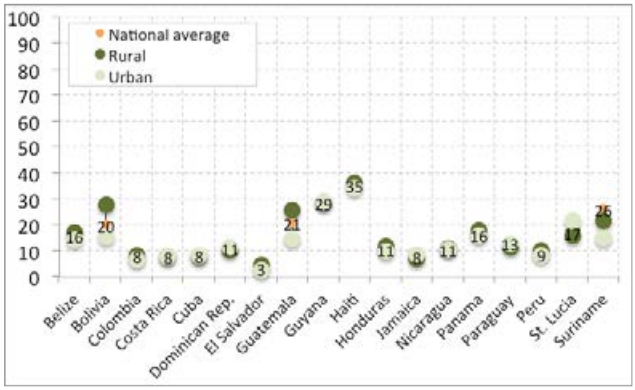
Wealth:
- Trinidad and Tobago, Haiti, Guyana, and Suriname have the greatest national average for unmet need for contraception.
- The gaps between the poorest and the wealthiest are more than two times greater in Belize, Bolivia, Colombia, Costa Rica, El Salvador, Guatemala, Panama, Peru and Suriname.

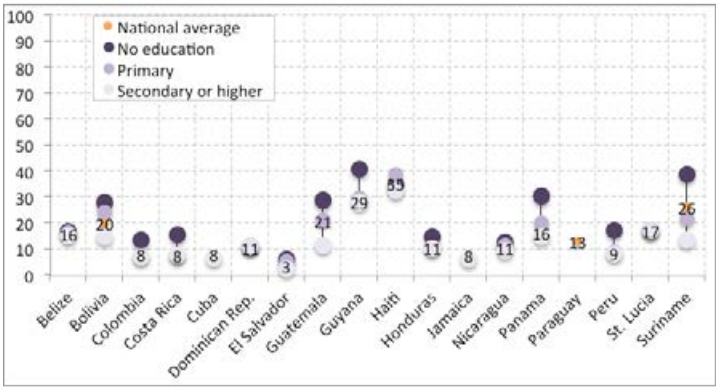
Place of residence:
- In most countries, differences between women who live in rural and urban areas are small. The greatest gaps are 12 percentage points in Bolivia and 11 in Guatemala.

Education:
- In Costa Rica, El Salvador, Guatemala, Panama, Peru and Suriname, women with no education have an unmet need for contraception at least twice as large as women with secondary or higher education.

Figure 1. Gaps in the percentage of women aged 15-49 years with an unmet need for contraception (for spacing and limiting) in Latin America and the Caribbean by wealth, place of residence and educational attainment, household surveys 2007-2014







Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

to discontinue contraceptive methods and switch from oral contraceptives to less effective methods.[47]

Similarly, emergency contraception is not universally legal or accessible throughout the region. Chile, Colombia and Ecuador have policies that completely legalize its use and promote access,[43,45] whereas other countries either completely ban emergency contraception or have laws limiting its distribution and promotion.[43,45,48,49] For example, Honduras expressly forbids the sale and distribution of emergency contraception.[45] Although countries such as Argentina, Brazil, Panama and Peru have not incorporated emergency contraception as part of public contraception services,[43,45,48] it is available in private clinics, which can be prohibitively expensive for women who are poor or living in rural areas,[43,45,49] creating inequitable access. In countries that require adolescents to have parental consent prior to obtaining the medicine, it is less likely to be used by adolescents.[43,50] There is also evidence of medical providers and pharmacists lacking knowledge on how to use emergency contraception and holding personal biases against its use, contributing to its limitation.[51-53]

In numerous countries in the region, abortion services are illegal or are legal only in special circumstances, such as foetal malformation or when the pregnancy results from sexual violence.[54-56] Seven of the region's countries do not permit abortion under any circumstances.[57] Recently, more countries have enacted policies enabling access to abortion to protect the health of the pregnant woman.[54,58-60] Currently, Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Panama, Paraguay, Peru, Uruguay and Venezuela legally guarantee this 'health exception' for women to obtain abortions.[58,60] Cuba, Guyana and Puerto Rico have no legal restrictions on access to abortion.[57]

Studies have associated unsafe abortions with women living in poverty[61,62] and with lower education levels,[62] high fertility rates,[57,63] younger age at first intercourse,[57] adolescent pregnancy,[62,64] rural areas of residence,[57,61] sexual violence[65] and cultural and language barriers in healthcare facilities.[57,66] Particularly where abortion is illegal, women from poor and vulnerable populations have less access to safe medical abortion services than wealthier women[66,67] who can more easily pay for safe medical abortions through private or clandestine clinics, as in Brazil and Peru.[59,68,69] As a result, unsafe abortion is concentrated among women with low socioeconomic position and lower levels of education and among minority ethnicities and women in rural locations.[57,62,66,70,71] For poor women, barriers to medical abortion include: legal restrictions on the service;[57] lack of expertise and compassion among medical providers;[53,54,72] geographic location of pharmacies or clinics;[57,71] and the expense of the services.[69,73,74]

In countries with restricted access to abortion services, misoprostol is used to induce abortions with or without supervision.[73,75] Available at standard pharmacies as a treatment for high blood pressure and ulcers, misoprostol is used for abortion purposes. However, without ensuring the correct dosage and timely care in the case of complications, as it is often the case among women with geographic, cultural, language or financial barriers, its use can be life-threatening.[57,74,75]

The proportion of maternal deaths resulting from unsafe abortions in Latin America and the Caribbean is higher than in other regions of the world.[76] While statistics on morbidity and mortality from unsafe abortion can be difficult to assess, one study estimated that in the region, over 1,000 women die and over 500,000 women are hospitalized each year as the result of abortion.[77] As one example, an estimated 350,000 women seek unsafe abortions in Peru each year.[59] Similarly, one 2008 study that examined circumstances of abortion-related deaths in Paraná, Brazil found that 88 per cent of the deaths that were examined could have been avoided with quality medical attention.[63] Treating complications of unsafe abortions is costly to public health systems and abortion-related mortality can inflict both social and economic consequences on the deceased women's families and households.

Summary

Inequalities in wealth, education level and ethnicity affect women's abilities to access modern contraceptive methods, emergency contraception and safe abortion, which in turn create differential health outcomes among socioeconomic groups—with vulnerable women largely bearing the brunt of unwanted and mistimed pregnancies, as well as abortion-related complications and fatalities as a result of unsafe abortions. Consequently, existing gaps in access to effective contraception and safe abortion care are highly inequitable.

1.2 Social drivers of sexually transmitted infections

Through the past decade, various reports and studies have observed a feminization of HIV in Latin America and the Caribbean,[78-84] mostly due to heterosexual transmission.[79,80,85-89] The feminization of HIV has been largely attributed to the neglect of women as a vulnerable population by HIV programmes and policies, as well as to the biological susceptibility of women to HIV and widespread gender roles that increase women's vulnerability to acquiring HIV infection.[80,85,86,90,91] Studies have documented that women have less autonomy than men in negotiating condom use, and increasing numbers of women are infected with HIV by their male partners.[79,85,86,89,92] Some of the men with whom women engage sexually are men who have sex with both men and women,[93,94] a practice that contributes to the transmission of HIV to female partners.[88,89] The gender norms and social vulnerability that detract from women's autonomy in negotiating condom use also may make women more at risk for chlamydia, syphilis, human papillomavirus (HPV) and other STIs.[85,95,96]

Indigenous populations are particularly vulnerable to HIV and other STIs such as syphilis. Many indigenous groups have cultural norms that promote early sexual initiation, large age differences between husbands and wives and gender norms that hinder women from having autonomy in their sexual relations.[93,97] Additionally, throughout the region, indigenous persons often lack access to educational, economic and social opportunities and are subjected to widespread discrimination and exclusion.[93,98] Especially among indigenous populations inhabiting rural or remote areas, women do not enjoy complete access to convenient, affordable or culturally appropriate reproductive health services and education.[82,98] The prevalence of HIV and other STIs may be disproportionately high among indigenous populations due to the same reasons: infrequent condom use; lack of awareness about reproductive health and STIs; cultural norms; and broader themes of social and economic vulnerability.[81,93,97-100]

Many studies have noted that sexual violence contributes to the incidence of HIV and other STIs among women.[78-80,90,101,102] One 2014 study in Guatemala found that men who perpetrate intimate partner violence were more likely to engage in partner infidelity and sex worker patronage, which in turn increase their risk of transmitting HIV to their primary female partners.[102] Also, women who have experienced sexual abuse as children may be more likely to engage in activities that increase the probability of acquiring HIV,[78] such as early initiation of sexual activity and having multiple partners. Increasingly, literature has demonstrated that migrant labour has contributed to the transmission of HIV among women.[81,89,98,103] In various parts of Latin America, it is common for men of low socioeconomic backgrounds to obtain seasonal work in urban centres or other countries; if they engage in sexual relations with men or women during their seasonal employment, they may transmit HIV to their partners when they return to their place of residence. Evidence of this phenomenon has been documented in Mexico, Guatemala, Venezuela and Panama.[81,103,104] Migrant workers who engage in sex work may also increase their own and their partners' risk of acquiring HIV.[105] All of these factors are more likely to affect women with low levels of education and from poorer socioeconomic backgrounds, which highlights the presence of both gender and social inequities in the risk for acquiring HIV and other STIs.[79,90,96]

Although female and male sex workers have been one of the populations most affected by HIV in Latin America and the Caribbean,[79,88,105,106] recent reports have documented that the prevalence of HIV among female sex workers may be decreasing in numerous countries throughout the region.[94,99,106] Drug users, who are often marginalized and stigmatized in their societies and lack access to health and education services, have long been recognized as a vulnerable population for HIV.[107] The highest prevalence of HIV among injecting drug users (IDUs) is concentrated in the southern cone of South America and in Mexico.[94] IDUs are at increased risk of acquiring HIV due to the sharing of needles and a low prevalence of condom use.[100,107]

Summary

Gender inequality contributes to increasing the vulnerability of women to acquire HIV and other STIs; indigenous women and those who live in poverty are particularly vulnerable given the superposition of gender inequality, socioeconomic exclusion, discrimination and limited access to health services specifically catered to their needs. This suggests that policies that increase social equity and access to health services may serve to mitigate the transmission of HIV and STIs in the region.

1.3 Cancer prevention and treatment

Pap tests and the prevention of cervical cancer

Each year, there are about 68,800 new cases of cervical cancer in Latin America and the Caribbean, with 28,600 deaths annually,[108] although some estimations raise that number by another 12,200 cases.[109] HPV infection is the main cause of cervical cancer.[110] In the region, acquiring HPV has been associated with early age of sexual initiation,[111,112] and a high number of sexual partners,[111,112] among other factors.[112,113] In Belize, El Salvador, Ecuador, Nicaragua, Paraguay and Peru, cervical cancer is the leading cause of cancer-related mortality among women.[109]

Cervical cancer incidence and mortality reflect social inequalities and disproportionately affect indigenous and Afro-descendant women and those who live in poverty, have low levels of education and reside in rural areas.[110,112,114-120] Studies conducted in Argentina and Mexico found that lack of health insurance was correlated with mortality from cervical cancer[121] and that women with higher education levels and higher socioeconomic position were more likely to seek Pap screening services for cervical cancer than their lower-income peers,[122] suggesting the need to address barriers to screening and treatment services for disadvantaged women.

Several Latin American countries have made progress in expanding Pap screening services, providing treatment and introducing HPV vaccines.[109,110,123] A 2014 study in São Paulo, Brazil found complete equity among access to Pap testing among study participants from different socio-demographic groups, which is encouraging.[124] However, this literature review identifies numerous barriers causing inequitable access to these services.

Barriers to accessing screening and treatment

Even in countries with free Pap tests and screenings, cost can be a barrier for women from lower socioeconomic groups.[125] In some countries, certain diagnostic techniques require women to visit the health centre multiple times for screenings, which can be prohibitive due to geographic or financial reasons for women living in poverty or rural areas, and can contribute to a high attrition among women seeking screenings or care.[118,126-129] Studies have found that Afro-descendant and indigenous women are less likely to be screened than other women[119,125] and that women living in rural areas may face geographic barriers to screening and curative care, which may be located in more urban, populated areas.[118,126,130] Finally, in certain countries lack of health insurance hinders many women from obtaining care,[125,131] whereas women with health insurance who have consultations more regularly may be more likely to seek screening.[125]

`Women's perceptions of Pap tests and screening processes, as well as cervical cancer, can form barriers to seeking screening services, particularly for women with low levels of education and low socioeconomic position. Various studies have highlighted a lack of knowledge concerning HPV, Pap tests and cervical cancer among poor and less-educated women.[118,122,132,133] The lack of awareness can lead to fear of cancer as a death sentence as well as misperceptions of the symptoms and causes of cervical cancer, both of which can deter women from seeking screenings.[126,129,133] Additionally, in other studies, women have cited anxiety concerning the procedures, fear and shame as barriers to seeking care.[129,133]

Once women decide to seek care, they may then experience barriers to quality care within healthcare facilities. Particularly in rural areas, women report long wait times for consultations and test results,[118] delays in receiving test results,[118,128] inaccuracy of test results or mismanagement of data,[110,118,127,134] shame in exposing private areas of the body to male providers, condescension and uncompassionate behaviour from medical providers,[118,129] and lack of culturally appropriate behaviour from medical providers for women of indigenous ethnicities.[118,126]

Accessibility of HPV vaccines

Given the recent introduction of HPV vaccines throughout Latin America and the Caribbean, this review did not find much data regarding the equity of the vaccine's availability throughout the region. As of 2012, Argentina, Trinidad and Tobago, Mexico, Panama, Guyana, Peru and Suriname had included HPV vaccines as components of their national vaccination programmes.[123] Other countries have begun to introduce the vaccine, but have not yet included them in national public programmes.[123] General challenges for promoting the HPV vaccine will be lowering the currently high prices of the vaccine and increasing its social acceptability in various areas.[123,130] Also, most Latin American countries have little experience with implementing vaccination programmes aimed at adolescents.[123] School-based vaccination programmes may not reach adolescents who are not attending school.[120]

Summary

Women living in poverty and with low levels of education bear the vast majority of the burden of cervical cancer in Latin America. More programmes are needed to suit the specific needs of disadvantaged populations. In addition to improving the financial and geographic accessibility of health services, initiatives should seek to improve general knowledge about the prevention and treatment of cervical cancer, as well as to alter social norms to create supportive environments that motivate women to seek screening.

Breast cancer and access to treatment

Throughout the past decade, breast cancer incidence and mortality have increased in Latin America and the Caribbean and has become the leading cause of cancer-attributed death for women in the region,[109,114] with an estimated 43,200 deaths annually.[108] As a result, most Latin American and Caribbean countries have created programmes or policies for detection, diagnosis and treatment of breast cancer, which largely have been incorporated into existing primary care or women's health services.[135] As of 2012, all countries in the region had incorporated clinical breast exams into national health strategies and many countries were offering free mammograms (Brazil, Colombia, Venezuela, Ecuador, Uruguay, Guyana, Cuba, Costa Rica, Mexico, Nicaragua, Barbados, Jamaica, Saint Lucia and Trinidad and Tobago).[109]

Thus far, breast cancer research in the region has focused largely on enhancing screening services such as mammograms and clinical breast examinations. Early detection and treatment of breast cancer (within the first 12 weeks of onset) dramatically improves a woman's chance of survival. A review of existing literature indicates lingering barriers and vulnerabilities that may still prevent women throughout the region from accessing or seeking early prevention services, such as mammograms and clinical breast examinations.

Access to breast cancer screening

Health insurance coverage is a key factor affecting women's access to breast cancer screening. In studies in Colombia, Mexico and Brazil, women with private insurance were significantly more likely to receive regular mammograms than women with subsidized, public or no insurance.[136-138] Similarly, studies in these countries found that women with private insurance were significantly more likely to present with breast cancer at earlier stages of the disease.[139] A 2007 study in Bogotá, Colombia, for example, found that women without health insurance were 7.8 times more likely to be diagnosed at a later stage of the disease.[140] A year later, a countrywide study in Colombia found that 39 per cent of women with contributory health insurance had accessed early breast cancer screenings, whereas only 18 per cent of the women belonging to the publicly subsidized regime and 15 per cent of uninsured women had accessed screenings.[136] Even in Brazil, where breast cancer screenings are covered by the country's universal health insurance policy, studies in 2012 and 2014 found that women using the public insurance were more likely to present with later stages of breast cancer than were women who had purchased private insurance.[141-143]

The differing levels of access found among women with different health insurance coverage may reflect broader inequalities in wealth, education and social exclusion. Frequently, women from lower socioeconomic position are less likely to receive regular mammograms or clinical breast exams.[144] In the various countries studied, women with subsidized (in Colombia), public (Brazil) or no insurance are more likely to have lower levels of wealth and education and to belong to indigenous or Afro-descendant ethnicity.[136,141]

Independently of health insurance, evidence suggests that education, wealth and minority ethnicity backgrounds are associated with a lower utilization of mammograms and other screenings.[136,145-148] In Argentina, Mexico, Barbados, Chile, Brazil and Uruguay, one investigation found that women with low levels education are less likely to receive screenings, as are women of low socioeconomic position and older women.[149] Other studies have associated illiteracy with decreased access to breast cancer screenings in Colombia.[137]

Furthermore, numerous reports highlight minority ethnicity as a key factor associated with reduced or delayed screenings.[119,144] A 2007 study in Brazil found that Afro-descendance was the primary factor associated with less frequent clinical breast examinations,[144] and a 2011 study in Brazil found that Afro-descendant women presented at later stages of breast cancer.[119] Other studies in Colombia have shown similar phenomena among indigenous and Afro-descendant women.[137,139] In these countries, women of minority ethnicities often live in marginalized and low-income communities that can be subjected to exclusion and discrimination.

The lack of supplies and equipment and shortages of trained personnel are key barriers limiting the effectiveness of breast cancer screening programmes in Brazil and Mexico.[142,150] Studies from these countries as well as from Chile and Mexico have also documented a lack of community education campaigns and noted that women sometimes do not know where to access mammography services, lack knowledge of breast cancer signs and symptoms and have anxiety over screening procedures and results.[150,151] Mammograms can be prohibitively expensive for women in countries where the services are not provided free of cost.[137,139]

Summary

Education, wealth and minority ethnicity are associated with a lower utilization of mammograms and other screenings. The lack of supplies and equipment and shortages of trained personnel are key barriers limiting the effectiveness of breast cancer screening programmes, creating inequitable access to diagnosis and treatment of breast cancer. Health policies should consider expanding coverage for breast cancer under public health plans to improve equity in access to diagnosis and treatment.

2. Maternal health

2.1 Antenatal care and skilled birth attendance

Antenatal care

In Latin America and the Caribbean, the coverage for antenatal care (ANC) in 2009-2013 was 97 per cent for at least one visit and 90 per cent for at least four visits, although some countries have a much lower national average of four visits, such as Ecuador with 58 per cent and Haiti and Suriname with 67 per cent.[152] WHO recommends a minimum of four ANC visits: "antenatal care can help women prepare for delivery and understand warning signs during pregnancy and childbirth. It can be a source for micronutrient supplementation, treatment of hypertension to prevent eclampsia, immunization against tetanus, HIV testing and medications to prevent mother-to-child transmission of HIV in cases of HIV-positive pregnant women. In areas where malaria is endemic, health personnel can also provide pregnant women with medications and insecticide-treated mosquito nets to help prevent this debilitating, sometimes deadly disease".[153]

Throughout Latin America, pregnant women from the lowest socioeconomic quintiles are less likely to have antenatal care than women from the wealthiest quintile. [41,154-161] Studies have

Box 2. Gaps in having at least four antenatal visits (Figure 2)

- More than half of all women in 21 Latin American and Caribbean countries have at least four antenatal visits regardless of wealth, place of residence or education level, but disaggregated data show that large inequalities exist.
- The lowest coverage of four or more antenatal visits is found in women with no education in Panama (41 per cent), Haiti (50 per cent) and Suriname (52 per cent) and among Haitian women from the poorest quintile (51 per cent).

Wealth:

- In Haiti and Nicaragua, there is a gap of more than 30 percentage points between the poorest and wealthiest women having at least four antenatal visits.
- In Bolivia and Panama, the gaps are between 20 and 23 percentage points.

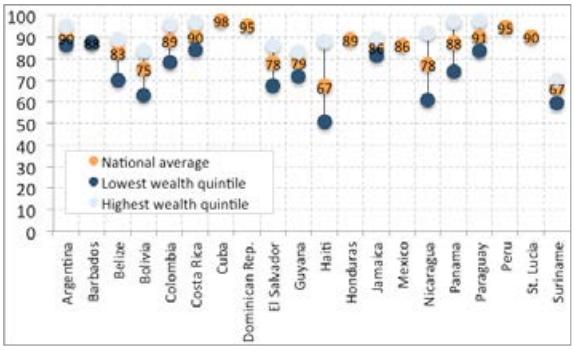
Place of residence:

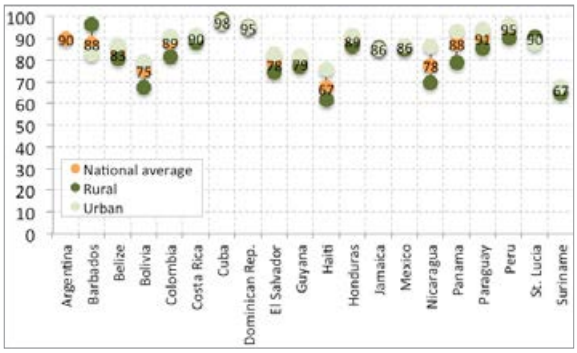
- Women in rural areas have fewer antenatal visits, particularly in Bolivia, Haiti, Nicaragua and Suriname, where between 62 and 70 per cent of rural women have at least four antenatal visits.
- Fewer Haitian women from rural areas have at least four antenatal visits (62 per cent).

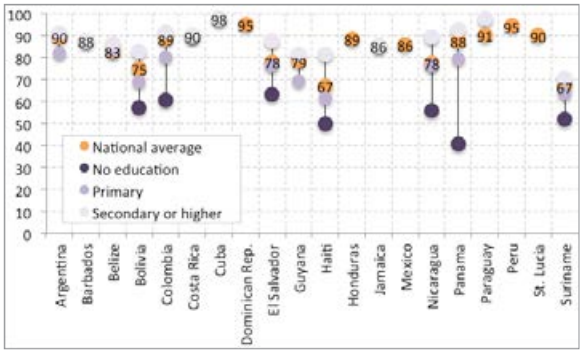
Education:

- In Colombia, Haiti, Nicaragua and Panama, women with no education fall behind those with secondary or higher education by more than 30 percentage points in having at least four antenatal visits.

Figure 2. Gaps in the percentage of women aged 15–49 years with a live birth in the last 2-5 years with at least four antenatal visits by any provider in Latin American and Caribbean countries, by wealth, place of residence and educational attainment, household surveys 2007-2014







Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

shown that the number of antenatal care visits may increase proportionally with household wealth [154,156,159] and that poor women may initiate antenatal care later in their pregnancies.[158,161] An analysis of Latin American and Caribbean household surveys from 2001 to 2012 found that antenatal care, along with contraceptive needs satisfied and skilled birth attendance, are health care interventions that present wider gaps by income group than interventions targeted to children.[41] Furthermore, pregnant women from low socioeconomic backgrounds may receive a lower quality of antenatal care.[158,159,161] Research from Brazil has shown that women from the lowest wealth quintiles were less likely than their wealthier counterparts to receive the recommended ANC procedures, such as immunizations and pelvic or breast examinations.[159,161] A 2009 study in Rio Grande, Brazil showed that although 96 per cent of pregnant women attended ANC consultations, only 27 per cent of those services provided clinically adequate examinations, procedures and counselling.[159] While numerous studies have demonstrated that comprehensive antenatal care can help to ensure optimal maternal and perinatal health outcomes,[162,163] vulnerable populations of women with the greatest need for health attention may have inequitable access to high-quality, comprehensive ANC services.

For women from low socioeconomic groups, the principal barriers to accessing clinically adequate care may include the insufficient coverage of health insurance and the lower quality of care provided through public services. For example, in some countries such as Colombia, the additional costs associated with obtaining antenatal care, such as medicines and transportation fees, can be prohibitively expensive.[155,164] Additionally, the process of enrolling in publicly subsidized health insurance in Colombia can delay the start of ANC visits; a study in Manizales and Cali found that women who were not enrolled in public health insurance at the beginning of pregnancy were 3.9 times more likely to delay seeking antenatal care.[155] Even when women are enrolled in the subsidized regime, they may continue to face barriers to quality antenatal care: a study conducted with 2005 household survey data from Colombia found that pregnant women insured through the country's subsidized health insurance received HIV tests less frequently than did both women in the contributory regime and women without insurance.[165] Other evidence from Colombia,[160] Mexico,[157] Guatemala[166] and Brazil[158,167] demonstrates that pregnant women with private or contributory insurance receive more antenatal consultations and higher-quality services than do women with subsidized, public or no insurance.

Women's place of residence can also impede the frequency with which they can attend ANC visits. As displayed in Figure 2, pregnant women living in rural areas attend antenatal consultations less frequently than do their counterparts in urban areas. Various factors contribute to this inequality. Primarily, in most countries health services are concentrated in urban areas, as in Peru, Haiti and Colombia.[160,168-170] As a consequence, pregnant women living in remote areas must travel potentially long distances for consultations, and the increased cost and time associated with this travelling can be prohibitive for women with few financial resources. For example, a study in the coastal area of Colombia revealed that women needed to pay up to one third or one half of their family's monthly income to travel to areas with better maternal health care; as a result, this area's percentage of ANC utilization was 20 per cent lower than the national average.[160] The state of a country's roads and transportation infrastructure can further exacerbate this issue. Two studies in Haiti and Peru discovered that pregnant women cited poor road conditions, particularly during the rainy season, as a chief deterrent to seeking care.[168,170] Finally, in the absence of well-equipped health centres, remote and rural areas may rely on health posts or community outreach teams to offer antenatal care.[160,168,170] Health posts can lack necessary medical equipment and supplies, as well as trained personnel.[170]

Inequality in receiving antenatal care also exists between women of different education levels. Throughout the region, the frequency with which pregnant women attend ANC visits increases with levels of maternal education.[154-156,158,160,164,167,169,171] Figure 2 illustrates these inequities in various countries, which imply that women with less education may have less access to antenatal care services and/or that they are less likely to seek services. Additionally, evidence from Brazil suggests that higher education levels may be linked with seeking antenatal care at earlier stages of pregnancy.[158] Given the connection between level of education and seeking antenatal care, efforts to ensure universal access to education may help to improve overall coverage and mitigate inequalities.[155,156,171] For example, a 2014 study in Niteroi, Brazil attributed the city's higher ANC attendance in part to improvements in education systems.[171] Similarly, an analysis of the 2010 DHS from Colombia found that the average level of education within communities may affect women's likelihood of completing at least four ANC visits.[156] Finally, one 2005 report from Haiti showed that a woman's partner's level of education may contribute to her ANC attendance.[169]

Although the region lacks disaggregated data on this topic, various studies suggest that pregnant women from minority ethnicities, such as Afro-descendants or indigenous women, may also have unequal access to antenatal care.[16,158,163,166,167,171-173] In Brazil, various studies have noted not only that women of European descent obtain more frequent ANC visits than do predominantly Afro-descendant or mixed ethnicity women, but also that Afro-descendant women are less likely to receive the recommended ANC procedures and examinations.[158,163,171,172] For example, a 2007 investigation from São Paulo found that while 97 per cent of women of predominantly European descent obtained adequate antenatal care, only 86 per cent of Afro-Brazilian women fulfilled the recommended number of visits.[172] Both this study and a 2013 report noted that Afro-descendant women received a lower quality of care and were less likely to receive the recommended antenatal tests.[158,172] A 2014 study in Niteroi noted that 69 per cent of Afro-descendant women received adequate antenatal care as opposed to 91 per cent of women of predominantly European descent.[171] Similar findings have been documented for indigenous women in Guatemala, especially those who do not speak Spanish.[166,173] Figure 3 shows the different access to at least four antenatal visits by language spoken at home in Paraguay. The barriers that obstruct indigenous and Afro-descendant women from obtaining antenatal care are likely connected to broader trends of discrimination and vulnerability that affect these populations.

Summary

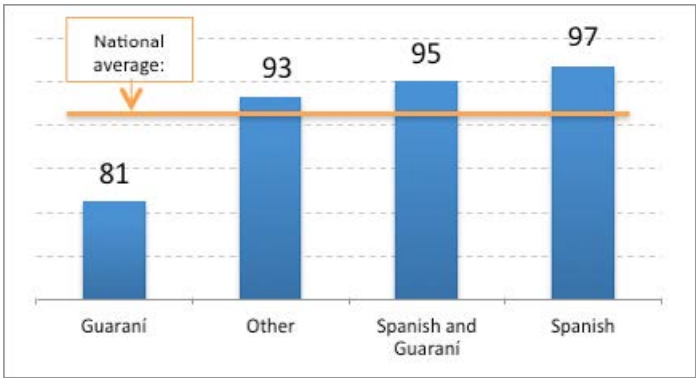
Throughout Latin America, pregnant women from the lowest socioeconomic quintiles, rural areas, lower educational levels and ethnic minority groups are less likely to have antenatal care than other women. Studies show that lack of health insurance, distance, road infrastructures and associated costs such as transportation are barriers to antenatal care. Even when women do receive antenatal care, studies show that disadvantaged women are less likely to receive the recommended procedures and tests. Higher education levels have been associated with seeking ANC at earlier stages of pregnancy.

Skilled birth attendance

One of the ways through which antenatal care improves maternal and perinatal health outcomes is by promoting the use of skilled attendants and medical institutions for childbirth.[161,170,175] Skilled birth attendance has long been associated with improved maternal and neonatal health outcomes; as most maternal deaths arise from obstetric complications, the presence of skilled birth attendants and institutional services provides a safer environment for the management of emergencies.[176-179] Not only can antenatal care increase women's confidence in maternal health care services, it can educate them as to when to seek medical attention for emergencies.[154,178,180] Globally, women who receive at least four antenatal care visits are 7.3 times more likely to deliver in a health facility.[154]

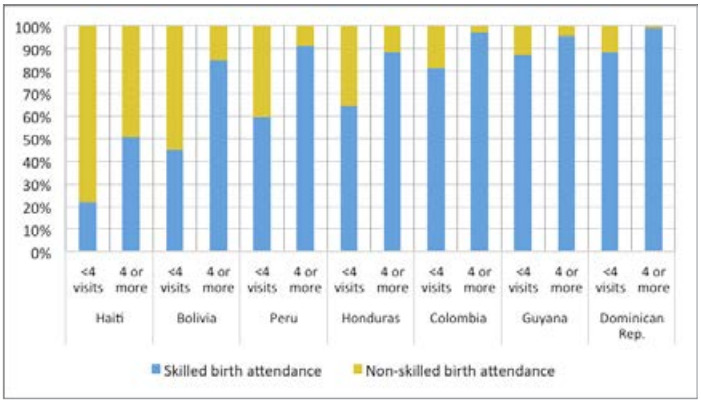
Figure 4 displays the connection between antenatal care and skilled birth attendance in Latin America and the Caribbean. Throughout the region, women who obtain a minimum of four ANC visits have a significantly higher likelihood of delivering with a skilled birth attendant, such as in countries like Honduras and the Dominican Republic. Women who receive fewer than four ANC visits often have the poorest access to skilled birth attendance and institutional delivery services.

Figure 3. Gaps in the percentage of women aged 15–49 years with a live birth in the last two years with at least four antenatal visits by any provider, by language spoken, Paraguay 2008



Source: Reproductive Health Survey from Paraguay, 2008.[174]

Figure 4. Percentage of women aged 15–49 years with a live birth in the last two years by type of birth attendance among those attended at least four times during pregnancy in Bolivia, Colombia, Dominican Republic, Guyana, Haiti, Honduras and Peru, 2008-2013 household surveys



Source: Demographic and Health Surveys from Honduras 2012, Haiti 2012, Dominican Republic 2013, Peru 2012, Bolivia 2008, Colombia 2010 and Guyana 2009.[1]

Chief barriers to obtaining skilled birth attendance include the poor distribution of medical personnel in rural and low-income areas,[170,176,177] long and logistically difficult travel distances to health facilities,[160,170,177-182] the costs associated with seeking care[160,178,181,182] and the perceived low quality or poor treatment available at health centres.[166,178,182] Either by delaying the decision to seek care or by prolonging the time required to reach a health facility, these factors compel many rural and low-income women

Box 3. Gaps in skilled birth attendance (Figure 5)

- Gaps in skilled birth attendance exist for women from different wealth, geographic and education demographics. These gaps are most apparent in Haiti.
- The least coverage of skilled birth attendance is for Haitian women of the poorest quintile (10 per cent) and with no education (14 per cent).

Wealth:

- Inequalities in coverage of skilled birth attendance are particularly marked by wealth. The gap between the poorest and the wealthiest is 75 percentage points in Guatemala, 69 in Haiti, 42 in Bolivia and 41 in Honduras.
- In Peru, despite having 90 per cent of skilled birth attendance, women from the poorest wealth quintile lag behind the wealthiest by 32 percentage points.

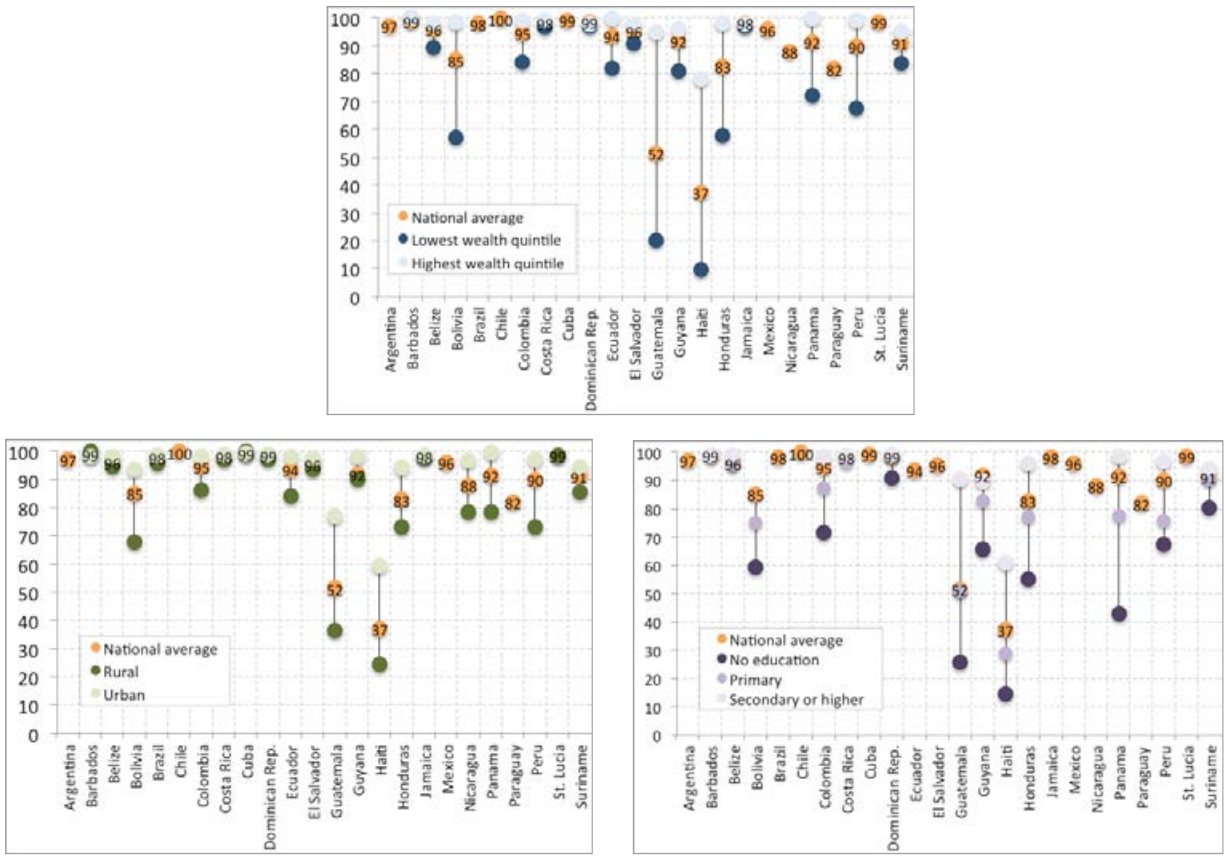
Place of residence:

- The greatest gaps between rural and urban women are in Guatemala (41 percentage points), Haiti (35) and Bolivia (26).

Education:

- Large gaps exist in coverage of skilled birth attendance by level of education, particularly in Guatemala (65 percentage points), Panama (56), Haiti (47) and Honduras (41).

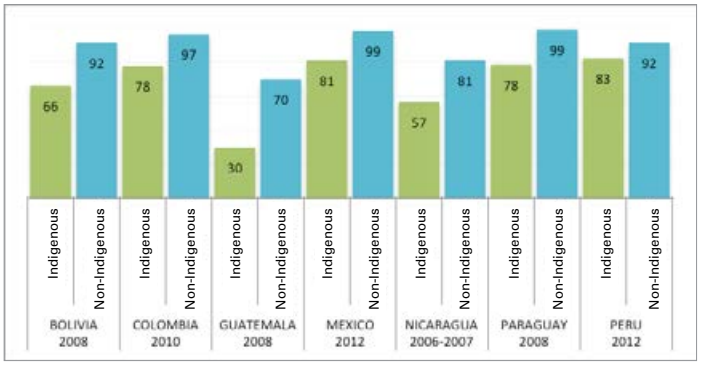
Figure 5. Gaps in the percentage of live births in the last 2-5 years attended by skilled birth attendants in Latin American and Caribbean countries, by wealth, place of residence and educational attainment, household surveys 2007-2014



Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys (2008-2014).

to deliver at home or in their communities with a local midwife or family member.[160,170,177,179,182] For example, in the Pacific coast region of Colombia, a low-income and geographically remote area, traditional birth attendants attended 38 per cent of births in 2010, a figure significantly higher than the national average of 6 per cent.[183] In urban areas of the Peruvian Amazon, about 83 per cent of births occurred in medical institutions in 2009, compared to only 43 per cent in rural areas of the region.[177] Finally, a 2009 study in the Yapacaní region of Bolivia found that 67 per cent of study participants expressed preference for delivering in a medical facility, a statistic that contrasts greatly with the area's skilled birth attendance prevalence of 37 per cent.[182] Participants who were not able to deliver with skilled birth attendance cited costs, long distances to health centres, fear of mistreatment and perceived low quality of services as the main deterrents to seeking care.[182] The barriers to skilled birth attendance faced by the aforementioned populations may be particularly poignant for indigenous women, many of whom live in low-income and rural environments. As Figures 6, 7 and 8 show, indigenous women in various Latin American countries are less likely to deliver in medical facilities, even after receiving antenatal care.[166,173,177-179,184]

Figure 6. Percentage of Indigenous and non-Indigenous women with skilled birth attendance in Bolivia, Colombia, Ecuador, Guatemala, Mexico, Nicaragua, Paraguay and Peru, 2004–2012



Source: *Castro A, Savage V, Kaufman H. Assessing Equitable Care for Indigenous and Afrodescendant Women in Latin America. Pan Am J Public Health, 2015 16, based on ECLAC. Guaranteeing Indigenous People's Rights in Latin America. Santiago, Chile: Economic Commission for Latin America and the Caribbean, 2014.*[185]

As illustrated in Figure 8, skilled birth attendance prevalence for indigenous women in Mexico and Peru have increased significantly throughout the past decade, although ethnic inequalities remain in those countries. Indigenous women may face barriers to care at several points. First, various studies have found that perceptions of the quality of care may prevent indigenous women from seeking care.[166,173,178,184] Women may fear embarrassment or shame in exposing their bodies to strangers,[173,179] mistreatment or discrimination from medical personnel,[178,179,184] doctors' rejection of traditional birthing practices[184] or procedures such as unnecessary caesareans or episiotomies.[181,184] Additionally, language barriers

in health facilities may be a deterrent for women who speak only indigenous languages.[166,177,179] Finally, indigenous women often suffer delays in reaching health services due to distance and costs associated with seeking delivery care at a health facility.[178,184] As with antenatal care, all of these barriers to skilled birth attendance reflect social and economic inequalities that affect the maternal health of indigenous women.[16]

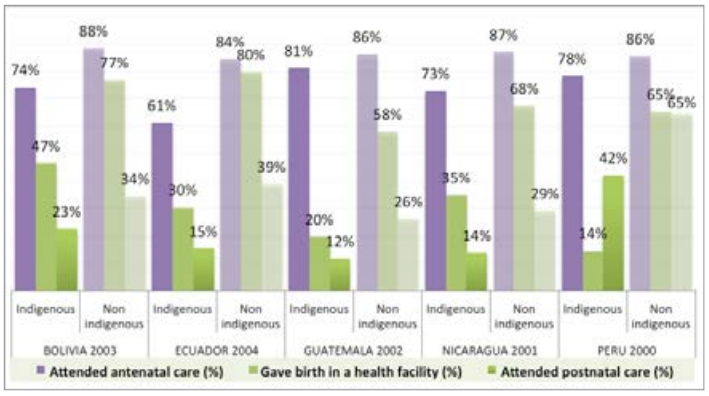
Overall, medical attention during pregnancy and delivery is crucial for the health of pregnant women and their infants,[188] yet women from poor or minority demographics face numerous barriers to accessing this care. In this way, low prevalence of antenatal care and skilled birth attendance are a reflection of the social inequities that inhibit women's inclinations and abilities to obtain maternal health care. While numerous Latin American and Caribbean countries have made progress in improving maternal health care, more effort is needed to reduce social marginalization and inequities in order to ensure equitable access to quality care. Not only should initiatives target the uptake and maintenance of antenatal care, but efforts should also seek to facilitate the connections between antenatal and delivery services.

This review raises two questions that require further investigation. First, for women who pursue more than one but fewer than four antenatal visits, what are the barriers that prevent them from achieving the recommended consultations? One investigation in Brazil noted that women scheduled their next antenatal consultation at the end of their antenatal appointment, and so missing one visit can hinder women's ability to schedule another.[158] Other studies have suggested that women might supplement infrequent clinical antenatal care visits with consultations with local midwives or attendants.[166,173] These issues merit further investigation, as they may reflect inequities in access to maternal health services. As Figure 7 shows, large differences have been found between antenatal care attendance and institutional deliveries for indigenous women. While the statistics from this figure are likely to have changed since the time of that data collection, the inequalities give rise to the second question: why do some indigenous women receive antenatal care and then deliver without skilled attendance? This gap indicates an equity issue with the continuity of pregnancy and delivery care and with the quality of care available to indigenous women and requires more in-depth study.

Summary

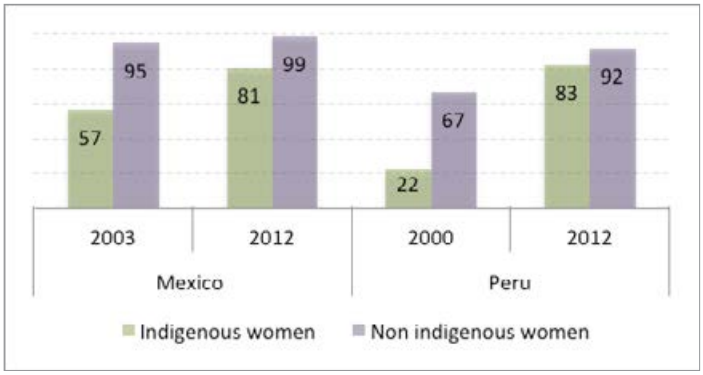
Inequalities in access to skilled birth attendance are particularly marked by wealth, place of residence, education and ethnic group. The main barriers to obtaining skilled birth attendance include the poor distribution of medical personnel in rural and low-income areas, long and logistically difficult travel distances to health facilities, the associated costs of seeking care and perceived low quality or poor treatment available at health centres. Indigenous women in various Latin American countries are less likely to deliver with skilled birth attendance. Throughout Latin America and the Caribbean, women who have a minimum of four ANC visits have a significantly higher likelihood of delivering with a skilled birth attendant.

Figure 7. Percentage of indigenous and non-Indigenous pregnant women in Bolivia, Ecuador, Guatemala, Nicaragua and Peru who attended antenatal care, gave birth in a health facility and received follow-up care, 2000–2004



Source: Castro A, Savage V, Kaufman H. Assessing Equitable Care for Indigenous and Afrodescendant Women in Latin America. Pan Am J Public Health, 2015 16, based on Oyarce AM RB, Pedrero M. *Salud materno-infantil de pueblos indígenas y afrodescendientes de América Latina: Aportes para una relectura desde el derecho a la integridad cultural [Maternal and child health of indigenous and Afrodescendant populations in Latin America: contributions for a rereading of the right to cultural integrity].* Santiago, Chile: Economic Commission for Latin America and the Caribbean (ECLAC), 2010.[186]

Figure 8. Percentage of women with skilled birth attendance in Mexico and Peru, by indigenous status, 2000-2012



Source: Analysis based on *The Millennium Development Goals Report 2015.* New York: United Nations, 2015.[187]

The rise of caesarean sections

For medically complicated pregnancies and deliveries, caesarean sections are life-saving surgeries that help to ensure optimal maternal and perinatal health outcomes. A proportion of births by caesarean below 5 per cent may be indicative that not all women who need one will receive an emergency caesarean section.[189] However, according to WHO, "increases in caesarean section rates up to 10-15% at the population level are associated with decreases in maternal, neonatal and infant mortality. Above this level, an increased proportion of caesarean sections is no longer associated with reduced mortality".[190] Throughout Latin America and the Caribbean, caesarean sections have grown rapidly and frequently exceed the recommended range, except in Haiti, where some women and newborns may suffer complications and even die for lack of access to a caesarean section.[191]

Box 4. Gaps in births by caesarean section (Figure 9)

- Despite the exorbitant increase in caesarean sections in the region, women in the poorest quintiles and no education have limited access to this life-saving surgery.
- Haiti is the only country in the region with a proportion of births by caesarean section of less than 10 per cent, with 6 per cent. The lowest proportion of caesarean sections is seen among Haitian women from the four poorest quintiles (between 1 and 8 per cent), rural areas (3 per cent) and having no (1 per cent) or just primary education (4 per cent).

Wealth:

- In addition to Haiti, women from the poorest quintiles in Bolivia, Guatemala, Guyana, Honduras, Nicaragua and Peru have fewer than 10 per cent of births by caesarean section.

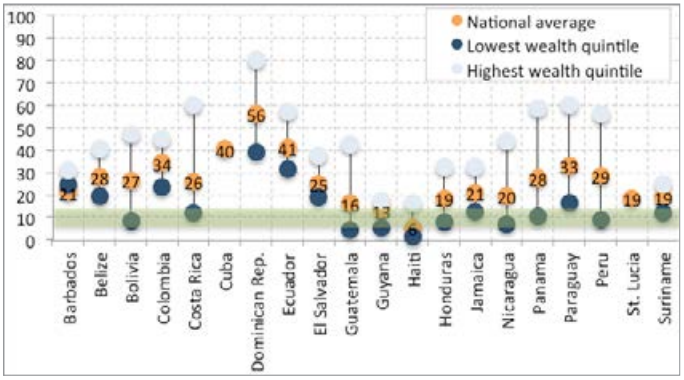
Place of residence:

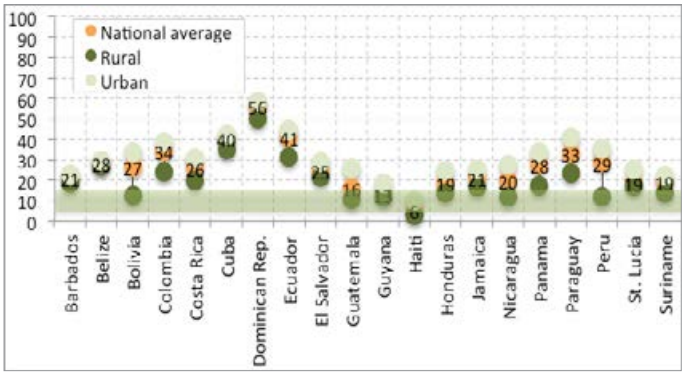
- Haiti is the only country where rural women have fewer than 10 per cent of births by caesarean section.

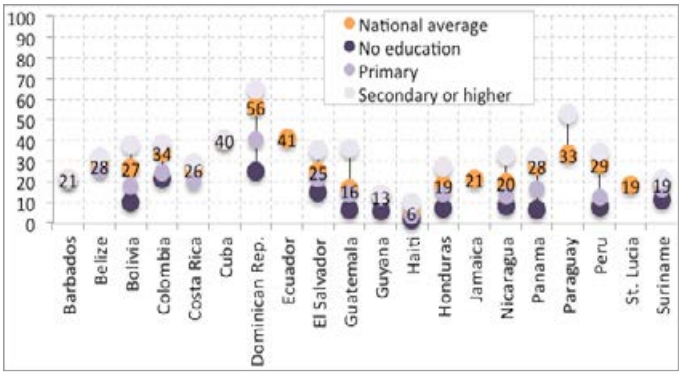
Education:

- In addition to Haiti, women with no education from Guatemala, Guyana, Honduras, Nicaragua, Panama and Peru have fewer than 10 per cent of births via caesarean section.

Figure 9. Gaps in the percentage of live births in the 2-5 years preceding the survey delivered by caesarean section in Latin American and Caribbean countries, by wealth, place of residence and educational attainment, household surveys 2007-2014







Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

Note: the shadowed area represents the 5-15 per cent rate of caesarean sections recommended at a population level.

However, without a medical indication, caesarean sections can actually have negative health implications for both pregnant women and their infants. Numerous studies have linked unnecessary caesarean sections with increased maternal and perinatal morbidity and mortality.[190,192-200] To list a few examples, in 2006, a study attributed 100 of the region's maternal deaths and 40,000 cases of neonatal respiratory morbidity to unnecessary caesarean sections.[193] That same year, another study associated elective caesareans with 21.2 per cent of preterm neonatal deaths from 1996 to 2003 throughout the region.[192] More recently, an investigation in Santa Catarina, Brazil determined that women who gave birth by caesarean section were twice as likely to suffer postpartum complications than women who delivered vaginally.[198] Unnecessary caesarean sections are particularly dangerous for women from low-resource settings, as those women may lack the financial resources or the supportive environment to properly care for post-surgical wounds or to manage any complications that may arise,[190,198] Finally, caesarean sections may be associated with reduced initiation of breastfeeding in Latin America and the Caribbean, particularly among women from lower socioeconomic groups.[200]

A high proportion of birth by caesarean section implies that many of these surgeries are performed without medical need. Supporting this implication, a 2009 study in eight Latin American countries discovered that 45 per cent of all caesarean sections were not medically necessary.[201] In the Dominican Republic, a study of 1,531 women who underwent a caesarean section in a public maternity hospital in 2011 found that the decision to perform a caesarean section was made after the onset of labour in 39 per cent of cases,[202] which suggests that the majority of caesarean sections had a non-emergency indication. A 2006 report from Peru noted that 48.5 per cent of births that occurred in private facilities from 2002 to 2005 were via caesarean section, even though only 17.8 per cent of births had a clinical indication for a caesarean section.[203] Finally, a study in three cities in Brazil found that among 96 women who had expressed a preference for a vaginal delivery but had delivered via caesarean section, almost one third of the surgeries were not medically justified.[204] Evidence suggests that medically unjustified caesarean sections are continuing to increase.[190,205-207]

In addition to the adverse health outcomes from unnecessary caesarean sections, excessive caesareans can pose financial burdens for health systems and healthcare users.[191,194,208] As opposed to vaginal deliveries, caesarean deliveries not only require higher numbers of medical personnel, more advanced levels of training from staff and longer hospital stays for women, but also require a sterile operating environment, surgical equipment and blood for transfusions. Caesarean sections can be costly for recipients, who sometimes must pay out-of-pocket expenses for additional medicines or time in the hospital.[195] Two publications have noted that women from poorer socioeconomic groups and rural areas who have had a caesarean birth may be less able to afford follow-up care or obtain sanitary medical environments.[190,198] In total, the financial cost of unnecessary caesarean sections in Latin American and Caribbean countries has been estimated to be high; in 2010, Brazil was spending $226.8 million per year on unnecessary caesarean sections, Argentina, $32.7 million and the Dominican Republic, $16.1 million.[191] Recently, various countries have enacted policies to discourage the provision of medically unjustified caesarean sections by reducing the reimbursement fees that public healthcare providers receive for performing the procedure.[203,205,209] These policies, however, do not impose sufficient consequences for private system providers.

Even though women from higher socioeconomic positions and urban areas are less likely to experience maternal morbidities that require medical interventions such as caesarean sections, a plethora of studies confirm that excess caesarean sections are concentrated primarily among women from wealthier socioeconomic strata, higher levels of education, dominant ethnic groups and urban areas.[193,195,198,203,205,207,209-214] For example, a 2011 cohort study of over 4,000 women in Pelotas, Brazil found significant associations between caesarean sections and higher wealth quintiles, ethnicity of European descent and higher levels of education.[205] Even within the subgroup of women using public facilities, women with more than five years of education were 59 per cent more likely to have a caesarean section than women with less education.[205] Similar findings resulted from investigations in other areas of Brazil including São Leopoldo,[214] Santa Catarina,[198] Pelotas,[210] São Paulo,[211] Rio Grande do Sul and Minas Gerais.[215] In Colombia, women with secondary education were 31 per cent more likely to receive a caesarean section than were women with less education.[207]

This inequality in access to caesarean sections is further displayed in the differential proportions of births by caesarean between public and private health systems. In most Latin American countries, women with private insurance often are from wealthier socioeconomic backgrounds and may have less risk for maternal morbidities.[211,215-217] However, women from more privileged demographics receive higher numbers of elective, medically unjustified caesarean sections. The most extreme cases of this trend have been documented in Brazil. In 2011, a study found that 80 per cent of women in private facilities delivered via caesarean section, as opposed to 35 per cent of women delivering in public facilities.[205] A 2008 study found a proportion of 72 per cent of caesarean sections at private facilities in Porto Alegre, Belo Horizonte, Natal and São Paulo, whereas in public facilities they represented 31 per cent. Another 2008 study even stated that various Brazilian cities have a level of caesarean sections of up to 90 per cent and that nationally, caesareans were 4.4 times more frequent in private facilities than in public facilities.[213] Less dramatic but nonetheless significant unequal levels have been noted in Argentina, Peru, Ecuador, Cuba, Nicaragua and Paraguay.[194,203] Ironically, while private healthcare facilities in theory offer the best possible quality of care, the unnecessary and excessive caesarean sections offered at these facilities may in fact expose more privileged women to negative health outcomes.

Much dialogue has centred on the underlying causes of the growing numbers and inequities of unnecessary caesarean sections. On the one hand, some evidence suggests that Latin American and Caribbean women may elect to undergo caesarean sections. Primarily for some women, receiving a caesarean section

may represent accessing a higher quality of care that will ensure optimal health outcomes and a rapid recovery.[194,207,208,210,216,218] Additionally, pregnant women may schedule the procedure to avoid the pain of labour and delivery.[199,205,206,209,210,219] The fear of pain may derive from numerous sources, such as women's prior birthing experiences,[219] the lack of adequate information about childbirth[195,199,219] and social norms that depict childbirth as a painful or traumatizing event.[195,206,219] Finally, one publication noted a possible association between unwanted pregnancies and high proportion of births by caesarean section.[206]

Conversely, the frequency of caesarean sections may not necessarily reflect the preferences of women, but instead those of medical personnel.[220] Caesarean sections may be more convenient for providers who are able to schedule multiple procedures at times that are convenient for them, such as during standard business hours.[203,204,209,213,221] Physicians, especially in the private sector, may also encourage caesarean sections if they believe that their patients expect to receive the procedures as private care patients.[204,213] Finally, physicians may receive higher payments for performing caesarean sections than for assisting vaginal births.[204,205,217,218] In the end, the proportion of births by caesarean remains stubbornly high.

The preferences of both women and medical providers are a reflection of the over-medicalization of childbirth. For both women and medical providers throughout the region, there exists an inaccurate association of caesarean sections with a higher quality of care. However, the over-medicalization of childbirth perpetuates regional gender inequalities, in that it compromises women's abilities to realize their reproductive health rights. The reliance on caesarean sections reflects the idea that women are incapable of delivering without medical assistance.[220] Furthermore, with increasing numbers of caesarean sections, childbirth comes to be perceived as a dangerous event, and achieving the best quality of care requires that women submit to a potentially unnecessary invasive surgery. Finally, whether it is for their own convenience, economic gain or professional beliefs, physicians that overly promote caesareans jeopardize women's abilities to make informed decisions about their health care and obstruct women from achieving their delivery preferences. In this way, unnecessary caesareans can even be considered a form of clinical violence, as women receive operations that violate their bodily integrity.[220]

Summary

Despite the exorbitant increase in caesarean sections in the region, in part fueled by ill-placed incentives, women in the poorest quintiles and with no education have limited access to this life-saving surgery. Reducing the high proportion of caesarean sections will require multifaceted initiatives aimed at improving gender equity and humanization of childbirth for women of all demographics throughout Latin America and the Caribbean.

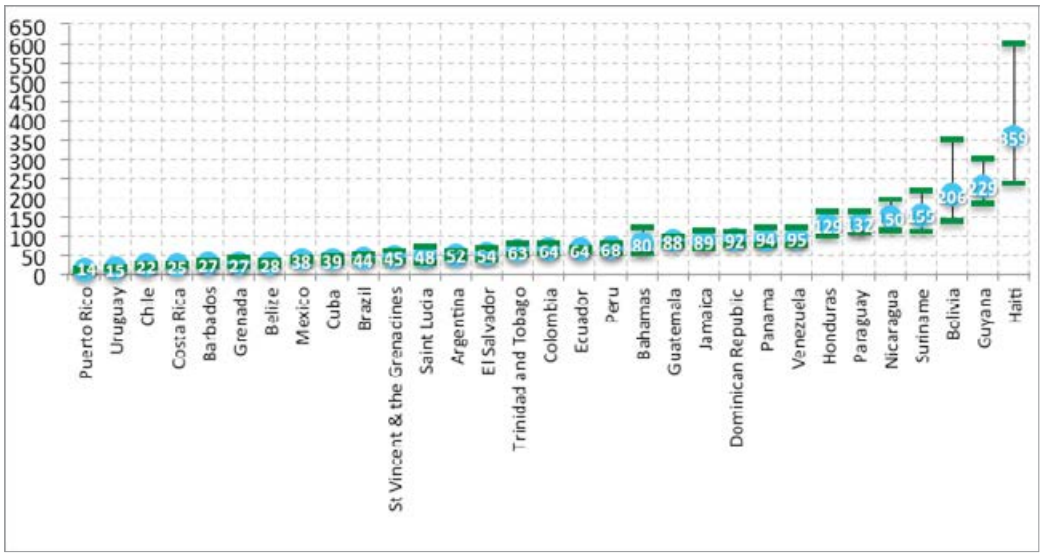
2.2 Maternal mortality and morbidity

Between 1990 and 2015, the maternal mortality ratio (MMR or number of deaths per 100,000 live births) decreased by 52 per cent from 124 to 69 per 100,000 live births in Latin America, as well as by 37 per cent from 276 to 175 per 100,000 live births in the Caribbean,[222] which means that the region failed to reach Millennium Development Goal 5, a 75 per cent reduction of MMR between 1990 and 2015. Much of this relative progress has been attributed to national and regional efforts in expanding access and quality of maternal and reproductive health services, as well as to improvements in sanitation, nutrition, education and other determinants of health.[205,223] Still, an estimated 7,300 women died of maternal causes in Latin America and the Caribbean in 2015.[222]

reports in its vital statistics socio-demographic and medical data for each maternal death.[224] According to those data, the MMR in 2010 was 1.9 times greater in rural than in urban areas and 9.5 times greater among women with no education compared to those with secondary or higher education, as shown in Figure 11.

Smaller-scale research investigations corroborate the presence of these inequalities in other countries throughout the region. Various publications from Mexico,[225] Bolivia,[226] Argentina,[227] Costa Rica,[227] Colombia,[227] Ecuador[228] and Brazil[227,229-232] have associated poverty and low levels of education with a greater likelihood of maternal mortality and

Figure 10. Maternal mortality ratio with upper- and lower-level estimates in Latin American and Caribbean countries, 2015

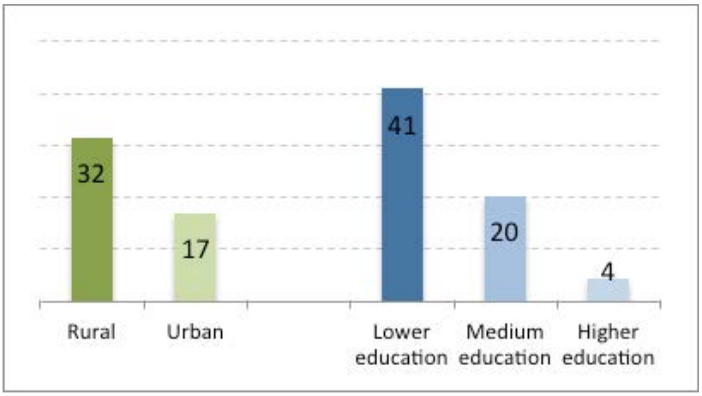


Source: Analysis based on WHO, UNICEF, UNFPA, Bank W. Trends in Maternal Mortality: 1990 to 2015. Estimates by WHO, UNICEF, UNFPA, *The World Bank and the United Nations Population Division.* Geneva: World Health Organization, 2015.[222]

Regional statistics mask inequalities in maternal health outcomes that exist both between and within Latin American and Caribbean countries. For example, within the Caribbean, the MMR varies from 27 per 100,000 live births in Barbados [uncertainty range 19-37] and Grenada [19-42], to 39 [33-47] in Cuba, 92 [77-111] in the Dominican Republic and 359 [236-601] in Haiti,[222] with the high MMR in Haiti skewing the Caribbean average upward. Similarly, in Central America, the MMR ranges from 25 [20-29] in Costa Rica to 150 [115-196] in Nicaragua. In South America, Uruguay [15, range 11-19] and Chile [22, 18-26] have MMRs under 25, whereas the MMR exceeds 200 in Bolivia [206, 140-351] and Guyana [229, 184-301].[222] These statistics are illustrated in Figure 10.

Inequities in maternal health outcomes exist between women of different socioeconomic backgrounds, ethnicities and age groups. To our knowledge, Chile is the only country in Latin America and the Caribbean that routinely collects and

Figure 11. Maternal mortality ratio in Chile by place of residence and education, 2010



Source: DEIS. Defunciones y Mortalidad en el embarazo, parto o puerperio, según grupo de causas. Chile, 2000 a 2012. Santiago, Chile: Departamento de Estadísticas e Información en Salud, Ministerio de Salud, 2015.[224]

morbidity. Other studies have documented higher maternal morbidity and mortality ratios among women of indigenous and Afro-descendant backgrounds.[173,184,230,233] For example, a 2010 report noted that Afro-Brazilian women in the Paraná state of Brazil had triple the risk of maternal death of women of European descent,[233] and some estimates indicate that indigenous women in Guatemala may have a MMR three times greater than their non-indigenous counterparts.[173] Finally, adolescents and women over 40 years of age have consistently emerged as vulnerable age groups for maternal mortality[225,229-231,234,235] and evidence suggests that women who have had previous pregnancies may have increased risk for adverse health outcomes.[225,227] Both of these trends may highlight gaps in access to contraception services.[235]

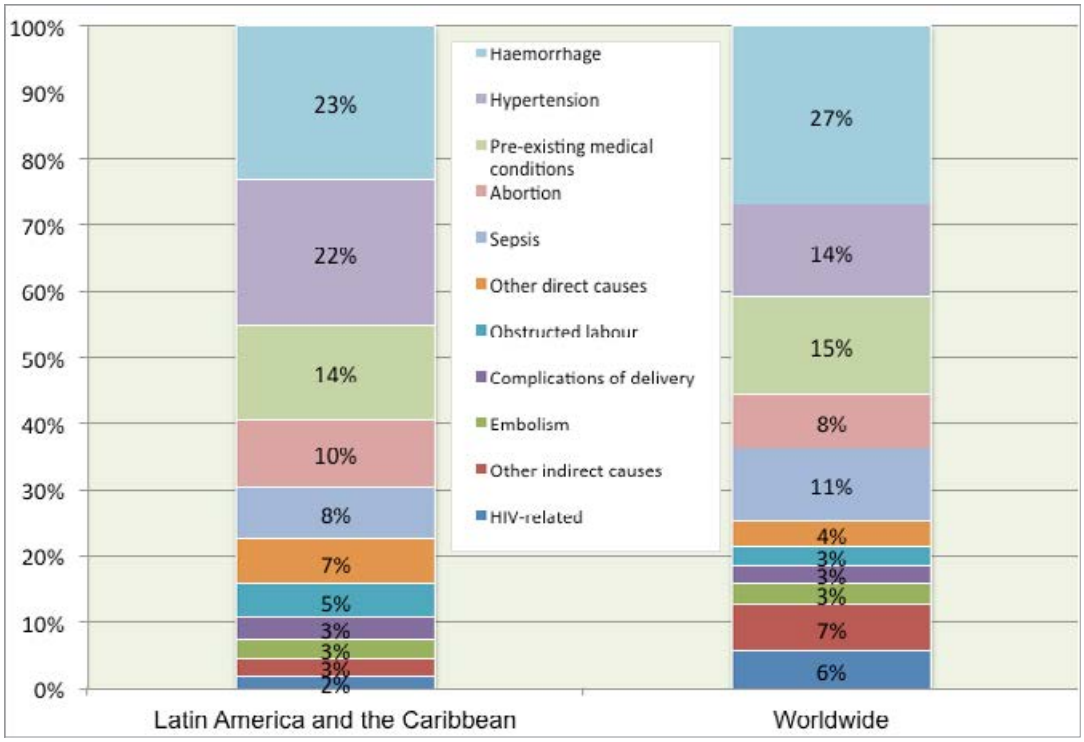
Maternal deaths and morbidities have a tremendous impact not only on the women who die prematurely or suffer disabilities, but also on their dependents and their communities. The vast majority of maternal deaths throughout Latin America and the Caribbean are preventable with quality obstetric care during pregnancy and delivery and postpartum.[227,235-237] Nevertheless, these preventable deaths remain concentrated among certain disadvantaged populations of women who face inequity in access to adequate reproductive and maternal healthcare services. In this way, an examination of the causes of maternal mortality and morbidity provides insight into fundamental economic, social and gender inequalities that are prevalent throughout Latin America and the Caribbean and creates a powerful case for social justice and gender equity.

Direct and indirect causes and the quality of health care

Direct causes account for about 81 per cent of maternal deaths in Latin America and the Caribbean, as shown in Figure 12. These conditions include hypertension, haemorrhage, unsafe abortion and sepsis, among other causes. Indirect causes account for the remaining maternal deaths and include primarily HIV, cardiovascular issues, anaemia and other preexisting medical conditions such as malaria and tuberculosis.[184,229,238] While the distribution of these causes mostly resembles global patterns, the Latin America and the Caribbean region is unique with its abnormally high ratio of maternal mortality from hypertensive disorders of pregnancy such as eclampsia and pre-eclampsia.

The vast majority of direct and indirect causes of maternal mortality and morbidity can be resolved with quality obstetric care. However, evidence suggests that women from poor and marginalized populations may have a greater risk of suffering and dying from a maternal cause.[227,232,240-242] For example, a 2014 study in Cuenca, Ecuador found that 93 per cent of adolescents diagnosed with pre-eclampsia or eclampsia were of lower socioeconomic position, and that morbidity was associated with mixed ethnicity and rural location of residence.[241] Low socioeconomic position was also associated with hypertensive disorders in Mexico[242,243] and Brazil,[232] and Afro-descendant ethnicity emerged as an independent risk factor for pre-eclampsia among women seeking care in Lima, Peru.[240] Low levels of education may also contribute to women's risk for dying from eclampsia as well as from haemorrhage, as evidenced by research in Mexico,[242]

Figure 12. Distribution of maternal deaths by cause in Latin America and globally, 2013



Source: Analysis based on Say L, Chou D, Gemmill A, Tunçalp Ö, Moller A-B, Daniels J, et al. Global causes of maternal death: a WHO systematic analysis. *The Lancet Global Health 2014;2(6):*e323-e33.[239]

Ecuador[228] and Brazil.[230,232] These inequities are further evidenced by differences between regions and departments of various countries. To list a few examples, Brazil's highest MMRs are found in its North and Northeast regions, two of the country's least affluent regions.[244] Similarly, a 2007 report noted that the mainly indigenous Puno and Huancavelica regions of Peru had a MMR more than six times higher than the country's capital department.[184] Colombia also has higher concentrations of maternal morbidity and mortality in its more rural and less wealthy regions.[245] In general, this review found scarce equity-focused information regarding the various direct causes of maternal morbidity and mortality.

The mechanisms through which vulnerable populations of women assume greater likelihood of suffering maternal death and illness are best illustrated through the 'three delays framework'. According to this model, maternal health outcomes are jeopardized by three delays that women may experience during labour and delivery: the delay in seeking medical healthcare; the delay in arriving at a healthcare facility; and the delay in receiving the necessary care.[246] Because the delays in seeking and arriving at obstetric care particularly affect women with low incomes, low levels of education, rural residence and minority ethnicity, they may distrust medical facilities, encounter long distances and transportation obstacles to reaching a health facility, or lack the financial resources to compensate direct and indirect costs involved in receiving care. Resulting from these delays, these women may either perish outside of a health facility or they may arrive at health facilities with already severe conditions that lower their chances of survival.

Subsequently, once they reach health facilities, women from poor or marginalized backgrounds may then be more likely to experience delays in receiving appropriate services and encounter a lower quality of care. Throughout the region, most countries have enacted programmes to expand maternal healthcare services to all women. Low-income women often rely on public facilities for obstetric care, whereas women from wealthier demographics can opt for most expensive, private services. However, numerous studies have observed structural and clinical issues within public maternal health systems throughout Latin America. Primarily, women who experience eclampsia, haemorrhage or other intrapartum complications in Haiti,[247] Bolivia,[226] Dominican Republic,[248] Mexico,[235] Brazil[211] and Colombia[227] may experience delays because of ineffective triaging and in receiving referrals to more advanced medical facilities.

Another issue may be the lack of human resources and advanced technology available in low-income or rural areas.[173,184,227,249] For example, as of 2007, two thirds of the population of the Huancavelica department of Peru lived in rural areas, yet the department's only facilities with the technologically advanced equipment to provide emergency obstetric care were located in its capital city.[184] A later study noted that rural facilities in Colombia lacked adequate blood supplies, a crucial element for the treatment of haemorrhage and other complications.[227] Additionally, a study in the Dominican Republic discovered a severe lack of sanitation in public maternity facilities,[248] and other studies from the region have documented hidden fees included in 'free' maternal health services that compromise care and prevent women without financial resources from being discharged.[181,182,250,251]

Various clinical issues also compromise the quality of care necessary to combat the direct and indirect causes of maternal mortality. First, much attention has been given to the over-medicalization of childbirth and over-reliance on certain medical procedures such as caesarean sections and episiotomies.[211,248,252] While both of these procedures can be life-saving in certain circumstances, their unnecessary application can cause additional complications for women and extra costs for health systems.[211] Episiotomies, in particular, may be especially common among low-income women using public health facilities, and instances have been documented in which women receive the procedure without their consent or being given anesthesia.[211,248] Additionally, a study from the Dominican Republic noted that public hospitals often did little to offer special treatment, such as private or dimly lit rooms, to women who presented with complications such as eclampsia.[248] Finally, inadequate provision of postpartum care and counselling may also jeopardize women's health outcomes. A study in Argentina found that one tenth of the maternal deaths studied occurred after women had already been discharged and that women had not received education about warning signs that would require medical follow-up.[253] Given that various morbidities, such as haemorrhage, can cause death after delivery, quality care should entail patient education and follow-up care.

Quality-of-care issues and discrimination in healthcare settings both directly compromise health outcomes and pose negative implications for women's future seeking of obstetric care.[16] Various studies have observed that women are less likely to seek obstetric care if they perceive that care to be unfriendly, disrespectful or ineffective.[16,182,184,250] Consequently, women with future episodes of severe maternal morbidities may encounter the first delay in the three-delay model and postpone seeking care until advanced stages of their conditions.

Summary

Women from socially and economically disadvantaged populations are more likely to experience delays in seeking maternal health care, in reaching care facilities and in receiving appropriate care within facilities. Especially within health care facilities, poor women more frequently experience a lower quality of care that may entail inefficient triaging, dehumanized care and lack of human or technological resources. All of these delays increase the chances that disadvantaged women will suffer maternal mortality or morbidity. There is a need for more equity-focused data to explore these trends as well as the direct and indirect causes of maternal morbidity and mortality.

Unsafe abortion and social conditions

According to WHO, safe and quality abortion procedures should entail pre-abortion consultations, skilled attendance during the procedure, professional assessment of the need for further clinical care and contraceptive counselling after the procedure.[254] However, because abortion is largely restricted throughout most countries of the Latin America and Caribbean region,[54,255,256] women who seek to terminate unwanted pregnancies often cannot access these services and must resort to clandestine methods that may lack the necessary medical supervision, safe procedures or availability of care in the case of complications.[74,77,257-260] As a result, unsafe abortions are a major source of maternal morbidity and mortality throughout the region.[77,254,261-264]

Data on the health outcomes of unsafe abortions can be difficult to obtain given the frequently clandestine settings in which those procedures occur.[205,265-267] However, existing data show that the proportion of unsafe abortions and related negative health outcomes is likely to be extremely high.[77,261,262,265] The United Nations estimates that abortion accounts for 10 per cent of maternal deaths in the region, higher than the worldwide average of 8 per cent,[239] as shown in Figure 12.

The Guttmacher Institute attributed 12 per cent of the total number of maternal deaths that occurred throughout Latin America and the Caribbean in 2008 to unsafe abortion.[261] Of the 4.4 million abortions that occurred throughout the region that year, the Institute estimated that 95 per cent of those procedures were unsafe.[261] Regarding country-specific examples, one 2010 study credited 24 per cent of the maternal deaths in Argentina to unsafe abortions[268] and a 2006 report cited abortion as the third most frequent cause of maternal deaths in Guatemala.[258] Data suggest that abortion-related mortality is primarily concentrated among adult women aged 20 to 35 years, although adolescents are also affected.[255,257,269]

Regional maternal mortality and morbidity from unsafe abortions are concentrated among women from poor and marginalized populations. Whereas women from wealthy socioeconomic backgrounds are more likely to have the financial means to access safe abortions through private or covert health clinics,[260,263,270,271] women from disadvantaged populations often encounter barriers to accessing safe abortion services such as the high cost of care,[69,73,74,261,272] fear of legal consequences,[261] stigma surrounding abortions,[73,261,265] geographic locations of health centres[258] and legal restrictions on the availability of services.[57] These barriers primarily affect women with low levels of education and women from poor socioeconomic groups, rural locations and minority ethnicities and compel many women to seek self-induced or dangerous abortions.[57,70,71,77,260,273]

The inequity in access to safe abortion is reflected in the unequal distribution of unsafe procedures among these populations and the prevalence of post-abortion complications. For example, in Guatemala, women living in low-income and rural areas are three times more likely to visit an untrained attendant for an abortion than are women from higher-income and urban areas.[261] Similarly, between 42 and 67 per cent of low-income women in Guatemala and Mexico experience post-abortion complications that require medical attention, as opposed to only 28 to 38 per cent of higher-income women.[261] Multiple publications from Brazil have associated unsafe abortion or abortion-related complications with Afro-Brazilian or mixed ethnicity, low levels of education and low income levels.[205,259,260,273-275] A 2008 literature review also discovered evidence of inequities in the risk of suffering abortion-related complications between rural and urban populations of Peru, Guatemala and Argentina.[272]

Despite their increased risk of suffering medical complications from unsafe abortions, marginalized women also may lack access to quality post-abortion care. Primarily, low-income and rural women may be more likely to delay seeking care for abortions possibly due to fear of legal repercussions imposed by medical personnel at publically run health facilities,[266] greater trust in local traditional healers,[57,264] costs of accessing care[263] and the logistics of arranging transportation to health facilities.[265] In total, an estimated 10 to 20 per cent of women throughout the region did not receive medical attention for abortion-related complications in 2012.[261] Additionally, women from with low levels of education and low-income groups, rural areas and minority ethnicities may receive a lower quality of post-abortion care services. This low quality typically derives from the attitudes and practices of medical personnel, in addition to the infrastructure of facilities providing care. Accounts from different countries have documented that medical personnel may discriminate or express condemnation against women who seek care for abortion-related complications, whether those abortions were spontaneous or induced.[255,257,260,263,265,266,276] This discrimination may be particularly targeted against single, young or poor women, who may already receive less compassionate maternal health care.[75,276] Other studies have noted that rural health facilities often lack the skilled personnel, equipment or infrastructure necessary to manage post-abortion complications.[77,258,264] These health facilities may utilize inappropriate medical techniques, such as curettage instead of medical abortions or vacuum aspirations,[258,261] and sometimes women must wait long periods of time to receive services.[255,265,266] Finally, evidence suggests that contraceptive counselling has not been integrated into public post-abortion care services, as recommended by WHO.[57,64,255]

Summary

The illegality of abortion perpetuates social inequality in that poor or marginalized women are less able to procure safe abortions and quality post-abortion care and so suffer inequitable maternal morbidity and mortality ratios. These trends also reflect regional gender inequalities in that women must undergo potentially dangerous procedures to access their reproductive rights, but abortion laws do not affect the men involved in unwanted pregnancies and policies serve to establish contraception as a 'women's issue'. The expansion of access to abortion would most directly benefit women from low-income, rural and other vulnerable groups and thus aid in mitigating regional inequities in maternal health outcomes.

Anaemia

Anaemia in pregnancy is an important global health issue, primarily affecting women of low socioeconomic position. By WHO criteria, anaemia affects 52 per cent of pregnant women from low- and middle-income countries compared with 20 per cent from high-income countries. A study in Latin America and the Caribbean estimated that approximately 40 per cent and 30 per cent, respectively, of pregnant women are anaemic.[277] The most common pathologic cause of anaemia in pregnancy globally is iron deficiency, resulting from increased foetal use of iron. In low-income countries, other common sources of anaemia in pregnancy may be hookworm, malarial parasite, HIV, other micronutrient deficiencies or pregnancy-associated complications.[277] During pregnancy, anaemia has been associated with low birth weight and premature labour, contributing to morbidity and perinatal mortality.

Studies carried out over the past decade in the Latin American and Caribbean region have repeatedly shown an association of anaemia with low socioeconomic position. A case-control in Ciudad Obregón, Sonora, Mexico in 2005 demonstrated the association between anaemia in pregnancy and factors related with iron deficiency, poor living conditions, poor nutritional status and practices and other factors such as non-utilization of antenatal care and changes in family dynamics.[278] In a 2009 retrospective cross-sectional study, age, marital status, number of previous pregnancies, nutritional status and gestational trimester were shown to be associated with haemoglobin levels in pregnant women who were attending health services in two cities in the South and Central West regions in Brazil. The study revealed regional differences in the occurrence of anaemia which, however, were socially determined; in one city, pregnant women were both significantly poorer and had a higher prevalence of anaemia. [279]

Adolescents may be at particular risk. In a 2012 case-control study carried out in 23 hospitals of the Ministry of Health of Peru, adolescent pregnancy was associated with poor socio-demographic conditions, including low education and high economic dependence, and poor nutritional status. Among the associated negative maternal effects in adolescents was anaemia, which may also be more common due to inadequate diet related to poor dietary practices common to this age group.[280]

Appropriate food and supplement consumption, as well as knowledge about food recommendations during pregnancy, are important to prevent related forms of anaemia during pregnancy. However, low educational levels and low income have been linked to low intake of fruits, vegetables and iron and calcium sources.[281] Even when health programmes make nutritional supplements available, utilization of these resources may be lower among women from rural settings and with low levels of education.[282] A study showed that low levels of education prevented the adequate understanding of instructions and the necessity and benefits of supplements.[283]

Summary

In Latin America and the Caribbean, there is an association of anaemia with low socioeconomic position. Women from low socioeconomic backgrounds may experience barriers in accessing healthy nutritional regimens or iron supplements during pregnancy.

2.3 Foetal deaths, stillbirth and the health of the pregnant woman

In 2015, it was estimated that the stillbirth prevalence in Latin America was 8.2 per 1,000 live births, or a total of approximately 91,000 stillbirths that year.[285]

Studies carried out in Latin America with a focus on foetal deaths over the last 15 years have explored the links between stillbirths and several risk factors. In a large cohort of women who had singleton births recorded in the Perinatal Information System Database of the Latin American Center for Perinatology (*Centro Latinoamericano de Perinatología (CLAP)*) between 1985 and 1997, the main risk factors associated with foetal death were lack of antenatal care and being small for gestational age. Women with no antenatal visits were at four times greater risk of foetal death than those with five or more visits. Other risk factors associated with stillbirth were: third trimester bleeding; eclampsia; chronic hypertension; pre-eclampsia; syphilis; gestational diabetes mellitus; Rh isoimmunization; interpregnancy interval of less than six months; parity of four or more; maternal age 35 years or older; illiteracy; premature rupture of membranes; body mass index of 29 or higher; maternal anaemia; previous abortion; and previous adverse perinatal outcomes. Women aged 35 years or older had 53 per cent increased risk of foetal death than women aged 20 to 34. Maternal illiteracy was associated with a 36 per cent increased risk of foetal death when compared with 12 or more years of education.[286]

More recent investigations have confirmed these early findings. A 2008 study analysed the stillbirth prevalence from a large sample of births recorded in the CLAP database between 2005 and 2006 from four cities at different altitudes in Peru.[287] Low levels of maternal education and living at a higher altitude were associated with a high risk for stillbirth. Because maternal education was the only variable available to evaluate social differences, it is not known whether other social factors may explain the differences among the cities.[287] Additionally, a case-control study carried out from 2004 to 2009 at the Civil Hospital of Guadalajara in Guadalajara, Mexico found that the risk factors associated with foetal death were: maternal age older than 35 years; low schooling; working at home; multiparity; history of abortion and stillbirth; poor antenatal care; and pregnancy complications. The study concluded that the improvement of antenatal care would not only facilitate early diagnosis and treatment of pregnancy-related complications, but antenatal visits would also allow professionals to identify other risk factors and to pay special attention to the educational and healthcare needs of the pregnant woman.[288] Finally, a cohort study in the Amazonian region of Peru associated stillbirths with maternal age of 40 years or older and not having attended antenatal care according to the recommended schedule. It is important to note that area of residence was the only socioeconomic variable that could be derived from the birth registry, and more data are necessary to understand the relationship between socioeconomic variables and stillbirth in the area.[289]

Much available information concerning foetal deaths has been collected in Brazil. According to a systematic review of Brazilian studies on foetal deaths published between 2003 and 2013, inequalities persist despite a decrease in foetal deaths in the country.[290] Absent or inadequate antenatal care, low education level, maternal morbidity and adverse reproductive history were the main factors associated with foetal deaths. Foetal death certificates were not adequately completed with regard to both variables, particularly socioeconomic variables and underlying causes of death. This review, published in 2015, concluded that efficient completion of foetal death certificates and investment in the committees responsible for the investigation of foetal and infant deaths are necessary to gain visibility for the issue.[290] Studies from Brazil during the period covered by the review included a descriptive study of foetal mortality in Pato Branco from 2000 to 2008, which found several maternal risk factors including: placenta previa; pregnancy-induced hypertension; age under 20 years or over 30 years of age; having three or fewer years of school; and being a housewife.[291] A 2010 nested case-control study explored the determinants of foetal death in users of public services in Rio de Janeiro from 2002 to 2004. The study found that quality of antenatal care had a large protective effect and concluded that antenatal care should be a key strategy to reduce foetal mortality in low socioeconomic populations. The risk factors found to be associated with foetal death were domestic violence, maternal morbidity and intrauterine growth restriction, while work stability, stable marital status, presence of a companion during admission and adequate antenatal care had a protective effect against foetal death.[292] The main factors associated with foetal death in an observational, case-control study in the city of Recife, Pernambuco from 2004 to 2005 were determined to be malformation; fewer than six antenatal appointments; haemorrhagic syndromes; history of attendance previous to the hospital admission; maternal age of 35 or older; and schooling of less than eight years.[293]

The relationship between maternal mortality and stillbirths cannot be ignored.[294] An analysis of WHO country data across 188 developed and developing countries found that stillbirth was significantly associated with maternal mortality. While the global ratio was five stillbirths for each maternal death, the ratio decreased to about two stillbirths to one maternal death in lower-income countries and increased to 50 to 1 in the highest-income countries.[295] By increasing attention to stillbirths, as well as preterm birth and effective interventions while increasing investment for women, both maternal and foetal health outcomes will improve.[294]

Despite being one of the most common adverse outcomes of pregnancy, stillbirth is among the least studied. A 2009 review of stillbirth and perinatal mortality in low-income countries from 2003 to 2008 found that despite the millions of stillbirths that occur each year in these countries, the topic of stillbirths has received very little attention.[296] Although the prevalence in many low-income countries is thought to be at least 10 times greater than in high-income countries, most countries do not include stillbirths in their

vital statistics reporting systems. When stillbirths are included, they are often underreported. Identifying the cause of a stillbirth is not always easy or possible, even under the right conditions, but for countries with a large number of home deliveries, the cause is often unknowable. It is important for countries to register all births and stillbirths, as well as evaluate the cause of stillbirths as initial steps.[290,296] Inconsistent terminology and multiple classification systems also impede international comparisons. Improvements in data and vital registrations are necessary to move forward.[285] A systematic review of studies in English from 2000 to 2013 that reported factors associated with and causes of stillbirth in low- and middle-income countries investigated a total of 142 studies with 2 per cent from low-income settings. Various definitions of stillbirth and seven different classification systems were used, although many stillbirths remained 'unclassified' (between 4 and 58 per cent). [297] In 2008, a study of the information contained in stillbirth registers in the municipality of São Paulo, Brazil found that while the variables entered most often were sex, place of residence and parity, the least recorded variables were mother's age or schooling, with 20 per cent and 18 per cent recorded responses respectively. The inadequacy of socioeconomic variables and underlying causes of foetal death provided in the stillbirth registers serves as a barrier to giving foetal death and its associated risk factors the attention necessary to address these issues.[298]

Summary

Foetal deaths are a common, yet overlooked issue throughout Latin America and the Caribbean. Evidence suggests that foetal deaths are associated with low utilization of antenatal care and low maternal education. Stillbirths are mostly underreported and are associated with maternal mortality. Underreporting is also a barrier to gaining a full comprehension of the prevalence of and risk factors for foetal deaths.

2.4 Diagnosis and treatment of HIV and syphilis during pregnancy

It is estimated that among pregnant women in Latin America and the Caribbean, 74 per cent received an HIV test and between 47 and 95 per cent were tested for syphilis in 2013.[299] Of those who tested positive for HIV, 93 per cent [51 to 100 per cent] received antiretroviral treatment (ART) for their own health and to prevent perinatal transmission of HIV. Treatment for syphilis is unreported by most countries. When a pregnant woman is diagnosed with HIV before or during antenatal care and receives ART for her own health, her chances of living a longer and healthier life increase and the reduction of her viral load as she responds to treatment lowers the risk of HIV transmission to her foetus and newborn, to her current or future sexual contacts and, if she subsequently becomes pregnant, to her successive children; if ART is initiated early in pregnancy, it contributes to the reduction of the number of children born with HIV.[84]

Syphilis is a chronic, often latent, STI with clinically recognizable tages; if untreated, it can result in neurological and cardiovascular disease. Pregnant women with untreated syphilis (maternal or gestational syphilis) can transmit the infection to the foetus in utero or by direct contact with lesions during childbirth; the resulting congenital syphilis is the most prevalent form of perinatally-transmitted neonatal infection in the world. Ninety-seven per cent of all congenital syphilis cases could be prevented if all pregnant women were screened for syphilis and treated with at least one dose of penicillin the same day of diagnosis.[300] When left untreated, syphilis can cause serious adverse outcomes for the pregnancy, depending on the timing since the sexual transmission and on the gestational age; infection with syphilis during pregnancy is associated with significantly more adverse outcomes than prior infection, with a risk of transmission of up to 80 per cent. It is estimated that at least 25 per cent of pregnant women with untreated syphilis will suffer stillbirth or spontaneous abortion and at least 25 per cent will result in serious neonatal infection or low birth weight, both of which are associated with increased risk of perinatal death. Children with congenital syphilis who survive can later develop mental retardation, deafness and blindness, among other pathologies. Additionally, some studies suggest that maternal syphilis is associated with a greater risk of perinatal transmission of HIV.[84]

Worldwide, Latin America and the Caribbean is the region with the highest incidence of syphilis and accounts for up to 25 per cent of the 2 million annual cases of gestational syphilis.[301] The birth of thousands of children with HIV and congenital syphilis indicates the lack of adequate antenatal care, existing shortages of supplies (HIV and syphilis tests and reagents, kits for caesarean sections) and medications (antiretrovirals, penicillin), centralization of laboratory and specialized services such as HIV and high-risk obstetrics, and lack of coordination (including referral and counter-referral) between obstetric and HIV care providers.[84] Barriers inside the healthcare setting result in the failure to provide HIV and syphilis testing as routine procedures to pregnant women, delays in obtaining test results, subsequent gaps in follow-up prophylaxis and treatment and loss to follow-up of children exposed to HIV or syphilis and their mothers. These limitations exist within a context of limited infrastructure and non-integrated health programmes that are the norm for most low- and middle-income settings. Political instability resulting in interrupted health services, frequent changes in health ministry leadership and lack of universal health care for women and children further contribute to the limited coverage of the prevention of perinatal transmission of HIV in many settings.[84] It also indicates that antenatal care is not being fully utilized as an entry point to promote early diagnosis of HIV and syphilis infection among pregnant women, which would allow interventions not only to prevent vertical transmission of HIV and syphilis, but also to initiate penicillin treatment and lifelong ART in those women who need treatment. Additionally, perinatal transmission prevention programmes have tended to focus on preventing the transmission of HIV to the child without giving due attention to the follow-up of the pregnant or puerperal woman.[84]

Women may not seek antenatal care and testing and not adhere to treatment due to the need to prioritize childcare or paid work over health-seeking. Even when women reach the health system, antenatal care can be provided through a complex, time-consuming series of encounters that place additional burden on the pregnant woman to navigate through a long and costly process. Women who are actually enrolled in HIV programmes may be lost by the health system, along with their children, if they give birth at home or at a different hospital where personnel are unaware of their HIV or syphilis status, missing the opportunity to provide timely prophylaxis to the newborn.[84] In some cases, due to lack of awareness of the severity of HIV and syphilis, disclosure concerns, AIDS-related stigma or fear of domestic or political violence, pregnant women diagnosed with HIV may stay away from health facilities, particularly if they are located in their neighbourhoods, and forgo HIV care both for themselves and their children. Even when women bring their children to health facilities, they may not disclose their exposure to HIV or syphilis, particularly if the child shows no symptoms that the mother can recognize.[84]

Few recent studies highlight the link between barriers to testing for HIV and syphilis in pregnancy with poverty, low education and gender inequality. In Brasilia, Brazil, a 2010 retrospective descriptive study of cases recorded in the System of Notifiable Disease Information, found that of the 133 cases of congenital syphilis found, 116 women (53 per cent) had received antenatal care, 70 (60 per cent) were diagnosed with syphilis during their pregnancies and only one woman was adequately treated. Although more than half of women were able to access services and receive a positive diagnosis, more than 90 per cent of the women's partners were inadequately treated, untreated or the information was ignored, thus increasing the risk of perinatal transmission as a consequence of the re-exposure of the pregnant women.[302] A quantitative study

conducted with data from the 2005 DHS from Colombia found that women enrolled in the publically subsidized regime, which covers those identified as poor by a welfare index, were significantly less likely to be offered and receive an HIV test during antenatal care than women without any health insurance (adjusted odds ratio 0.820, P<0.001), when controlling for the other independent variables.[165] Wealth, urban residence, birth year of the child and the type of healthcare provider seen during the antenatal care visit were significantly associated with providers ordering an HIV test for pregnant women. Although health providers were mandated to offer an HIV test to all pregnant women regardless of type of health insurance, some health insurance organizations that enrolled populations in the subsidized regime required a written authorization before the HIV test could be performed. In such cases, the pregnant woman had to request written authorization in person from the health insurer, which oftentimes required travel to different locations, impeding access by increasing transport and time costs related to antenatal care. By contrast, pregnant women who were uninsured and received care from public institutions did not need a written authorization.[165]

Summary

Inaccessible or inadequate antenatal care limits women's access to syphilis and HIV testing during pregnancy. In addition to facing structural issues within maternal health systems, women with HIV or syphilis may also avoid institutional antenatal care or fail to disclose their disease status. Inequity in access to HIV and syphilis screening and treatment during pregnancy is most commonly experienced by women with low levels of education and from poorer demographics.

3. Neonatal health

3.1 Neonatal mortality, low birth weight and access to perinatal care

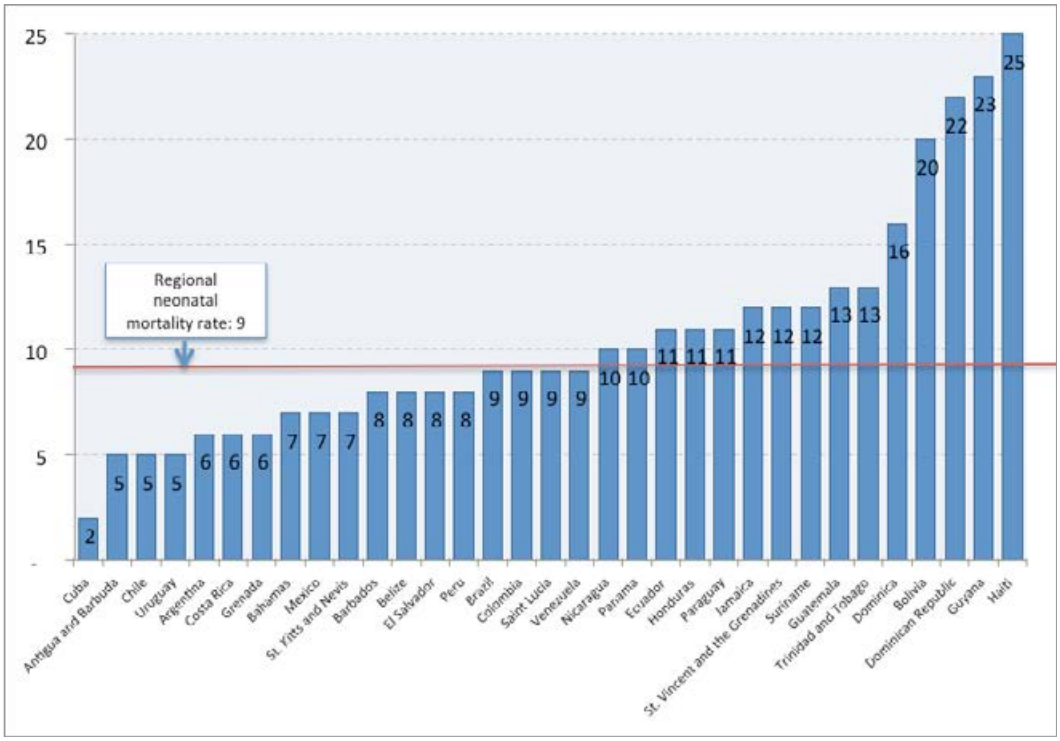
In Latin America and the Caribbean, an estimated 102,000 newborns aged up to 27 days died in 2015—which translates into a regional neonatal mortality rate (NMR) of 9 deaths per 1,000 live births—down from 255,000 neonatal deaths or a NMR of 22 in 1990.[303,304] As shown in Figure 13, Haiti, Guyana, the Dominican Republic and Bolivia have the highest NMRs.

Globally, neonatal mortality has also declined over time[305] but—as survival of children 28 days and older continues to improve faster than survival for neonates—the proportion of deaths of children under age five years that occur during the first 27 days of life has been steadily increasing and is expected to continue to increase.[306-308] In Latin America and the Caribbean, neonatal deaths contributed to 52 per cent of the total number of deaths among children under the age of five years in 2015, up from 41 per cent in 1990.[303,304] According to 2015 data, preterm birth complications in Latin America, as in the rest of the world, were the leading cause of neonatal deaths, followed by congenital abnormalities, intrapartum-related complications and sepsis.[304]

Progress in preventing stillbirths and neonatal deaths has lagged behind efforts to prevent maternal and post-neonatal under-five mortality, despite advances in identifying key interventions and causes of death.[309] Key priorities for newborn survival, health and development include improving coverage, quality and equity of care at birth,[310] particularly the presence of skilled and equipped personnel at all births and hospital care for emergencies; interventions over the antenatal period, the time around birth and the first week of life; and care for small and sick newborns, specifically high-impact interventions such as breastfeeding support and kangaroo mother care.[311] The highest-impact priorities for interventions should be focused on neonatal disorders and infectious diseases; specific interventions, such as neonatal resuscitation and antenatal corticosteroids for preterm labour, must be implemented with a focus on quality care at birth in order to improve neonatal survival.[308]

Perinatal mortality refers to the sum of stillbirths and early neonatal deaths (deaths that occur during the first week of life). In Latin America and the Caribbean, the perinatal mortality rate (PMR) was estimated at 21 per 1,000 live births in 2008.[312]

Figure 13. Neonatal mortality rate (deaths per 1,000 live births) in Latin American and Caribbean countries, 2015



Source: Analysis based on UNICEF. *Committing to Child Survival: A Promise Renewed. Progress Report 2015.* New York: UNICEF, 2015 [304] and UNICEF. *Levels & Trends in Child Mortality. Report 2015. Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation.* New York: UNICEF, 2015.[303]

Box 5. Gaps in perinatal mortality (Figure 14)

- Among the eight countries with disaggregated data, the PMR is highest among Bolivian women with no education (72 deaths per 1,000 live births).

Wealth:

- The PMR tends to be lower as wealth increases.

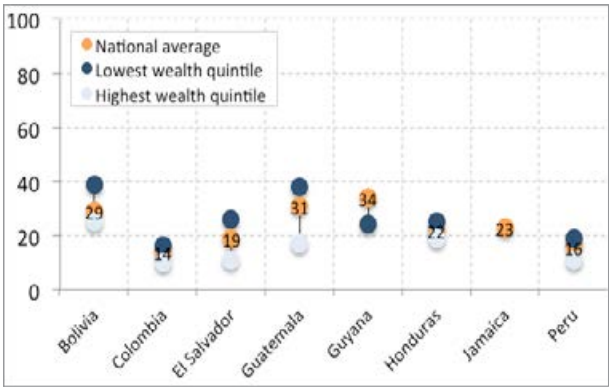
Place of residence:

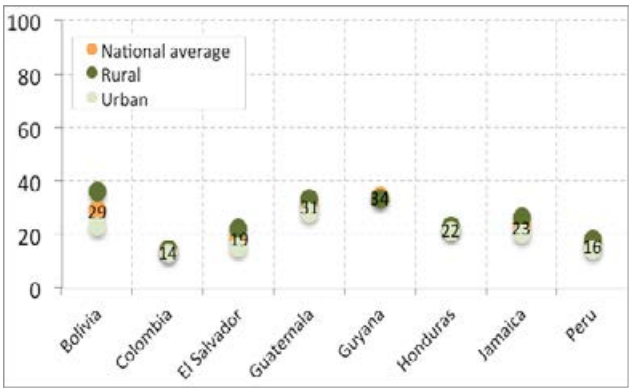
- The gaps in the PMR by place of residence are small except in Bolivia, where the gap is 13 percentage points.

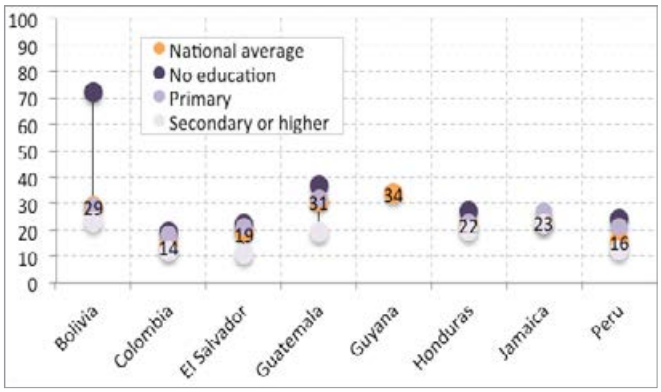
Education:

- The PMR is three times higher among women with no education than among those with secondary or higher education in Bolivia and twice as high in El Salvador, Guatemala and Peru.

Figure 14. Gaps in the perinatal mortality rate for the five-year period preceding the survey, defined as the sum of stillbirths and early neonatal deaths per 1,000 pregnancies in Latin American and Caribbean countries, by wealth, place of residence and educational attainment of the mother, household surveys 2008-2012





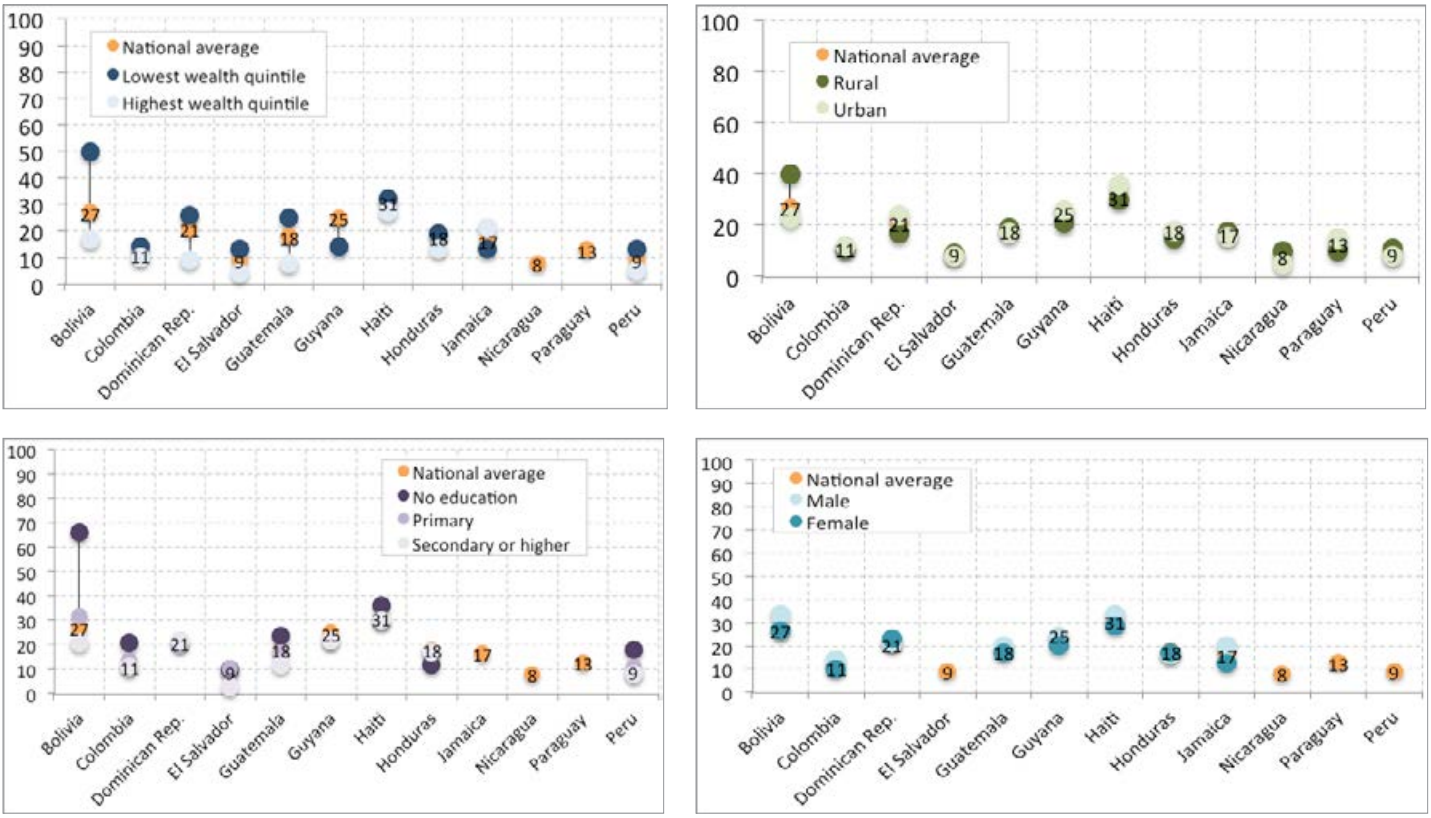


Source: Analysis based on Demographic and Health Surveys and Reproductive Health Surveys, 2008-2012.[1]

Box 6. Gaps in neonatal mortality (Figure 15)

- Among the 12 countries with disaggregated data, the highest NMR is among Bolivian women with no education (66 deaths per 1,000 live births) and from the poorest quintile (50 deaths per 1,000 love births).
- Differences in wealth and education account for the greatest gaps in NMR, particularly in Bolivia, where the NMR is three times greater among the poorest than among the wealthiest and among neonates of mothers with no education than among those of mothers with secondary or higher education.
- The NMR is three times greater among the poorest newborns than the wealthiest in the Dominican Republic (26 per 1,000 live births), El Salvador (13) and Guatemala (25).
- Except in Bolivia, where the NMR is 40 in rural areas and 23 in urban areas, differences by place of residence are small; in some countries the NMR is greater in rural areas and in others it is greater in urban areas.
- In addition to Bolivia, other countries with high relative differences between education levels include El Salvador (where the NMR is three times greater among newborns whose mothers have no education than among those whose mothers have secondary or higher education), and Peru, Guatemala and Colombia, where it is twice as great.
- The NMR is greater for boys than girls, but the gaps are small.

Figure 15. Gaps in the neonatal mortality rate (neonatal deaths per 1,000 live births) in Latin American and Caribbean countries by wealth, place of residence and educational attainment of the mother, household surveys 2007-2012



Source: Analysis based on Demographic and Health Surveys and Reproductive Health Surveys, 2008-2013.[1]

There is considerable and persistent inequity in neonatal mortality between and within countries in Latin America and the Caribbean. Despite a sizable reduction in infant mortality between 1955 and 1995, levels of inequality in infant mortality among countries remained almost constant in the region.[313] Marginalized populations—such as urban and rural populations living in poverty, indigenous people and Afro-descendants—have less access to basic educational opportunities, infrastructures and essential health services. As these populations overlap, inequities are often intensified.[314] In a 2014 study examining neonatal deaths in live birth cohorts in Brazil from February 2011 to October 2012, better quality health care, particularly during labour and birth, was determined to be the main public policy challenge to reducing mortality and inequalities in Brazil. The highest NMRs were seen in the North and Northeast regions of the country and among the poorest people.[315] In Nicaragua's León municipality, linked community-based reproductive surveys in 1993 and 2002 gave insight into child and neonatal mortality in the community. While the community experienced decades of rapid, then more gradual declines in child mortality, neonatal mortality increased towards the end of the period, despite good coverage of skilled delivery assistance from 1994 to 2005. A once small gap in neonatal survival between children of mothers of different educational levels widened, raising questions of equitable access to perinatal services and the quality of the care received.[316]

As the Latin America and Caribbean region has been making progress towards addressing inequities in maternal, child and neonatal health, efforts have been required of actors at every level. In El Salvador, in order to address premature birth, congenital birth defects and infections in vulnerable areas of the country, the Government mobilized a Neonatal Alliance which helped to scale up interventions and involve and support policymakers, the private sector, civil society and individual citizens.[317] In Chile, progress has been made towards reducing neonatal mortality and inequity; data from the Chilean Ministry of Health on all pregnancies between 1990 and 2004 show significant mortality and inequity reductions in the country.[318] Inequalities in mortality statistics between the poorest and richest district quintiles decreased, with the poorest quintile experiencing the largest mortality reductions. Overall mortality rates declined, with stillbirth and neonatal mortality rates improving less than infant and child mortality rates. Positive health outcomes have been associated with several interventions and reforms targeting maternal and child health during that period, which also was a period of socioeconomic development.[318]

Ethnic inequalities in neonatal mortality

Ethnic inequalities among minority populations, such as indigenous and Afro-descendant populations, exist globally and are often expressed in inequitable health outcomes.[319] A 2008 study of data from three birth cohorts in Pelotas, Brazil showed that from 1982 to 2004, while neonatal mortality

declined overall, it declined 47 per cent among newborns of predominantly European descent and only 11 per cent among Afro-descendants. In 1993 and 2004, differences in neonatal mortality were explained in part to differences in poverty and inadequate antenatal care.[320] In a separate study of the 1993 cohort data, Afro-descendant children (28 per cent of the participants) had worse outcomes that infants of predominantly European descent, including higher prevalence of low birth weight, preterm and small for gestational age, and higher early neonatal and infant mortality; differences in the quality of antenatal care they received were important in explaining these differences.[321] Using a decomposition model to quantify the contributions of socioeconomic, healthcare, demographic and geographic effects on ethnic inequalities in low birth weight and preterm birth prevalence in Brazil, a 2013 study found that antenatal care and geographic location were generally the most important contributors to health inequalities between infants of African and European ancestries.[322]

In a study of the Mapuche population of Chile, a statistically significant relationship was found between poverty and foetal and neonatal mortality. Data collected between 1996 and 2005 in Araucanía, Chile showed that higher perinatal deaths where correlated with higher poverty levels, which were significantly higher among the Mapuche population than the non-Mapuche.[323] In the South and Southeast regions of Brazil, the post-neonatal mortality rate in 2004 was five times higher than the early neonatal mortality rate among the Guaraní, whereas among non-indigenous children the opposite was true; early neonatal mortality was about 1.5 times higher than the post-neonatal rate.[319] The majority of the post-neonatal deaths among the Guaraní, which were caused by acute respiratory infections and diarrhoea, occurred in hospitals and may have been associated with late access or ineffective care at the hospital.

Socioeconomic inequalities in neonatal survival

Poverty affects both the context in which a child is born and the quality of care at birth. Both context and quality contribute to a differential risk of infant mortality during the first year of life, at different times, but separating the effects on neonatal and infant mortality is a challenge.[324] Multiple studies have examined the relationship between socioeconomic position and neonatal and infant health outcomes in Brazil over the last two decades, where health outcomes have been improving in recent decades. A study of the socioeconomic and health inequalities in several countries, including Brazil, that analysed data from 1990 to 2010, found that infant mortality decreased considerably and the income-related inequalities in infant mortality also fell substantially.[325] Some of the main factors that contributed to these improvements were the creation of a unified national health system with a focus on primary health care and the incorporation of disease-specific programmes, improvements in social conditions in the country (economic growth, reduction in income inequalities, education of women, fertility) and interventions carried out in non-health sectors (conditional cash transfers and water and sanitation).[326]

A few studies have looked at the relationship between maternal education levels and neonatal and infant health. In a study that collected data for all live births from 1995 to 1999 from five different geographic areas of Porto Alegre in South Brazil, the infant mortality rate (IMR) was reduced over time, with the greatest reduction in post-neonatal mortality. Social inequalities in the IMR were also reduced, as steep reductions occurred in both neonatal and post-neonatal mortality in areas with lower levels of maternal schooling.[327] In the other study, inequalities in the NMR in Rio de Janeiro were analysed according to the maternal educational level using data from 2000. Among mothers who were illiterate, 14 per cent gave birth to low-birth-weight newborns and the NMR was 98 per 1,000 live births, whereas among women with an education above second grade, 9 per cent gave birth to low-birth-weight newborns and the NMR was 9 per 1,000 live births.[328]

Another study in Embu, Brazil, looked at the relationship between employment and health outcomes between 1996 and 1997.[329] The situation of families of children who died in the first year of life—including income, working without a formal contract and access to private health plans—were statistically different than those families with children who survived. This affected the access to and quality of healthcare services, as well as family stability. Increased mortality was associated with low access to care, specifically of women who had fewer than six antenatal consultations. Of the mothers whose infants died in the neonatal and post-neonatal periods, 54 and 48 per cent, respectively, had fewer than six antenatal consultations, versus 33 per cent of the total study population.[329]

Living conditions, including housing, have also been associated with early-life health outcomes. Data collected from 2000 to 2006 in Salvador de Bahia, Brazil demonstrated an association between poorer living conditions and higher risks of neonatal mortality. Intermediate, low and very low living conditions were found to be associated with risks of 53, 56 and 59 per cent greater neonatal mortality, respectively, than high living conditions.[330]

Other studies throughout the region have supported associations between socioeconomic position and health outcomes, including two in Chile. Socioeconomically disadvantaged infants were at significantly higher risk of dying due to infectious disease and trauma during the first month of life than those who were not disadvantaged, according to data from 1990 to 2005; improvements in the national IMR were stagnant due to high levels of infant mortality among children of mothers with no education, despite reductions seen among highly educated mothers.[331] In the Santiago province of Chile, data collected in 2000 demonstrated a positive correlation between infant mortality and poor and unemployed populations: the poorest community in the province had an IMR that was 2.2 times higher than in the richest one, a difference of 6.6 infant deaths per 1,000 live births.[332]

Low birth weight

Low birth weight is defined as weight at birth of less than 2,500 grams or 5.5 pounds.[333] It is the result of either the preterm birth of an infant—defined as being born before 37 weeks of gestation—or restricted foetal growth.[333] An infant born with a low birth weight is approximately 20 times more likely to die than a heavier newborn. Low birth weight is associated with problems throughout the life course from foetal and neonatal morbidity and mortality, inhibited growth and cognitive development, to chronic diseases in later life.

The incidence of low birth weight is underestimated, as more than half of newborns in the world, as of 2011, were not weighed at birth, a reflection of substandard newborn care.[33]

While low birth weight has long been used as an important public health indicator, it is also an important indicator of health on an individual basis. Often, factors affecting the duration of gestation and foetal growth are related to the health of the woman's body at conception and during pregnancy. A woman living in deprived socioeconomic conditions is at higher risk of giving birth to a low-birth-weight infant; her poor health before and during pregnancy in this setting may be the result of long-term maternal malnutrition, physically demanding work and poor quality of antenatal health care.[333,335] By identifying factors associated

Box 7. Gaps in newborns whose birth weight is reported (Figure 16)

- In all countries with disaggregated data, the percentage of newborns whose birth weight is reported is higher among those whose mothers belong to the wealthiest quintile, live in urban areas and have secondary or higher education.
- The countries with the lowest coverage are Haiti (24 per cent) and Bolivia (72 per cent), where the gaps are the greatest, followed by Suriname (81 per cent), Nicaragua (82 per cent), Honduras (83 per cent) and Guyana (84 per cent).

Wealth:

- In Haiti, newborns from the wealthiest quintile are weighed at birth seven times more often than those from the lowest quintile, and in Bolivia, two times more.

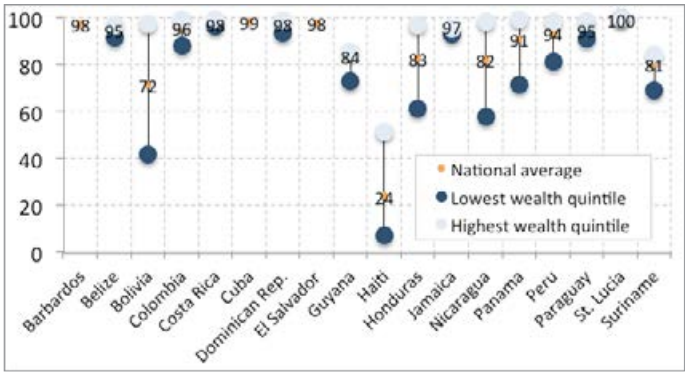
Place of residence:

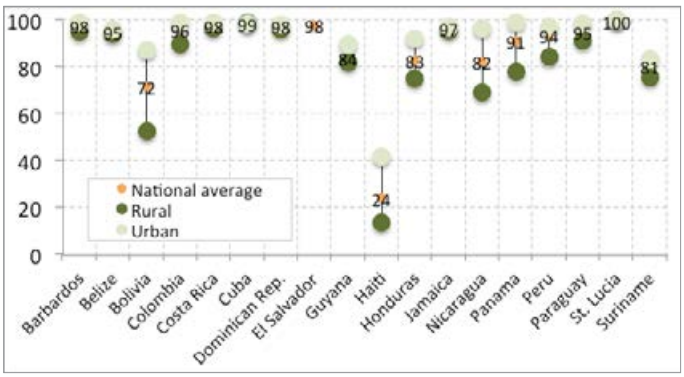
- In Haiti, urban newborns are weighed three times more often than rural newborns.

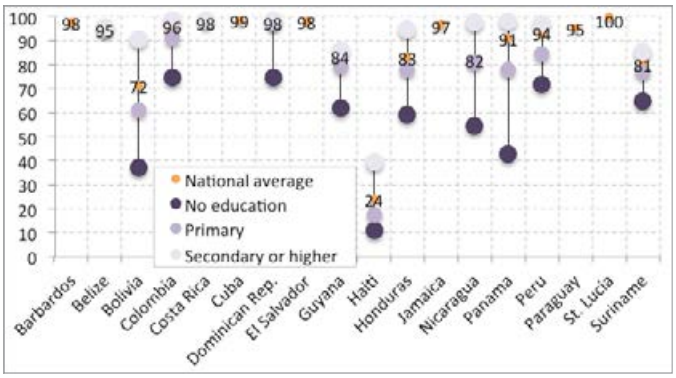
Education:

- Newborns whose mothers have secondary or higher education are weighed at birth four times more often in Haiti and two times more in Bolivia and Panama than newborns whose mothers have no education.

Figure 16. Gaps in the percentage of most recent live births in the last two years who were weighed at birth per total number of most recent live births in the last two years in Latin American and Caribbean countries, by wealth, place of residence and educational attainment of the mother, household surveys 2007-2014







Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

with low birth weight, public health interventions can be better targeted to prevent associated negative foetal and neonatal health outcomes and better address the lack of equity in populations as a result of low birth weight.[336,337]

Two maternal factors identified as affecting birth weight are maternal nutrition and weight gain during pregnancy. A case control study at a maternal hospital in Havana, Cuba from 2004 to 2006 demonstrated relationships between low birth weight and maternal malnutrition at the beginning of gestation and insufficient maternal weight gain during pregnancy; other relationships were short intergenesic period, smoking, maternal ages less than 20 years and greater than 35 years; low maternal height; low educational level; and maternal history of children with low birth weight.[338] Additional studies in Peru and Cuba have also identified the relationship between low birth weight and maternal malnutrition and maternal weight gain.[339,340]

While various maternal factors have been understood to influence low birth weight, the role of socioeconomic factors continues to be debated. Using ownership of goods and having a job as indicators of socioeconomic position, a case control study of low birth weight in three hospitals in Mexico City carried out in 1996 found that socioeconomic position is the most important risk factor for low birth weight and was independent of other factors such as reproductive and nutritional characteristics, smoking, morbidity during pregnancy and accessibility to health services and antenatal care. The study, published in 2005, showed that women in the lowest socioeconomic position had a higher risk of low birth weight compared to women in the medium and high socioeconomic positions.[337] A 2001 study of women in eight social-security hospitals in western Mexico, however, determined that socioeconomic factors were not significantly predictive of low birth weight. The receipt of antenatal care, smoking during pregnancy and weight gain were all highly significant in predicting the odds of low birth weight. Socioeconomic factors were, however, found to be important in determining utilization of antenatal care.[335]

Antenatal care visits have been repeatedly demonstrated to have a positive relationship with birth weight, while inadequate or no antenatal care visits are associated with low birth weight. Findings from a 2014 study in eight South American countries examining the association between antenatal care visits and foetal growth measured by birth weight suggest that estimates of the association between antenatal care and foetal growth are population-specific and may not be generalizable between populations. While antenatal care visits were significantly and positively associated with birth weight and negatively associated with low birth weight, the strength of the association varied between countries.[341] Country-specific studies in Cuba, Colombia and Peru give further insight. From 1997 to 2000, a case-control study carried out at the provincial maternal hospital in Sancti Spíritus, Cuba, showed significant association between low birth weight and maternal pathology (such as anaemia or urinary tract infection), low maternal weight gain during pregnancy, smoking while pregnant, a history of previous children with low birth weight and inadequate timing of visit for follow-up of initial antenatal care.[340] Factors associated with low birth weight in the Maternal and Infant Protection and Attention Unit of a teaching hospital in Medellín, Colombia, were inadequate antenatal care, smoking during gestation and any type of maternal pathology present during pregnancy, according to a 2006 retrospective cross-sectional study.[336] The incidence of low birth weight in public hospitals in Peru, as seen in a 2007 case-control study, were also associated with inadequate or no antenatal care visits, as well as maternal malnutrition and other morbidities. Other important risk factors identified were low maternal education and living in a mountainous or jungle region.[339]

Inequalities have also been found between ethnic groups. The growth outcomes of Afro-descendant and indigenous women were compared to mestizo women in a 2013 study of Ecuadorian newborns. While no excess risk for low birth weight or stunted linear growth was shown for newborns of ethnic minorities compared to mestizos, the former weighed significantly more at birth—an average of 3 to 5 per cent more—than mestizos. Afro-Ecuadorian women appeared to deliver both heavier and fatter infants than mestizo women, although the causes require further exploration.[342] While weight differences exist between indigenous and Afro-Ecuadorian newborns compared to mestizo newborns in Ecuador, significant differences in weight and length at birth were not seen in Chile between indigenous Mapuche and non-indigenous infants when examining birth records from 2000 to 2004. Despite socioeconomic disadvantages and other documented health inequalities, a well-established antenatal control programme contributed to greatly reducing the impact of social inequalities in reproductive health between indigenous and non-indigenous infants.[343] In a birth cohort study in Brazil, Afro-descendant neonates experienced a much worse health status than those of European descent, including higher prevalence of low birth weight, preterm and small for gestational age, and higher early neonatal and infant mortality rates. Socioeconomic variables played an important role in determining inequities between these ethnic groups.[320]

Finally, the relationship between altitude and birth weight has long been studied and evidence has repeatedly shown that infants born at higher altitudes (greater than 2,000 metres) have as much as two to three times greater risk of low birth weight than those born at sea level. However, demographic differences between populations who reside at low and high altitudes and other well documented predictors of low birth weight, such as lack of antenatal care, hypertension and maternal smoking, could interact with high altitude.[344] A study from 1982 to 1999 in a sample of infants from La Paz, Bolivia (3,600 metres) and Bogotá, Colombia (2,600 metres) concluded that altitude was the main predictor of birth weight.[344] Another study of the relationship between altitude and birth weight used data from four Peruvian cities—Lima (150 metres), Huancayo (3,280 metres), Cuzco (3,400 metres) and Juliaca (3,800 metres)—collected between 1995 and 2002. Birth weight was found to be lower in all cities at higher altitudes than Lima, after controlling for socioeconomic factors including maternal age, marital status, parity and education. These differences were seen from the 36th week of gestation onwards and were thought to be associated with maternal oxygenation, which was maintained better during pregnancy in women who had lived at high altitudes for at least three generations, allowing for higher birth weights.[345] Like the studies from Bolivia, Colombia and Peru, a 2010 study composed of two large samples of infants

born at both low (5 to 1,280 metres) and high (1,854 to 3,600 metres) altitude ranges in six countries found a negative relationship between altitude and birth weight. This study, however, noted that maternal health, socioeconomic, demographic and healthcare characteristics explained a significant part of the negative altitude effects on birth outcomes. Excluding these relevant characteristics may result in an overestimation of the negative effects of altitude.[346]

Summary

Neonatal mortality and morbidity in Latin America and the Caribbean provide insight into the intergenerational nature of social and economic inequalities throughout the region. Both perinatal and neonatal mortality rates are highest among women with lower levels of education, and low socioeconomic position is associated with neonatal mortality and the low birth weight of infants. Neonatal mortality is also more prevalent among indigenous and Afro-descendant women, due to the higher levels of poverty, less frequent utilization of antenatal care services and geographical remoteness experienced by these ethnic minorities. In sum, the social disadvantages and marginalization experienced by women have a direct effect on the health of their infants, thus creating a circle of inequity that begins affecting people from the day they are born.

3.2 Breastfeeding and the alternatives

International guidelines for optimal infant and young child feeding practices include initiating breastfeeding within one hour of birth, exclusive breastfeeding for the first six months of life and continued breastfeeding up to the age of two years and beyond, along with feeding of safe, age appropriate foods starting at six months of age.[347] The early initiation of breastfeeding has been shown to benefit both mother and newborn. By boosting the child's immune system, colostrum—the rich milk produced by the mother during pregnancy and the first few days after delivery—reduces the risk of neonatal mortality. The practice also promotes early milk production, reduces the risk of hypothermia in the newborn, reduces the likelihood of uterine bleeding and improves bonding between mother and child.[347] In Latin America and the Caribbean, 49 per cent of newborns start to breastfeed within one hour of birth.[348] In the region, early initiation of breastfeeding is more prevalent among women in the poorest wealth quintiles—a pattern also observed in the Middle East and North Africa and in East Asia and the Pacific—and which is the reverse of the global average.[348]

In Latin America and the Caribbean, the percentage of newborns ever breastfed does not present large gaps within wealth quintiles, place of residence, education of the mother or sex of the child. At least 88 per cent of children of all socioeconomic groups, 92 per cent of rural children and 88 per cent of urban children are breastfed.[348]

Box 8. Gaps in early initiation of breastfeeding (Figures 17 & 18)

Wealth:

- Early initiation of breastfeeding is highest among women in the poorest quintile in all countries with disaggregated data, except in Colombia.
- The lowest prevalence of early initiation of breastfeeding is among the wealthiest women in El Salvador (21 per cent) and Brazil (27 per cent).
- In El Salvador and Peru, women in the poorest quintile have a prevalence of early initiation of breastfeeding that is twice as high as the wealthiest: 71 versus 35 per cent in Peru and 42 versus 21 per cent in El Salvador.

Place of residence:

- In most countries, early initiation of breastfeeding is more common among rural than urban women.

Education:

- In Bolivia, Dominican Republic, Honduras, Panama and Suriname, women with no education and those with primary education initiate breastfeeding earlier than women with secondary or higher education.

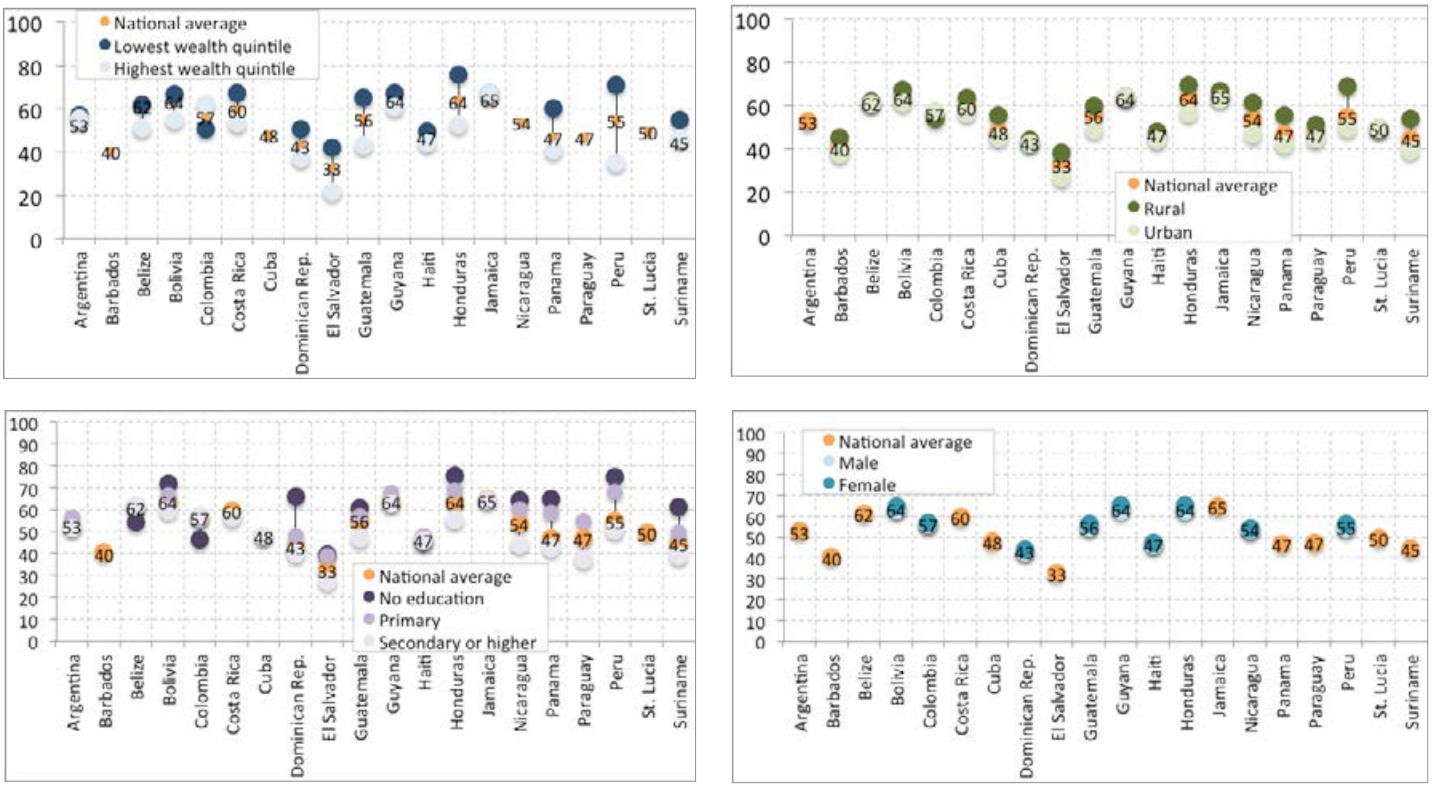
Sex of the child:

- The prevalence of early initiation of breastfeeding is similar for boys and girls.

Ethnicity:

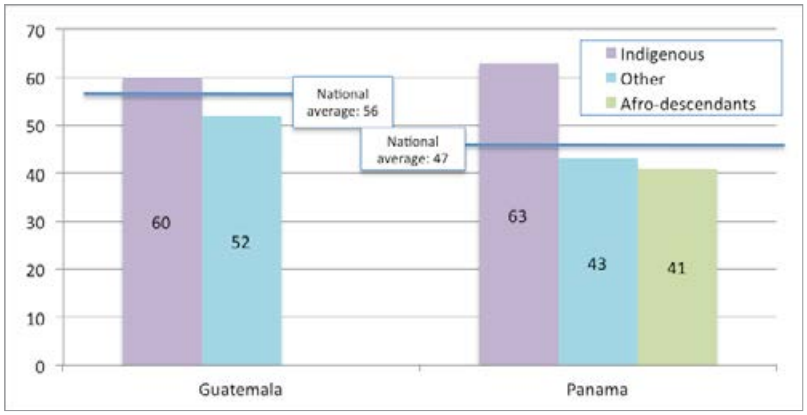
- In both Guatemala and Panama, the prevalence of early initiation of breastfeeding is higher among indigenous populations (60 and 63 per cent respectively) than other groups.
- In Panama, 41 per cent of Afro-descendant children have an early initiation of breastfeeding, 22 percentage points below the prevalence for indigenous children and 2 percentage points below the prevalence for children of other ethinicities.

Figure 17. Gaps in the percentage of last-born children in the two years preceding the survey who started breastfeeding within one hour of birth in Latin American and Caribbean countries, by wealth, place of residence and educational attainment of the mother, household surveys 2007-2014



Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

Figure 18. Gaps in early initiation of breastfeeding among indigenous, Afro-descendant and other populations in Guatemala (2009) and Paraguay (2013)



Source: Analysis based on Reproductive Health Survey from Guatemala 2009 and Multiple Indicator Cluster Survey from Panama 2013.[1]

Socioeconomic characteristics of breastfeeding initiation and duration

The socioeconomic characteristics of the mother have long been linked to breastfeeding practices. Some of these maternal characteristics include education level, age, employment outside of the household, socioeconomic position, oral contraceptive use and rural-urban residence.

To understand trends in the practice of breastfeeding, it is relevant to note that the Latin American and Caribbean region has made dramatic improvements in female education. In a study of eight countries in the region from 1986 to 2005, the proportion of women with no education decreased from 15 to 7 per cent and the proportion of women with some secondary or post-secondary education increased.[349]

Exclusive breastfeeding in the first six months of life greatly benefits both mother and infant. Exclusively breastfed infants are less likely to die from diarrhoea and pneumonia—two of the top killers of children under age five years—and are 14 times less likely to die from all causes than infants who are not breastfed.[347] These recommendations also apply to women with HIV, although treatment with antiretroviral therapy for the mother for her own health and to prevent the transmission of HIV to her child is recommended.[350] In Latin America and the Caribbean, 35 per cent of infants are exclusively breastfed during the first six months of life.[348]

The level of maternal education is one of the most important predictors of the initiation and duration of breastfeeding. A higher level of maternal education is associated with a lower probability of initiating breastfeeding for any given age of the child.[349,351,352] In the earlier surveys, the odds that mothers with no education would breastfeed their children were 2.7 times higher than the odds of mothers with 12 or more years of education.[349] Although this negative relationship was seen across all countries and survey years, the relationship diminished in more recent surveys.[349] This was mirrored in a 2003 study of Latin American and Caribbean countries, where even if improvements in breastfeeding duration across time were also stronger among women with more schooling, more schooling continued to be associated with a shorter breastfeeding period.[352] Lower maternal education levels were found to be significantly associated with the abandonment of exclusive breastfeeding in the fourth month in a recent study in Southeast Brazil.[353] In Santiago, Chile, exclusive breastfeeding up to age six months was associated with socioeconomic variables, including lower levels of maternal education.[354]

In a small community of Maya subsistence agriculturalists in Mexico, interviews with mothers revealed that despite maintaining intensive breastfeeding practices generally, suboptimal breastfeeding patterns have emerged and become more common in young mothers. Younger mothers breastfed for shorter durations, formula fed more than older mothers and introduced complementary foods earlier.[355] The effect of maternal age, however, is not confined to indigenous communities. A study of seven Latin American and Caribbean countries from 1986 to 2005 showed both a general upward shift in maternal age and supported a positive association with breastfeeding: the odds of a child born to a mother 35 years old or older being breastfed were 1.4 to 2.8 times higher than the odds of a child of a mother less than 25 years old.[349] In a study of Mexican adolescents, the prevalence of exclusive breastfeeding during the first month was 66 per cent and by the end of six months, 39 per cent; only 29 per cent had taken an antenatal breastfeeding course.[356] Of adolescent mothers in Ribeirão Preto, Brazil with infants less than 180 days old, 84 per cent reported that they were breastfeeding. Of these, 19 per cent reported exclusive breastfeeding, 17 per cent reported that they were breastfeeding predominantly, 49 per cent were providing complementary feeding and 16 per cent had already weaned their infants.[357] Although most of these mothers who initiated exclusive breastfeeding did not work outside the home and had only one child, they did not meet breastfeeding recommendations often due to concerns about the infant's health or lack of support from family or health teams.[357]

Maternal work outside the home has been associated with reduced duration of exclusive breastfeeding throughout the region and globally. Socioeconomic factors including greater maternal age, maternal work outside the home and a higher socioeconomic position were associated with a lower chance of exclusive breastfeeding at day five in semirural localities in Morelos, Mexico in 2005.[358] Returning to work and lack of home ownership were found to be significantly associated with abandonment of exclusive breastfeeding in the fourth month in a 2014 in Southeast Brazil.[353] In rural Chile, "work reasons" was among the top reasons given for reduced exclusive breastfeeding and mothers under 26 years of age demonstrated a reduced duration of exclusive breastfeeding.[359] Despite increasing support for maternity leave on a national scale, institutional policies or structures may leave women without support in practice. In Brazil, for example, in 2010 the Congress approved an extension of maternity leave from 120 days to 180 days by granting tax incentives. Data, however, show that two years later just 10 per cent of eligible organizations were participating. Many women with paid employment do not benefit from maternity leave because employers do not comply with the law or because they are contracted informally.[353] Support, education and appropriate accommodations for pumping and storing breast milk are also necessary for women who continue to work or return to work while breastfeeding.[353]

Changes in the region are the result of changes in practices within socioeconomic groups and changes in the size of these groups, with factors such as increased urbanization and female education and employment having little negative impact. In addition, improvements in the duration of breastfeeding in Bolivia, Brazil, Colombia and Peru are greatest among women living in urban areas and with more education and antenatal care compared with rural women and those with less education and antenatal care.[360]

Between 1986 and 2004, breastfeeding in Guatemala and Haiti increased mostly among the richest groups, while in Nicaragua it increased mostly among the poorest.[361] While overall infant and young child feeding practices have been improving over time in Peru, in 2011, the exclusive breastfeeding prevalence was more than twice as high among the poorest children than the richest.[347] The breastfeeding prevalence in indigenous groups, particularly vulnerable to health-related inequities due to socioeconomic differences, have shown concerning downward trends. In Mexico, between 1999 and 2006, the national median duration of breastfeeding was relatively unchanged at 10 months for the national population, but decreased in the indigenous population from 21 to 13 months. The same trend was seen in exclusive breastfeeding: while the national percentage of those exclusively breastfed under age six months remained stable from 20 to 22 per cent, within the indigenous population it dropped from 46 per cent in 1999 to 35 per cent in 2006.[362]

Type of contraception used is another factor that affects duration of breastfeeding, according to a 2002 study in Peru. Mothers who used oral contraception breastfed for significantly less time than those using other methods, whereas mothers who used periodic abstinence or withdrawal breastfed longer than those

using other methods or no contraception. The longest period of breastfeeding duration (18 months) was seen among mothers changing contraceptive methods to abstinence and withdrawal while breastfeeding the same child.[363]

A 2003 study of DHS data collected from 12 Latin American and Caribbean countries between the mid-1980s and mid-1990s revealed that breastfeeding duration had increased in the region when the opposite had been predicted, given increasing urbanization in the region. Although median breastfeeding duration was greater in rural areas, improvements in breastfeeding duration across time tended to be greater in urban than in rural areas, decreasing this differential in most countries examined.[352] The median breastfeeding duration was also consistently greater in rural areas throughout a study of seven countries in the region from 1986 to 2005; however, in later parts of this study, duration of breastfeeding was strengthened among mothers in rural areas, unlike the previous study.[349] While studies continue to show that rural women breastfeed for a significantly longer period than urban women, as in a 2006 study in Nicaragua,[364] others note the increase of breastfeeding duration in urban areas. A study from 1986 to 2004 in Peru showed breastfeeding duration among rural women declined by one half month while increasing by 10 months among urban women.[361]

Additionally, characteristics of breastfeeding duration and exclusive breastfeeding trends are distinctive, and those historically associated with breastfeeding duration are no longer significant in explaining exclusive breastfeeding trends.

Infant characteristics of breastfeeding initiation and duration

Characteristics of the infant, including gender, birth weight and nutritional status, have been shown to affect both early initiation of breastfeeding and duration of exclusive breastfeeding. In a six-country, prospective, observational study, male infants in Argentina and Guatemala were significantly less likely to be early initiated to breastfeeding. Although the reason for this was unclear, cultural beliefs surrounding the birth of males may discourage immediate breastfeeding.[365] Furthermore, in Guatemala and other countries, cultural factors can serve as barriers to early initiation of breastfeeding, such as those related to the belief that colostrum is "dirty".[365] In a study of mothers in public and private health facilities in Santiago, Chile, factors associated with exclusive breastfeeding up to age six months included the child being female.[354] Among the factors associated with the failure to initiate early breastfeeding, low birth weight of the infant was one of the factors found in Guatemala and five other countries across the world.[365] In Morelos, Mexico, infant nutritional status and prevalence of diarrhoea were associated with the duration of exclusive breastfeeding.[358]

Perinatal experiences and breastfeeding initiation and duration

A woman's birth experience and her experiences around the time of birth play an important role in the initiation of breastfeeding and how often and for how long she will continue to breastfeed her child. Components of the birth experience include where a birth takes place (at a public hospital, a private hospital or at home), whether a skilled health provider is present and the type of delivery (vaginal vs. caesarean). Among Maya women in rural Campeche, Mexico, vaginal hospital births were associated with earlier breastfeeding initiation and longer duration of breastfeeding than both caesarean births and home births; caesarean births were also associated with more formula feeding than vaginal hospital births.[355] Traumatic delivery experiences were associated with abandonment of exclusive breastfeeding at two months in a longitudinal study in Southeast Brazil.[353] Among indigenous Mam Mayan women of the Western Highlands of Guatemala, local cultural practices also affect early initiation of breastfeeding. Women who delivered at the traditional midwife's house and those who did not believe in the transmission of susto (fright) through breast milk were more likely to initiate breastfeeding within one hour of birth. The only infant feeding practice positively associated with exclusive breastfeeding in the study was initiation of breastfeeding within one hour of birth.[366]

Both access to antenatal care and skilled care at delivery are associated with positive breastfeeding practices. In seven Latin American and Caribbean countries, receiving antenatal or skilled care at birth between 1986 and 2005 was shown to increase breastfeeding, while more recent surveys demonstrated positive relationships between the two and breastfeeding.[349] In Peru, women with antenatal care increased breastfeeding duration by six months between 1986 and 2004, but women with no antenatal care only increased by four months.[361]

Experiences around the time of birth—including the introduction of prelacteal feeds, the use of colostrum, introduction of formula, delay in the first mother-child contact and breastfeeding education—have also been shown repeatedly to affect breastfeeding practices. A study conducted in seven countries in the region found that 23 per cent of newborns received milk-based prelacteal feeds in the first three days of life, with a prevalence as high as 55 per cent in the Dominican Republic.[367] Prelacteal feeding—providing foods other than breast milk before the initiation of breastfeeding—increases neonatal mortality and the risk of breastfeeding failure. Women of lower socioeconomic position who have had a caesarean section delivery are at higher risk and therefore may need additional breastfeeding support to prevent the introduction of milk-based prelacteals.[367] In La Paz, Bolivia, the use of prelacteal feeding and not feeding the infant colostrum were associated with shorter duration of exclusive breastfeeding.[368] Bolivian rural mothers were four times more likely to discard colostrum than urban mothers. While the prevalence of exclusive breastfeeding in Bolivian infants fell rapidly during the first months of life, not feeding the infant colostrum was associated with a shorter duration of exclusive breastfeeding.[368] Being fed colostrum was one of the factors associated with a longer duration of exclusive breastfeeding in a 2005 study in Morelos, Mexico.[358]

Obstacles to breastfeeding in healthcare services, the delay of contact between mother and child, introduction of formula and lack of breastfeeding education have been associated with negative breastfeeding practices. Across different regions covered by a six-country, multi-region study, factors associated with failure of early initiation of breastfeeding included caesarean section, resuscitation with bag and mask and failure to place the newborn on the mother's chest after delivery.[365] Factors associated with the

termination of breastfeeding in a study of mothers and their children in Córdoba, Argentina, included the introduction of artificial formulas within 30 days postpartum and delay in the first mother–child contact for over 90 minutes.[369] Hospital bottle use by poor urban women in Colombia was also identified as having had a significant effect on the duration of exclusive breastfeeding.[370] In addition to the introduction of artificial formula and bottle use in hospital, a lack of education about breastfeeding leaves mothers unprepared to breastfeed after discharge. The prevalence of exclusive breastfeeding abandonment in the fourth month postpartum revealed by a study in Southeast Brazil was associated with not receiving guidance on breastfeeding in the postpartum period.[353] Women in four low-income communities of Tijuana, Mexico revealed multiple obstacles to breastfeeding in healthcare services including "erroneous information, lack of training and supervision, negative attitudes, miscommunication between healthcare providers and patients, detrimental medical practices such as giving free formula at hospitals, and the conflict of interest between the infant food industry and the [healthcare providers]".[371]

Despite less than optimal breastfeeding practices in the region and recognized benefits, progress is hindered by a lack of comprehensive data on intervention coverage. Available data exist for a small portion of interventions and show mostly low coverage.[372] Breastfeeding promotion is different from other child health interventions as it requires less health infrastructure and more understanding of complex cultural ideas for successful implementation.[373] Breastfeeding is a social act, and in order to understand why interventions succeed or fail, beliefs, social values and social roles across cultures and social structures must be better understood.[374] More data throughout the region on effective interventions are needed in order to be able to address poor breastfeeding practices.

Summary

Breastfeeding duration and exclusivity in Latin America and the Caribbean vary due to numerous factors including socioeconomic position, education, geography and culture. In general, women from wealthier demographics are more likely to start breastfeeding at later times and women with higher levels of education are less likely to breastfeed their infants. To improve trends in breastfeeding among all demographics of women, fundamental changes must occur in the social norms and practices concerning breastfeeding.

3.3 Birth registration and the right to an identity

Birth registration constitutes legal recognition of a person's existence and enables the fundamental human right to have a name and a nationality. The registration and the birth certificate that accompanies it allow a person to execute her or his most basic rights and take advantage of the benefits of living in society such as accessing the education and health systems and participating in political processes.[375,376] As of 2013, 8 per cent of children aged 0-4 years in Latin America and the Caribbean—or roughly 4 million children—were not registered at birth.[377] Despite having more favourable birth registration outcomes compared to other regions in

Box 9. Gaps in birth registration (Figures 19 & 20)

Wealth:

- The lowest prevalence of birth registration is among the poorest quintile in the Dominican Republic (65 per cent) and Haiti (71 per cent). It is also in those two countries where the gaps between the poorest and the wealthiest are greater, ranging from 33 percentage points in the Dominican Republic to 21 percentage points in Haiti.
- Birth registration coverage is higher among the wealthiest in all countries.

Place of residence:

- In most countries, birth registration coverage is lower for rural children. The widest gaps are 16 percentage points in Mexico, 8 in Haiti and 5 in the Dominican Republic.

Education:

- Only Argentina, Belize, Costa Rica, El Salvador, Panama and Suriname have complete data on birth registration by education of the mother. The gaps in those countries are small, except in Panama, where 82 per cent of children of mothers with no education have their births registered—15 percentage points below the coverage for children of mothers with secondary or higher education.

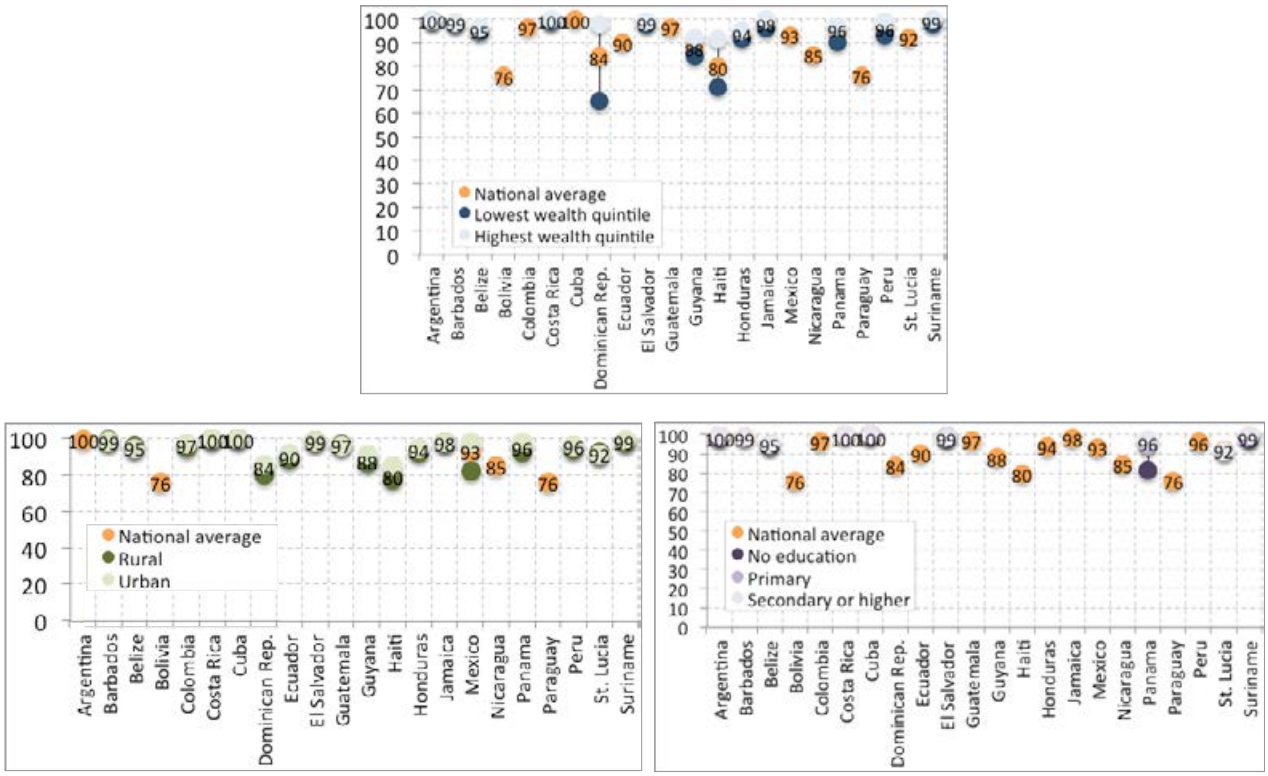
Sex of the child:

- Birth registration coverage is similar for girls and boys.

Language spoken:

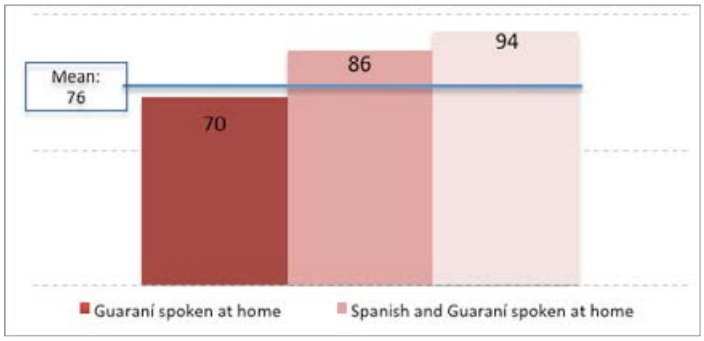
- In Paraguay, 70 per cent of children whose families speak Guaraní at home are registered (17 percentage points below those who speak Guaraní and Spanish and 24 percentage points below those who speak Spanish).

Figure 19. Gaps in the prevalence of children aged 0-4 years whose births are reported registered in Latin American and Caribbean countries, by wealth, place of residence and educational attainment of the mother, household surveys 2007-2014



Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

Figure 20. Gaps in the percentage of children registered at birth by language spoken at home in Paraguay (2008)



Source: Analysis based on Reproductive Health Survey from Paraguay 2008.[1]

the world, there is considerable heterogeneity across and within countries in the region. Registered births range from 76 per cent of the population of children under five years of age in Bolivia and Paraguay, to 100 per cent in Argentina, Costa Rica, Cuba and Uruguay.[377] Inequities exist within countries due to geographical, economic, social, cultural and institutional barriers in accessibility, causing significant differences throughout the region.

Barriers to registration throughout the region

Geographic accessibility, including location, terrain and distance to the nearest registration facility, is a significant barrier to birth registration, both within the region and globally.[351-353] The institutional presence of a registrar's office or office of identification has an impact on registration prevalence, independent of urban or rural area.[354] Countries and areas within countries in the region have various types of registration facilities to provide services. Birth registrations may be accessible in the same hospital where a woman gives birth, in public notary offices on the premises, or there may be a separate official place for civil registry outside of the hospital.[355] In Bolivia and the Dominican Republic, long distances between households and registration facilities have been demonstrated to be a barrier to registration.[349,353] The results of a 2012 study suggest that "increasing the distance to the nearest registry office by 25 kilometres is associated with a 4 percentage point increase in the probability of not registering a child's birth in Bolivia and 12 percentage points in the Dominican Republic".[353] These effects were shown to be as or more important than maternal education levels and the ability to deliver in a hospital, which also affect birth registration.[353] As the distance to the registration facility increases, so do the financial and opportunity costs for the family.[352] Conditions of poverty are exacerbated and access to birth registration is made more difficult as public services are not equitably distributed.[356]

Urban-rural differences in underregistration are seen throughout the region, within and between countries, as urban populations face fewer constraints with regard to geographic accessibility.[351,352,354,355] While rural populations are more geographically dispersed, often leading to a very high level of underregistration,[354] in many countries birth registration is almost universal in the capital and other large cities.[349,351] In a 2006 study of six countries in the region, all showed urban-rural differences in underregistration.[355] The study showed striking regional differences within countries in zones characterized by diverse geographic, educational, economic and ethnic compositions.[355]

The region has relatively high levels of registration across household wealth; however, household wealth continues to impact underregistration[351,353,354] and inequities are persistent between the richest and the poorest populations.[351,352,355] Globally, the richest children are more than twice as likely to be registered than the poorest, according to a 2013 UNICEF report.[351,357] Although underregistration of children in Peru and the Dominican Republic is related more to poverty than residential area, the high prevalence of poverty in rural areas requires the establishment of registration programmes in rural areas to target undocumented children.[354]

Studies have shown that several maternal characteristics are related to the likelihood that a child will be registered at birth, such as the mother's educational level, age, utilization of maternal healthcare services and documentation status. The education level of a child's mother significantly influences the health and well-being of her family and the likelihood that her child will be registered at birth.[349,351-353] A mother with more schooling is more likely to know how to register her child and more fully understand the benefits it will afford him or her.[351] In general, mothers with a secondary education are more likely to register their children.[351]

Maternal age is another important factor, with children born to mothers under age 20 years significantly less likely to be registered in Bolivia, Colombia, Peru and the Dominican Republic.[350,355] This may be due to cultural views of early parenthood or because older parents tend to be in more stable relationships, with better educational attainment and more stable income.[350]

A mother's utilization of maternal healthcare services is also related to birth registration. Mothers who do not receive antenatal care are at higher risk of having unregistered births,[355] as are children whose births are not assisted by a skilled birth attendant.[349,350,355,358] In the Dominican Republic, births are registered an average of 23 days later when births occur at home as opposed to in clinics and hospitals.[350]

There is a strong tendency towards the intergenerational transmission of underregistration in the region.[349,354] In Peru, children of undocumented mothers are more likely to be unregistered.[354] Additionally, because in Latin America kinship is commonly expressed by using both the mother's and father's last names, some women refuse to register their children at a civil registry without listing the father's last name; if the mother cannot or will not use the father's name, the mother and/or child may face discrimination due to social stigma.[356] Women in Nicaragua living in union can only register their children temporarily if the father has not signed the birth record.[377] Although the cases are more limited, children who live only with their father, however, are more likely to be registered. In many countries, including the Dominican Republic, children who live with only their father have the highest levels of birth registration, even higher than children living with both parents.[352] Children who live with neither parent suffer the greatest level of non-registration based on living arrangements.[352]

Birth registration is much lower for children from indigenous and other ethnic minorities than for other children in the region.[377,378] In the Dominican Republic, children of undocumented and/or foreign parents—mostly Haitian—have increased chances of being unregistered[375,379] or of being registered late; on average, children born to Haitian mothers register 29 days later than infants born to Dominican parents. This may be due to a lack of legal documentation—an identification card—on the part of the Haitian mothers needed to register their children.[376] A 2009 study of Bolivia, Ecuador and Guatemala showed a strong correlation between poverty, rural location, ethnicity and gender relations as barriers to access timely registration of births and identity documentation. The data revealed additional barriers to be illiteracy and cultural norms around the care of women giving birth, predominantly affecting indigenous and Afro-descendant households, the poor, and people in rural areas; indigenous and Afro-descendant populations were at particularly high risk as they tend to be concentrated in rural, sometimes isolated areas.[380] Some traditional cultures of indigenous peoples may delay registering their children until they have reached a certain age or completed a ritual, such as having their hair cut for the first time.[375] Language may be another barrier to registration. In a 2012 study in municipalities with very low human development index in Mexico, the coverage of birth certification was only 32 per cent and was less frequent if the mother did not speak Spanish, if she did not have Seguro Popular or if the birth was attended by a traditional midwife.[381]

Consequences of being undocumented

The social, political and economic impact of failing to register births and lack legal identity are lifelong and extensive.[377,379,380,382] The absence of birth registration and birth certification impede a person's ability to execute her or his most basic rights and access public and private goods and services.[379,380] Children without birth certificates may be denied access to education, healthcare services, conditional cash transfers and passports. They also face exposure to danger from sexual exploitation and human trafficking and the denial of their civil rights such as adoption and inheritance, since this documentation is needed to prove their identity.[383] Furthermore, birth registration, as a critical element for the enforcement of minimum age legislation, protects children against child labour, early marriage, early recruitment to the armed forces and being tried as an adult in the justice system.[377]

Education, healthcare services and credit are three of the fundamental instruments in the fight against poverty, but without documentation, access may be denied.[379] The negative relationship between lack of registration and access to education and educational attainment has been documented throughout the region.[375,383] Children without a birth certificate have a lower probability of enrolling in primary school of between 5 and 10 per cent (except in Peru) and a lower probability of enrolling in secondary education of between 10 and 20 per cent.[375] Additionally, not having a birth certificate is linked to an overall delay in educational attainment of around half a year compared with registered children.[375] In the Dominican Republic, the absence of birth registration is a key obstacle to graduating from primary school and means fewer years of overall educational attainment.[383]

In addition to lower educational attainment, a lower level of immunization was associated with lack of birth registration in five Latin American and Caribbean countries in a 2013 study (Bolivia, the Dominican Republic, Guatemala, Nicaragua and Peru).[375] A birth certificate is often required in Mexico for non-emergency health services and for health insurance coverage.[377] Without a birth certificate, health centres cannot verify a child's identity or real relationship to the mother and may be unwilling to vaccinate the child as a result.[375] Some programmes have circumvented this problem by utilizing parallel registers and vaccination record cards.[375]

Summary

The Latin America and Caribbean region has relatively high levels of birth registration, which increased by about 10 per cent from 2000 to 2010. Despite this accomplishment, coverage indicators vary among subgroups, indicating geographic, ethnic, educational and economic inequities that must be addressed in order to assure that every child is registered at birth.[377] Vital to these efforts is the improvement of both the quality and quantity of civil registration records. Birth registration must be free, universal, continuously available, confidential, part of the civil registration, timely and accurate.[377]

3.4 Postnatal care for mothers and newborns

Postnatal care is essential for the health of both the mother and her newborn. Half of neonatal deaths and 25 per cent of maternal deaths occur during labour, delivery and the first 24 hours postpartum; by the end of the first week postpartum, the figures increase to two thirds and 60 per cent, respectively.[384] Through interventions delivered during postnatal care, complications can be identified and healthy practices promoted. Links to contraception and child healthcare services can be also made for mother and newborn.[385] Despite its importance, postnatal care is often neglected

Box 10. Gaps in postnatal care for newborns (Figures 21 & 22)

- There are great variations between countries in the percentage of newborns who receive postnatal care within two days after birth. In Colombia it is only 7 per cent

Wealth:

- The lowest percentage of newborns with postnatal care are Colombian children of all income groups (below 8 per cent) and Haitian newborns of the four lowest income groups (ranging between 9 and 20 per cent).
- The widest gaps are in Bolivia (46 percentage points), Haiti (35), Honduras (24), and Panama (24).

Place of residence:

- The coverage of postnatal care is lower for rural newborns, with the lowest percentage found among newborns in rural Haiti (14 per cent).
- The widest urban/rural gaps are in Bolivia (26 percentage points), Paraguay (21), Panama (18), Dominican Republic (16), Haiti (15) and Honduras (14).

Education:

- In all countries in the region, postnatal care is less frequent among newborns whose mothers have no education, particularly in Haiti (9 per cent).
- The gaps between newborns whose mothers have no education and those with secondary or higher education are as large as 51 percentage points in Panama, 39 in Bolivia, 29 in Honduras, 22 in El Salvador and 20 in Peru.

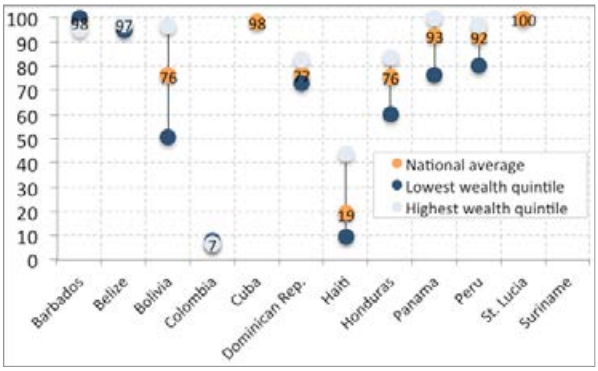
Sex of the child:

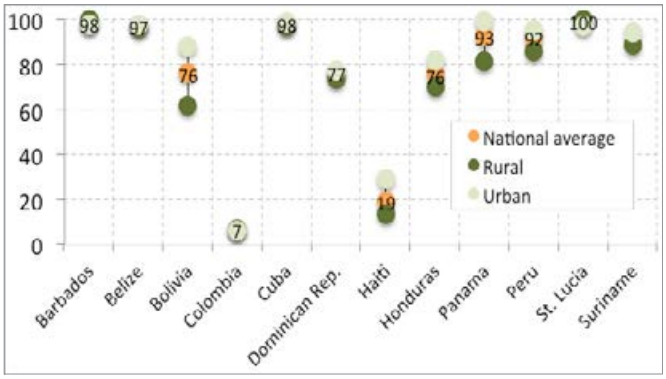
- The timeliness of postnatal care is similar for girls and boys in the four countries with data.

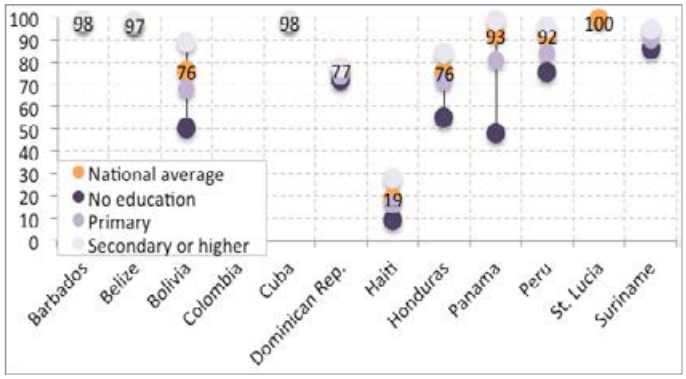
Ethnicity:

- In Panama, 100 per cent of Afro-descendant newborns receive care within two days after birth, but indigenous children lag 30 percentage points below, with only 70 per cent of newborns receiving postnatal care.

Figure 21. Gaps in the percentage of last children born in the two years preceding the survey who had their first postnatal check-up within the first two days after birth in Latin American and Caribbean countries, by wealth, place of residence and educational attainment of the mother, household surveys 2007-2014



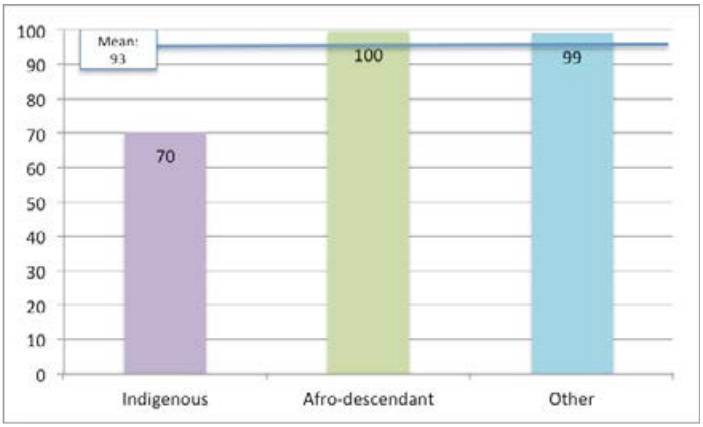




Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

and large gaps exist between the proportion of women who receive antenatal care and those who receive postnatal care.

Figure 22. Differences in the percentage of newborns who receive postnatal care within two days after birth by ethnic group in Panama, 2013



Source: Analysis based on Multiple Indicator Cluster Survey from Panama, 2013.[1]

Care-seeking behaviours

Globally, women are more likely to receive postpartum care if they belong to a household with higher wealth and have received antenatal care. Education beyond the primary level, urban residence and media exposure have also been shown to correlate strongly with receiving postpartum care.[360] Recent studies exploring care-seeking in Latin America have been focused on Brazil. According to a birth cohort study which began in 2004, women who did not attend postnatal care were more likely to be poorer, Afro-descendant or of mixed ethnicity, have a lower level of education, be single mothers, adolescents, multipara (with multiple children), smokers and women who delivered vaginally and were not assisted by a physician. Alternatively, women who did attend postnatal visits were more likely to exclusively breastfeed their infants, use contraceptive methods and be nonsmokers three months after birth.[361] A component of a 2000 study in Brazil looked at women who delayed or did not attend postnatal care, resulting in post-neonatal deaths. Delays in seeking biomedical care were associated with use of traditional healers as the first source of care, treating infants at home, probable lack of recognition of disease severity and obstacles such as cost and availability of transportation and childcare. Mothers of young and malnourished children were less likely to take them to a doctor, suggesting that after analysing the barriers to care, only the older and more 'valuable' children were worth trying to save.[362] Despite the absence of user fees in Brazil's public health system and of other direct out-of-pocket payments, postnatal care coverage among users of private health care was almost universal (96 per cent), while 28 per cent of women from the public sector reported absence of postnatal visits, which may be related to other costs or barriers.[361]

Summary

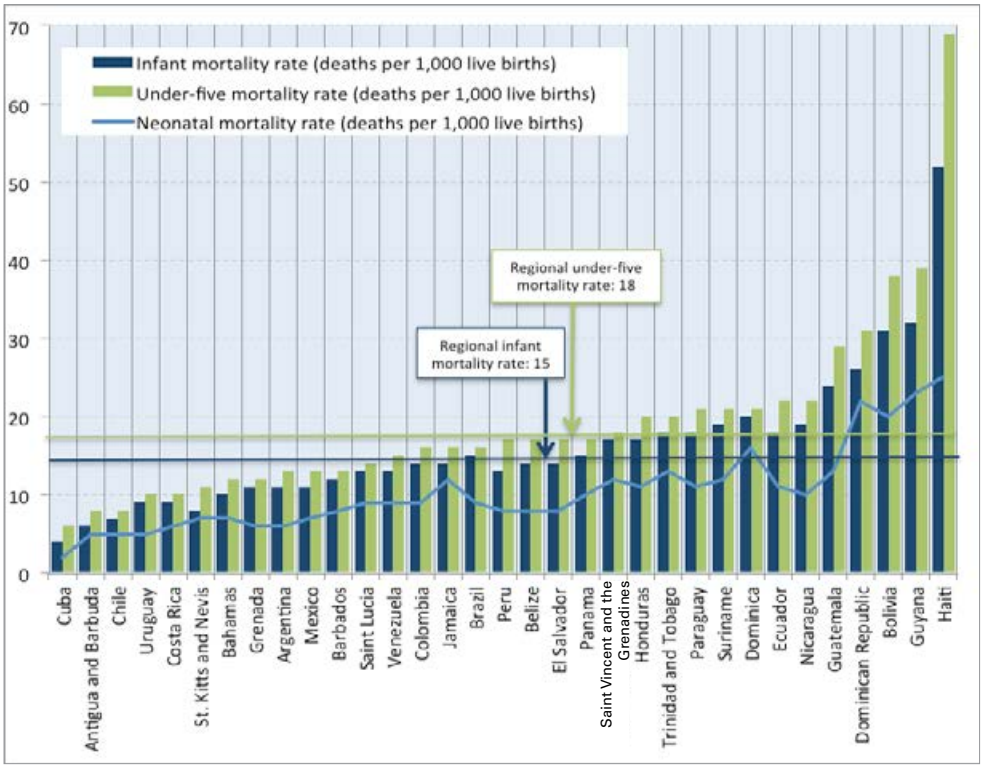
While it is known that inequalities exist in access to health care throughout the region, delays in postnatal care can lead to negative health outcomes for mothers and their newborns. Studies in Brazil reveal social factors associated with delay of care and the absence of postnatal visits, but a better understanding of care-seeking and barriers is necessary throughout the region.

4. Child health (0 to 9 years old)

4.1 Mortality in children

In Latin America and the Caribbean, it is estimated that 196,000 children under the age of five years died in 2015 (U5MR of 18 deaths per 1,000 live births); of these, 85 per cent (167,000 children) were under the age of one year (IMR of 15 deaths per 1,000 live births),[303,304] as shown in Figure 23. Girls have better biological endowments than boys for survival to age five years.[386]

Figure 23. Infant and under-five mortality rates in comparison with the neonatal mortality rate in Latin American and Caribbean countries, 2015



Source: Analysis based on UNICEF. *Committing to Child Survival: A Promise Renewed. Progress Report 2015.* New York: UNICEF, 2015 [304] and UNICEF. *Levels & Trends in Child Mortality. Report 2015. Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation.* New York: UNICEF, 2015.[303t]

Box 11. Gaps in child mortality (Figures 24 & 25)

Wealth and education:

- The greatest gaps in IMR and U5MR are found within wealth quintiles and education groups:
  - In countries with disaggregated data, the IMR is highest among Bolivian infants whose mothers have no education, those from the poorest quintile and those from rural areas, Dominican children whose mothers have no education and Haitian infants whose mothers have no education and those from the poorest quintile.
  - In countries with disaggregated data, the highest U5MR is among the poorest children in Bolivia and in Haiti.
  - The difference in IMR between infants whose mothers have no education and those of mothers with secondary or higher education is as much as seven times in El Salvador, three times in Bolivia, Guatemala, Colombia and the Dominican Republic and twice in Peru.

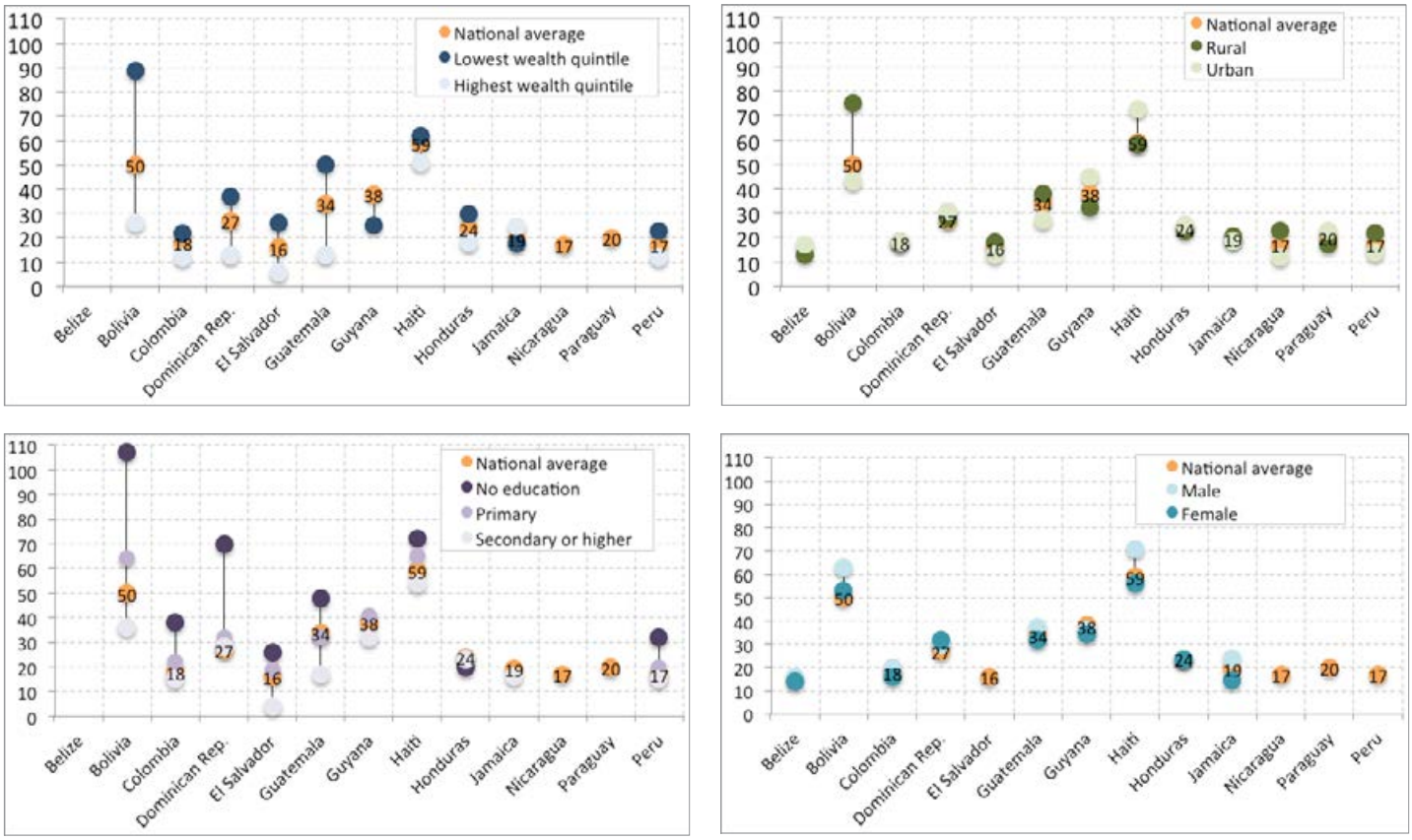
Place of residence:

- The mortality indicators do not show a clear pattern by urban or rural residence:
  - The IMR is higher among rural infants in Bolivia, Guatemala, Nicaragua and Peru, higher among urban infants in Haiti, Guyana and Paraguay, and similar in rural and urban areas in the other countries.
  - The U5MR is similar in rural and urban areas, except in Bolivia, Guatemala, Nicaragua and Peru, where it is higher in rural areas, and in Guyana and Haiti, where it is higher in urban areas.

Sex of the child:

- The IMR and U5MR are higher among boys than girls in most countries.

Figure 24. Gaps in the infant mortality rate (deaths among children under one year of age per 1,000 live births) in Latin American and Caribbean countries, by wealth, place of residence and educational attainment of the mother, household surveys 2007-2012



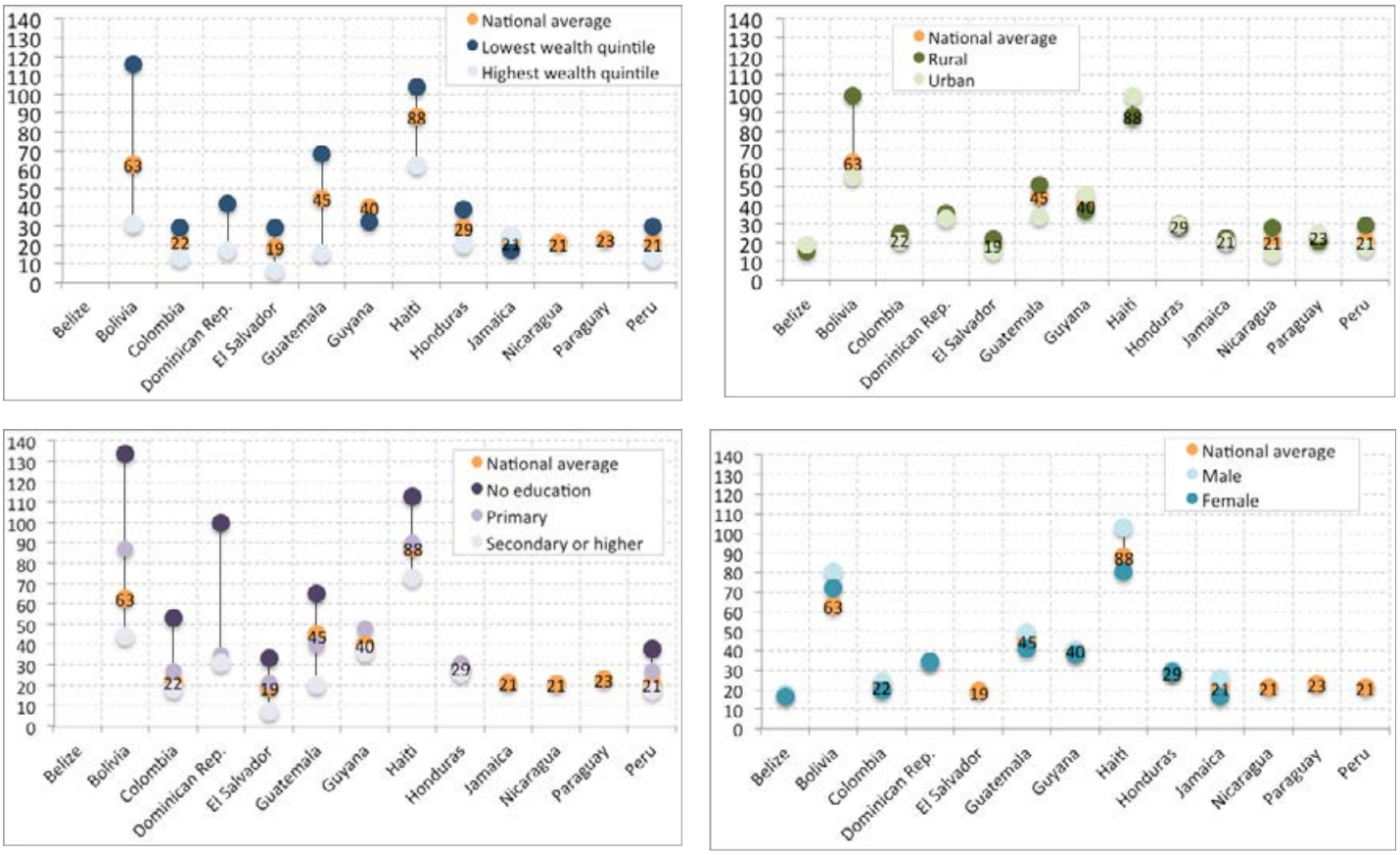
Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

Cuba, Chile and Costa Rica are examples of countries where inequity has been reduced successfully by decreasing the gap between the richest and poorest population groups, primarily through improving women's access to education and increased coverage of public health measures.[387] In a study specific to Chile when national interventions and reforms were introduced between 1990 and 2004, the mortality rates for neonates, infants and children decreased significantly, leading to the conclusion that during socioeconomic development and health sector reforms, Chile saw a significant decrease in mortality and inequity.[387] But even as mortality rates in Latin America continue to decline, inequity is still a major health problem. There is evidence that shows that the coverage of maternal and child health initiatives favours women with a higher socioeconomic position, who benefit from new programmes.[387,388] A study conducted in Brazil categorized all the municipalities in the country according to four socioeconomic strata and found that the IMR in 2006-2008 varied from 19 in the poorest quartile to 18 in the second, 15 in the third and 13 in the wealthiest.[389] A 2015 analysis of Latin American and Caribbean household surveys from 1996 to 2012 found that the under-five mortality rate decreased among children from all wealth quintiles in most countries with available data.[41]

Summary

Children are particularly affected by their living conditions and by the health resources available to and utilized by their families. In this way, children from disadvantaged contexts become more likely to suffer adverse health outcomes during infancy and early childhood. Indeed, the highest IMRs are found among children from poor socioeconomic positions, minority ethnicities and those whose mothers have no education. Under-five mortality is also greater for children from poor families and whose mothers have low levels of education. Attaining equity in infant and early child health will require larger initiatives to reduce social and economic inequality.

Figure 25. Gaps in the under-five mortality rate (deaths among children under five years of age per 1,000 live births) in Latin American and Caribbean countries by wealth, place of residence and educational attainment of the mother, household surveys 2007-2012



Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

4.2 Child growth and malnutrition

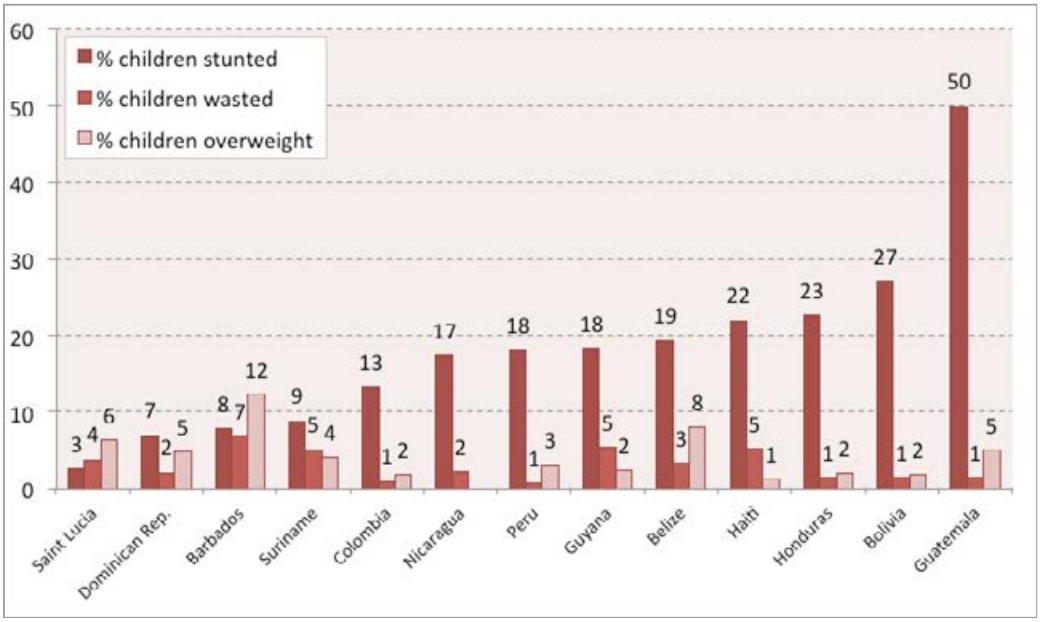
In Latin America and the Caribbean in 2015, an estimated 3.8 million people were overweight and 1.6 million people underweight.[390] Even as the region stands out for its notable improvement in health and nutrition,[391] malnutrition continues to be a multidimensional issue, with several underlying factors such as poverty and exclusion,[392] which generates significant inequalities between and within countries. A severely malnourished child is 10 times more likely to die than a well-nourished child.[393] Furthermore, the effects of malnutrition among children will affect not only their health and probabilities of survival, but their likelihood to attend school. It was estimated that in 2004, approximately 1 million Central American and Dominican children dropped out of school due to underweight; as a result, malnourished children had two years less schooling than those who did not suffer undernutrition.[394]

Stunting, wasting and underweight

Chronic malnutrition or stunting (measured by height for age), caused mostly by protein-energy malnutrition and anaemia as result of an iron deficiency,[395,396] is the most common growth deficiency in the region[397] and the most prevalent form of malnutrition among 13 countries with recent survey data, shown in Figure 26.

Guatemala has the highest prevalence of stunting in Latin America and the Caribbean and one of the highest in the world.[398] In 2008-2009, it affected 50 per cent of children under five years of age, although the prevalence was about twice as high among indigenous children (66 per cent) than among non-indigenous (36 per cent), as shown in Figure 28.[398] Chronic malnutrition has been perpetuated for generations, particularly among indigenous and rural populations who have been excluded from dominant models of development; it is within these populations that the highest prevalence of stunting in preschool and school-aged children is found.[396] Figure 27 shows how the prevalence of stunting in Guatemala is also significantly unequal by socioeconomic position (a child in the poorest quintile has five times more chances of being stunted than a child in the wealthier quintile); area of residency (59 per cent prevalence in rural area vs. 34 per cent prevalence in urban area); and level of mother's education (a child born from a mother with no education has three times as many chances of being stunted than a child born from a mother with secondary or higher education). Furthermore, a study conducted in rural Guatemala in 2012-2013 found that 19 per cent of the infants born to Spanish-speaking mothers were moderately stunted, whereas 41 per cent of the infants born to Mam-speaking indigenous mothers were moderately or severely stunted.[399] Since the 1980s, a decrease in the amount of total agricultural land and an increase in the proportion of land for export agriculture has negatively impacted the availability of crops that are produced for domestic consumption. Studies have shown that rural families with small plots of land are most affected by chronic malnutrition, particularly in the poorest areas of the country that have been negatively affected by droughts and by the drop in the international price of export products such as coffee.[396] These factors have been associated with the fact that more than one half of families relied exclusively on corn, peppers, sugar and coffee as their daily staples in 2007.[396]

Figure 26. Prevalence of stunting, wasting and overweight in children under five years of age in 13 Latin American and Caribbean countries, 2008-2013



Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

Box 12. Gaps in child stunting (Figure 27)

Wealth:

- The prevalence of stunting is consistently higher among the poorest children than among other wealth quintiles. The lower the quintile, the higher the prevalence of stunting.
- The highest prevalence of stunting is in Guatemala, where 70 per cent of the poorest children are stunted (five times more than among the wealthiest).
- Other countries with wide gaps in the prevalence of stunting are Peru (nine times), El Salvador (seven times) and Guatemala, Honduras and Haiti (five times). In Belize, Bolivia, Guyana, and Mexico it is between three and four times higher, and it is at least two times higher in Barbados, Brazil, Colombia, Dominican Republic and Suriname.

Place of residence:

- The prevalence of stunting is higher in rural than in urban areas in most countries.
- In Peru, stunting is four times more prevalent among rural than urban children.

Education:

- The prevalence of stunting is consitently higher among children whose mothers have no education than among other children.
- The gaps are widest in Guatemala, where 69 per cent of children whose mothers have no education are stunted (49 percentage points higher and three times greater than among the most educated), Honduras (38 percentage points and five times greater), Peru (36 percentage points and five times greater) and Bolivia (30 percentage points and four times greater). The gap is three times greater in Belize, Colombia, El Salvador and Haiti.

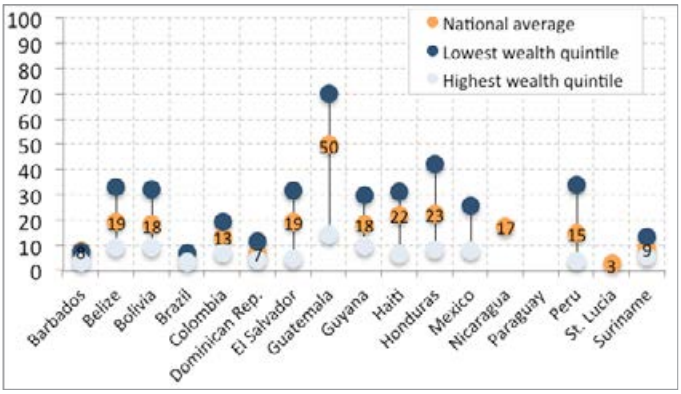
Sex of the child:

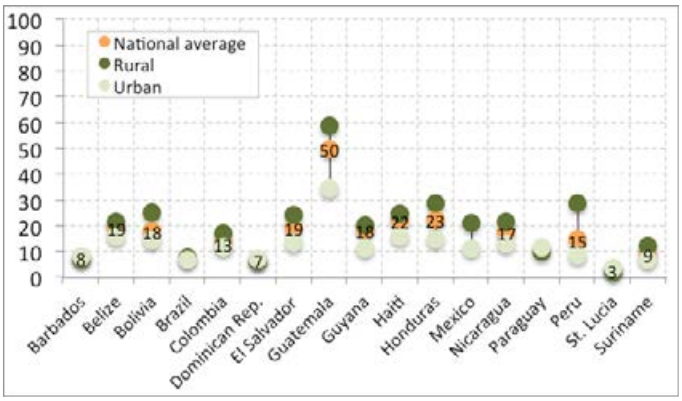
- The prevalence of stunting is similar for girls and boys.

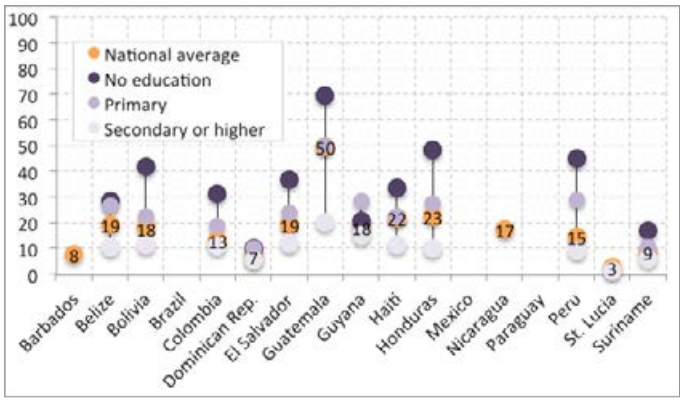
Ethnicity:

- In Guatemala, the country with the highest prevalence of stunting in Latin America and the Caribbean, there are wide gaps by ethnicity: 66 per cent of indigenous children are stunted versus 36 per cent of non-indigenous children.

Figure 27. Gaps in the percentage of children stunted (below -2 SD of height for age according to the WHO standard) in Latin American and Caribbean countries, by wealth, place of residence and educational attainment of the mother, household surveys 2007-2014

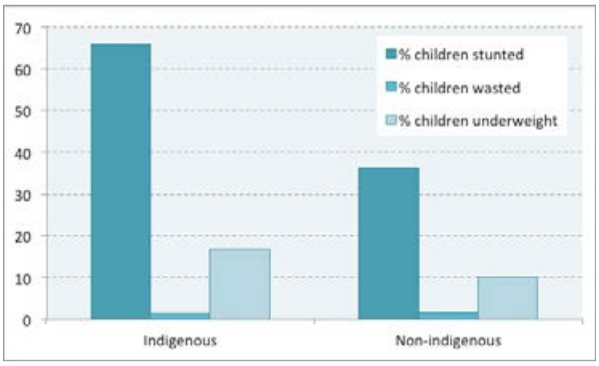






Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

Figure 28. Malnutrition among indigenous and non-indigenous children in Guatemala, 2009



Source: Analysis based on Reproductive Health Survey from Guatemala, 2009.[400]

Even when wasting and stunting are widely-used indicators for describing the prevalence of malnutrition in childhood, studies from Latin America consistently show low prevalence of wasting in the presence of other indicators of poor health.[401] The prevalence of wasting (weight for height) in most Latin American countries is below 2.5 per cent, which is the proportion expected in a healthy population.[402] In the baseline study for Salud Mesoamérica 2015 Initiative, which includes southern Mexico and the seven countries in Central America, the prevalence of wasting was 1 per cent in all countries except Panama (2 per cent) and El Salvador (3 per cent).[403]

Box 13. Gaps in child wasting

- Of the 14 countries with disaggregated data, the prevalence of child wasting varies between 7 per cent in Barbados and less than 1 per cent in Colombia and Peru.[1]

Wealth:

- The prevalence of child wasting is higher among the poorest than among the wealthiest, but gaps are small.[1]

Place of residence:

- In most countries, differences between rural and urban children are small.[1]

Education:

- In most countries, the differences between education groups are small.[1]

Sex of the child:

- The prevalence of wasting is higher among boys than among girls, although the differences are small.[1]

Overweight and obesity

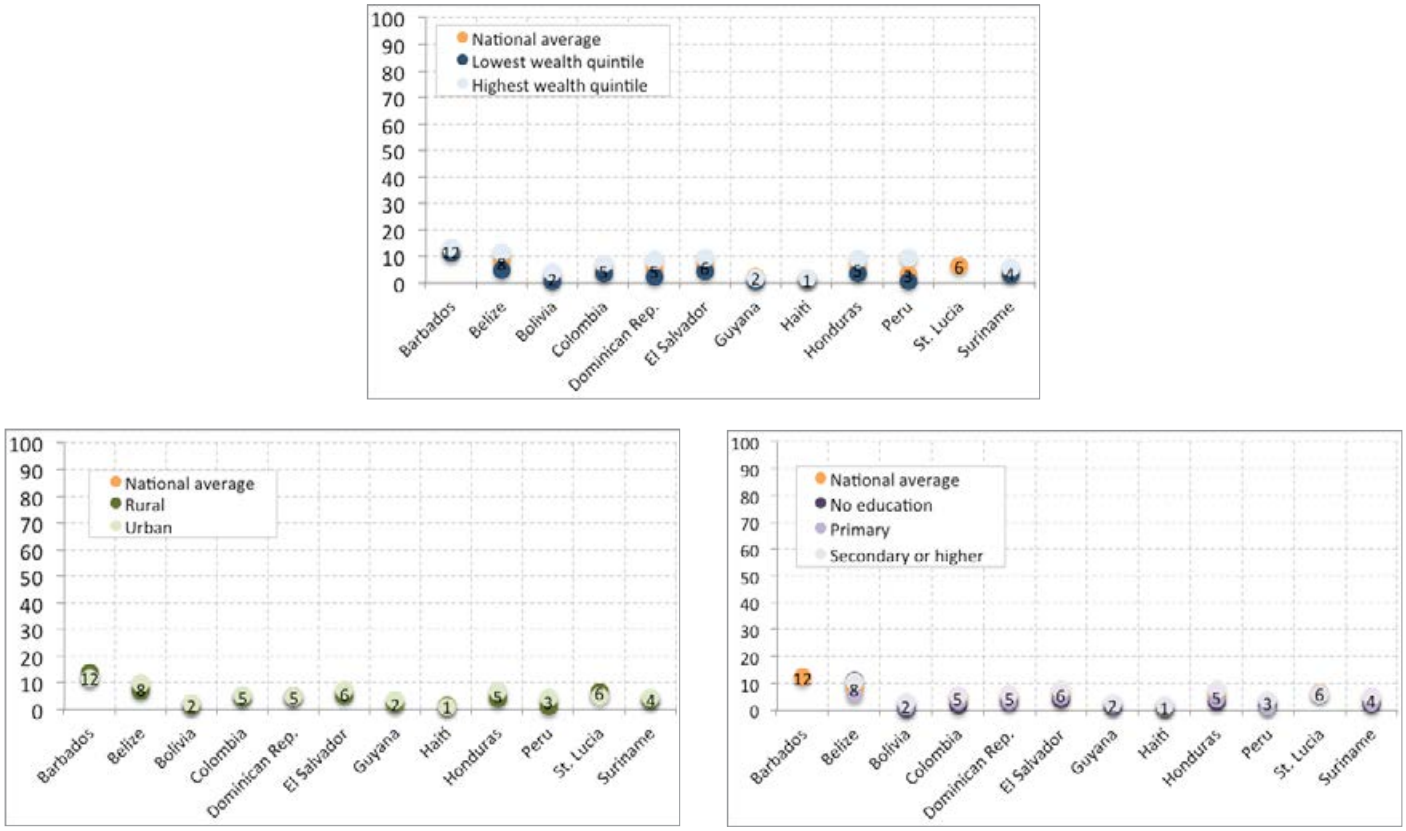
According to the World Bank, around 20 to 25 per cent of children under age 19 years are overweight or obese in Latin America and the Caribbean.[404] Among children under five years of age, the prevalence of obesity and overweight has rapidly increased in some countries. In the Dominican Republic it more than tripled between 1991 and 2013 (from 2 to 7 per cent) and in El Salvador it doubled between 1993 and 2008 to 3 per cent.[405] In the baseline study for Salud Mesoamérica 2015 Initiative, the prevalence of overweight was 3 per cent in Panama, 5 per cent in Guatemala, 6 per cent in Honduras and El Salvador, 7 per cent in Chiapas, Mexico and 8 per cent in Nicaragua.[403] Overweight and obesity in children are intrinsically interconnected with other forms of malnutrition. A study in Uruguay found that stunted infants had a risk of being overweight almost three times more than children who were not stunted,[406] especially in the context of poverty.[406]

Studies in the region confirm that the prevalence of overweight tends to be higher in the wealthiest than in the poorest quintiles.[379] A study in rural Mexico found that maternal schooling effectively mitigated the negative effects of household wealth on the prevalence of double-burden (stunting and overweight).[380] Gender inequalities are also evidenced in the risk of overweight, as a study in Colombia among children aged 5 to 18 years found that girls were more likely to be overweight than boys,[381] which could be explained by a combination of social norms that encourage physical activity only among boys and the process of sexual maturation that increases body fat in girls.[381]

Box 14. Gaps in child overweight (Figure 29)

- The greatest prevalence of overweight is found in Barbados, where it is 12 per cent.
- The differences in the prevalence of overweight by wealth quintiles, place of residence, education of the mother or sex of the child are small.

Figure 29. Gaps in the percentage of children overweight (above +2 SD of weight for age according to the WHO standard) in Latin American and Caribbean countries, by wealth, place of residence and educational attainment of the mother, household surveys 2007-2014



Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

Micronutrient deficiencies and anaemia

The importance of micronutrient supplementation has been widely evidenced. Vitamin A and zinc supplementation in children under age five years reduces the incidence of diarrhoea[407,408] and iron supplementation in children age 12 years is associated with lower risk of anaemia and iron deficiency.[409] Because of its importance, the delivery of vitamin A has been integrated into routine health services and it is commonly distributed as part of the expanded programme on immunization.[410] Even when vitamin A can be available in primary health care settings, access has proved to be unequal in Latin America.

In Latin America, the lowest prevalence of anaemia among children was found in Chile and Costa Rica,[411] while Guatemala, Haiti and Bolivia had the highest prevalence.[411] Inequalities have also been evidenced within countries and across socioeconomic position, area of residence and population groups. During 2008-2009, the prevalence of anaemia among indigenous Guaraní children in the State of São Paulo, Brazil was three times higher than among non-indigenous children.[412] A study from the 2010 Colombian DHS found a higher prevalence of anaemia among adolescents in the poorest quintile compared with adolescents in the wealthiest quintile.[413] Another study that used data from the 2011 Peruvian DHS found that the prevalence of anaemia among rural children was 46 per cent higher than in their urban counterparts.[414] Finally, evidence from Brazil showed that children from socioeconomically vulnerable populations, such as indigenous communities and those who live in rural settlements and urban slums, are almost three times more likely to be anaemic than the national average.[415]

Box 15. Gaps in vitamin a supplementation

- Although there is a variation in the prevalence of vitamin A supplementation between countries, differences within countries between wealth groups, place of residence, mother's education and sex of the child are small. [1]

Summary

Chronic malnutrition is the region's most common growth deficiency. The issue reflects social inequalities, as it is associated with poverty, low levels of maternal education, indigenous ethnicity and rural residence. This is further illustrated by the inequalities in anaemia and vitamin A supplementation that affect poor children. Conversely, trends in obesity and overweight are increasing and primarily have affected children from more affluent households.

4.3 Immunization and immuno-preventable diseases

Box 16. Gaps in BCG, DPT3 and measles vaccination

- The greatest gaps in BCG, DPT3 and measles vaccination are found along wealth and education groups. The prevalence of BCG, DPT3 and measles vaccination coverage between rural and urban children and between girls and boys is similar.[1]
- The greatest gaps in BCG vaccination occur in Haiti, where 74 per cent of the poorest and 91 per cent of the wealthiest are inmunized, and where 69 per cent of children whose mothers have no education are immunized, compared to 89 per cent of children whose mothers have secondary or higher education.[1]
- The greatest gaps in DPT3 coverage are between the wealthiest and the poorest in Suriname, Panama, Haiti and the Dominican Republic, and between the least and most educated in Haiti, Colombia and Panama.[1]
- The greatest gaps in measles vaccination coverage are between the poorest and the wealthiest in Guyana, Panama and Suriname, and between the least and most educated in Colombia and Haiti.[1]

The expanded programme on immunization was launched in Latin America and the Caribbean in 1977. The programme focused on six diseases and called for the application of four different vaccines: measles vaccine; combined diphtheria, pertussis and tetanus (DPT) vaccine, tuberculosis vaccine (BCG); and oral polio vaccine.[416] At that time, only 25 to 30 per cent of children in the region were receiving these vaccines.[416] As of 2013, polio, measles and rubella had been eliminated in the region and there have been reductions in morbidity and mortality due to vaccine-preventable diseases (VPDs).[417]

A challenge that has remained is ensuring that all children have equal access to immunization services. As of 2012, 50 per cent of the 14,716 municipalities in Latin American and Caribbean countries reported coverage for DPT3 at less than 95 per cent and 23 per cent reported less than 80 per cent coverage, which places them at risk for the reemergence of VPDs that have been eliminated, eradicated or are under epidemiological control.[417] Since the 1980s, national immunization days and other vertical, campaign-based strategies have been promoted to help improve vaccination coverage.[418]

In 2010, a survey study conducted in Colombia analysed different factors that prevented access to immunization and found that 46 per cent of 4,802 participants had recently faced circumstances that made vaccination difficult or impossible, such as distance from health centres, lack of vaccines, limited days or hours of operation and refusal of healthcare personnel to open a vaccine vial for one child.[419] In Guatemala, a study conducted in 2011 found that barriers to immunization included the sickness of the child, lack of time, lack of vaccines, lack of vaccinating personnel, high cost and distance to health centres; 15 per cent of 1,194 participants reported that they were denied vaccination services.[420] There was also an association found between children of less-educated, older and single parents being more likely to have incomplete vaccination schedules in low-coverage areas, whereas in high-coverage areas, undervaccination was associated with the caregiver's lack of education, single marital status and a child's birth order.[420]

Summary

While the region has made considerable improvements in promoting immunization, there remain social and economic inequalities in access to vaccines against tuberculosis, diphtheria, pertussis and tetanus. More research is needed to understand the barriers to obtaining vaccines as well as access to treatment for vaccine-preventable diseases.

4.4 Water, sanitation, hygiene and diarrhoea

Diarrhoea is the third cause of mortality among children aged 1-59 months in Latin America and the Caribbean.[421] Poor hygiene and lack of access to sanitation, sewerage connections and potable, non-contaminated water have been associated with infant and child mortality, diarrhoeal and parasitic infections and malnutrition.[422-424]

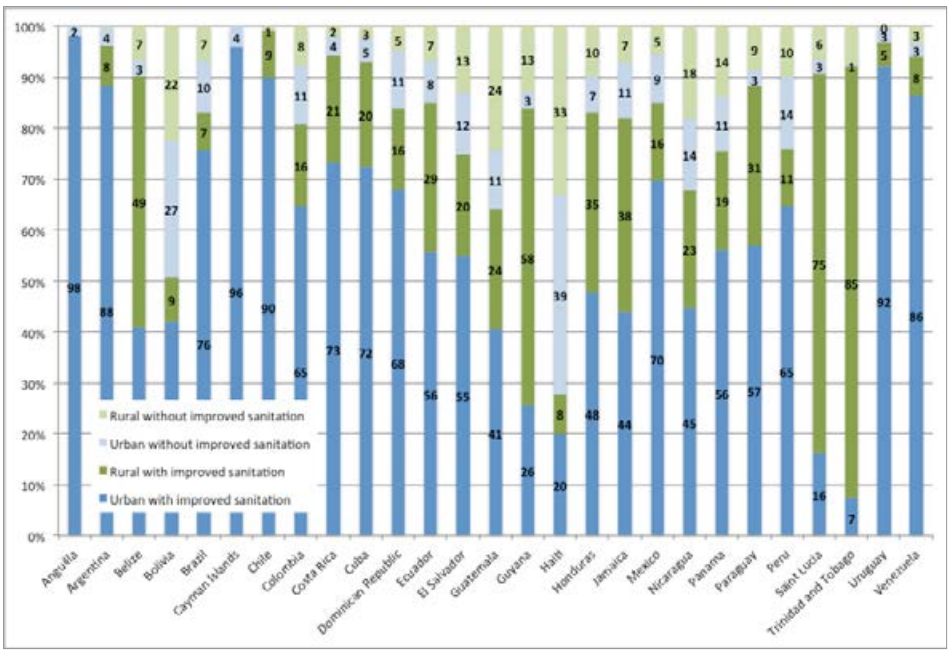
In Latin America and the Caribbean, improved sanitation facilities—those that are "likely to ensure hygienic separation of human excreta from human contact"[425]—reached 83 per cent of the population in 2015, with higher access for the urban (88 per cent) than for the rural (64 per cent) population.[425] Figure 30 shows this distribution by country. Also in 2015, 95 per cent of the regional population had access to improved drinking water sources—piped household or public water connection—with a breakdown of 97 per cent in urban and 84 per cent in rural populations,[425] as shown in Figure 31.

Inequities in access to drinking water and sanitation services are related to poverty.[426,427] Results from a 2008 ecological study carried out in 21 Latin American and Caribbean countries found an average of 6 per cent mortality due to acute diarrhoeal diseases in children under age five years, with Costa Rica at 1 per cent and Guatemala at 13 per cent.[423] Higher access to drinking water and sanitation were associated with lower mortality in children under one and under five years of age.[423]

There is an inverse correlation between sanitation coverage and childhood mortality rates.[423] In Brazil's North and Northeast regions—which are the poorest regions in the country and have a high proportion of households that do not have on-site sanitation facilities or connections to sewage systems—mortality rates due to childhood diarrhoea indicate that children under one year of age are the most at risk: a 2010 ecological study associated lack of garbage collection with the likelihood of infant hospitalization or death due to acute diarrhoea.[428] A 2012 study conducted on the outskirts of Salvador, Brazil compared the medical histories of children under the age of 15 years with the adequacy of solid waste collection from the participants' households. Among children under the age of five years, participants from households without adequate trash collection services had experienced a greater number of episodes of diarrhoea and presented worse nutritional statuses than did children from households with regular and adequate trash collection. Among children aged 5-15 years, there was a higher prevalence of parasitic infections among participants from homes without adequate waste collection services.[429] A 2010 ecological study throughout Brazil found a direct relationship between under-five mortality from waterborne diseases (such as diarrhoea, parasitic and bacterial infections and cholera, among others) and inadequate sanitation in their homes (such as sewerage disposal via rudimentary gutters and pits or the disposal of waste in uncultivated land or public areas).[430]

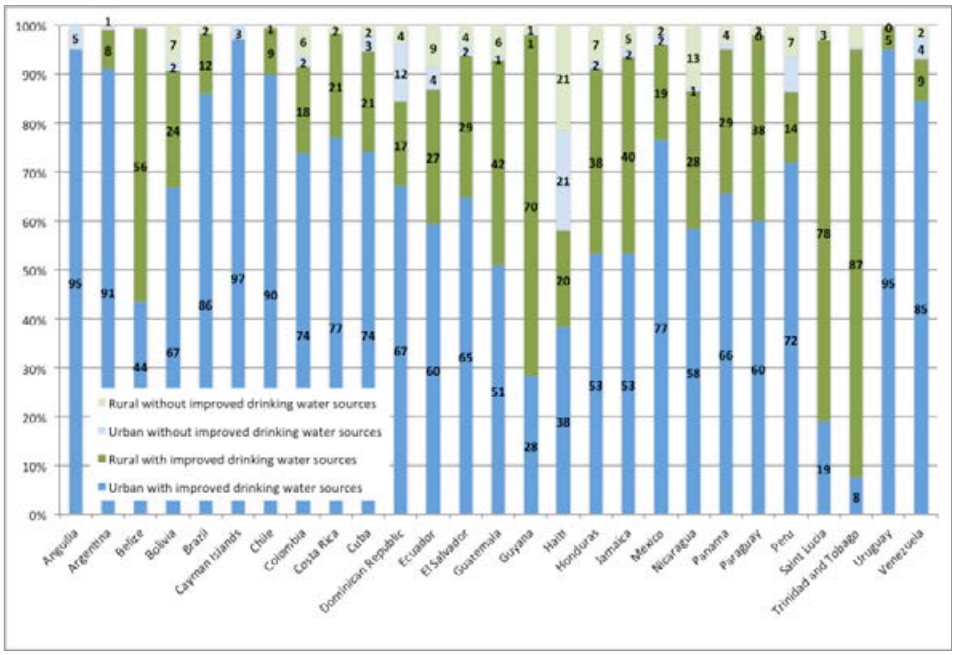
Populations in the lowest income brackets in urban and rural areas alike tend to spend proportionately more on water than populations in the highest income brackets.[426,431] In Kingston, Jamaica, per-capita expenditure on water by the poorest 10 per cent of the population is more than four times higher than the

Figure 30. Percentage of the population with and without access to improved sanitation facilities by urban and rural residence in Latin American and Caribbean countries, 2015



Source: Analysis based on UNICEF, WHO. *Progress on Sanitation and Drinking Water – 2015 update and MDG assessment.* New York: UNICEF and World Health Organization, 2015.[425]

Figure 31. Percentage of the population with and without access to improved drinking water sources by urban and rural residence in Latin American and Caribbean countries, 2015



Source: Analysis based on UNICEF, WHO. *Progress on Sanitation and Drinking Water – 2015 update and MDG assessment.* New York: UNICEF and World Health Organization, 2015.[425]

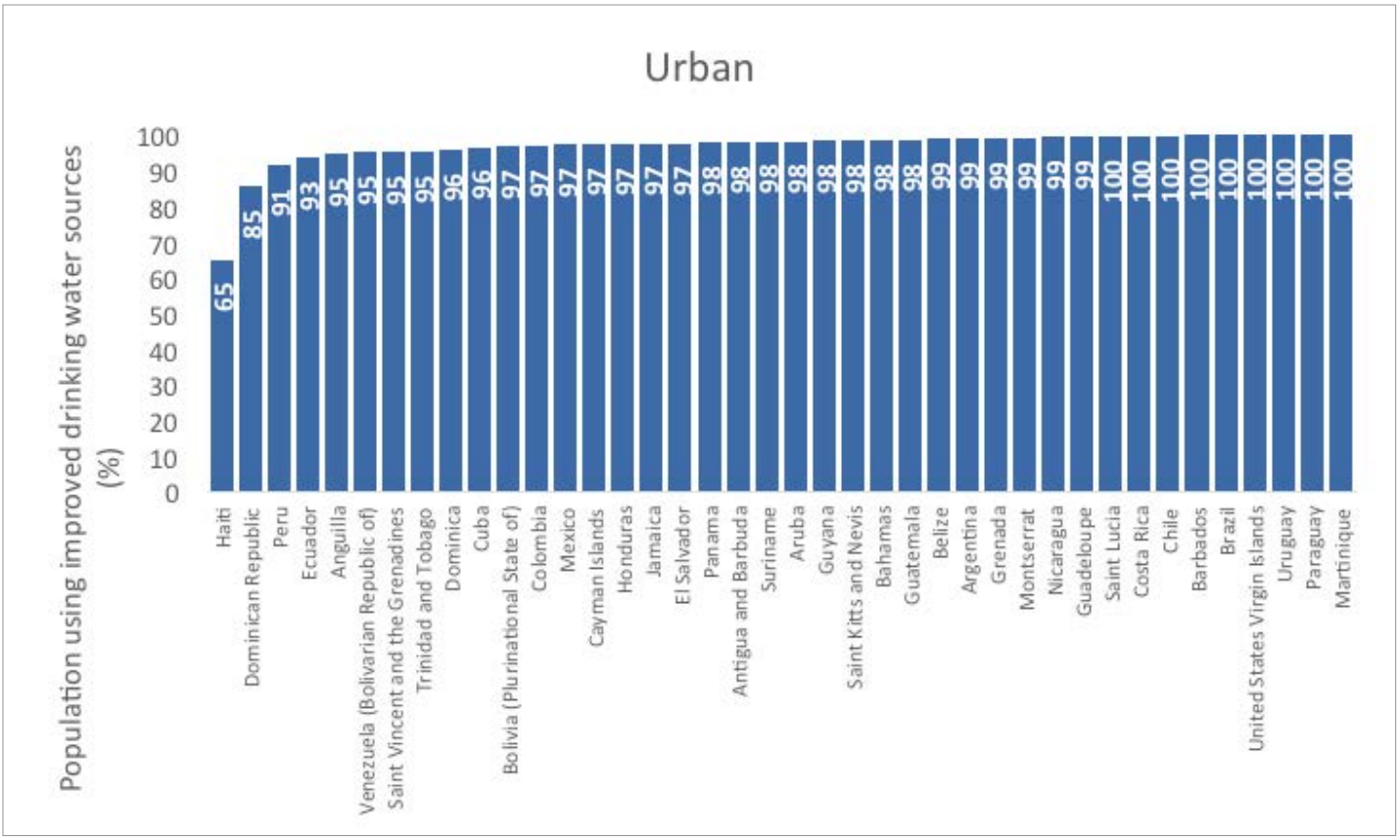
percentage spent on water by the upper class. In Lima, Peru, water spatial patterns of access to water networks follow the city's patterns of spatial and socioeconomic segregation, also showing a core periphery dichotomy that favours households located in the centres or core areas.[432] There was a strong association found between expenditure on water and family income; while the richest families spend more on water than poorer families, the proportion of total family income that is spent on water consumption is much higher among poorer families.[426,431] When comparing groups with similar income levels, the proportion of dwellings with a household piped water supply is smaller in the wealthiest 10 per cent of the rural population than in the poorest brackets of the urban population.[426,431] Poorer populations have spent more of their proportional income on water than wealthier populations, yet poorer populations do not have the same access to improved water sources, which results in worse health outcomes.[426,431,432]

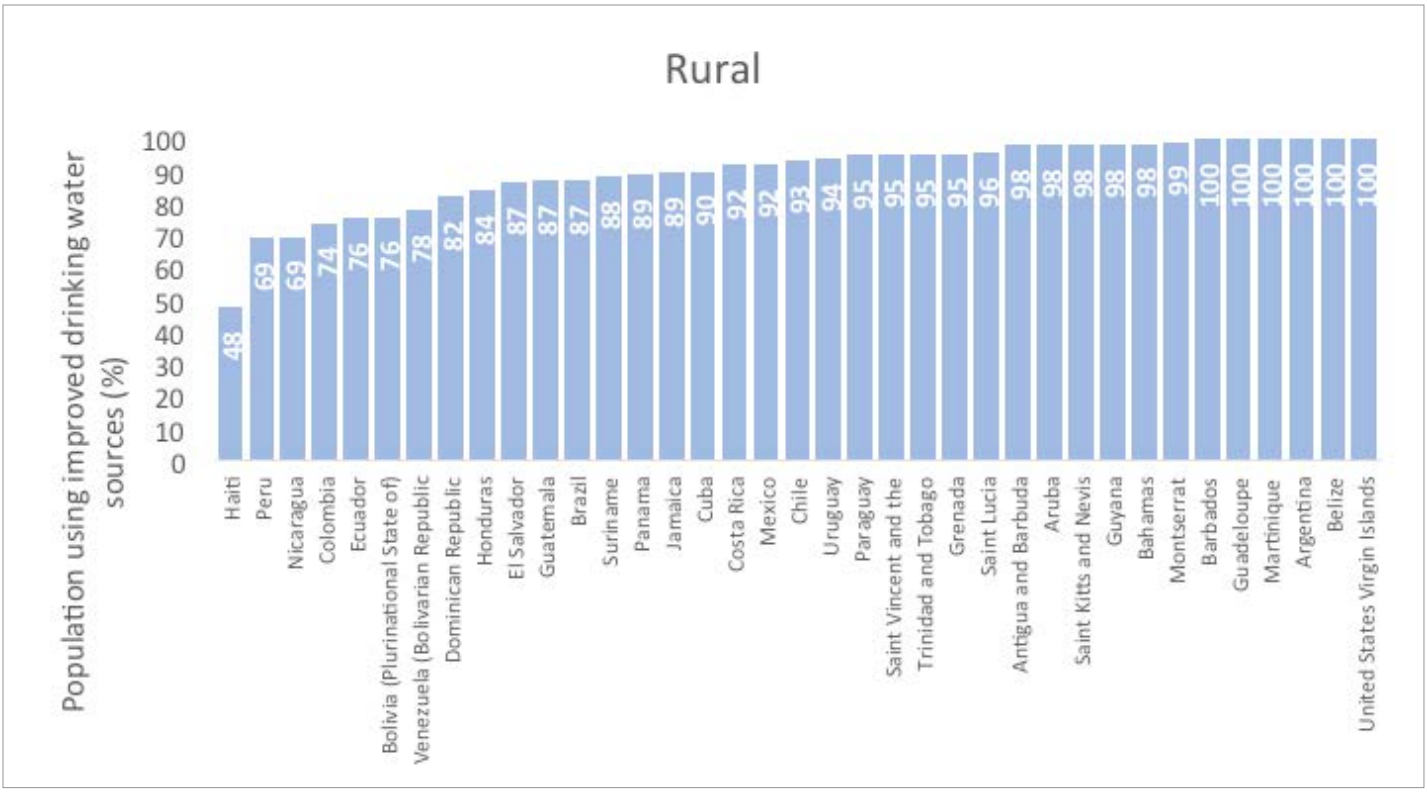
Access to drinking water in rural areas is much more restricted than among urban populations, especially in households without a household connection, as the time needed to collect water imposes additional costs.[426,431] In Haiti, both urban and rural areas still face challenges accessing improved drinking water sources. As shown in Figure 31, 42 per cent of the population live in areas that lack improved drinking water sources, of whom half (21 per cent of the total population in the country) are in urban and the other half (another 21 per cent) in rural areas. While improved sources of drinking water are less likely to be contaminated than unimproved sources, the quality of the water supplied varies. The relatively high cost of water disinfection methods means that poorer families are less likely to treat water before drinking it.[431]

In Argentina, water and sanitation utility reforms that followed privatization in the 1990s were associated with a 27 per cent reduction of child mortality from water-related diseases in low-income areas or in municipalities with high levels of poverty.[433,434] However, it was later demonstrated that only 69 per cent of poor households in Argentina have benefited from privatized water and sewerage services compared to the 89 per cent of the richest families that benefited from these services.[426] In Bolivia, however, there was an increased prevalence of diarrhoea seen among children from families that used private water services, used off-network water from cistern trucks and were not treating their water at home.[435] Privatization of water and sanitation services does raise concerns about equity as it could negatively impact poorer households via the cost of new connections and price and/or rate increases, which can deepen inequity.[426] In Recife, Brazil the proportion of households with adequate sanitation facilities was lower than the adequate supply of water and direct garbage collection. Children from wealthier socioeconomic groups had better access to sanitation and better health outcomes.[436] More equity-related information on child diarrhoeal outcomes as a result of access to water and sanitation and different levels of service is needed to understand the current situation.

Indigenous populations in Latin American and Caribbean countries also may have limited access to safe water and sanitation services, which fuels a higher prevalence of diarrhoeal diseases among indigenous children.[431] The North and Northeast regions of Brazil, which are the poorest in the country, have high proportions of homes without improved sanitation and high percentages of indigenous populations in the rural areas; in 2009, they had five and four times, respectively, the mortality rate due to diarrhoea in children under one year of age than in the Southern region.[424] The main causes of hospitalized indigenous children under five years of age included diarrhoea and respiratory infections.[424] The national survey on health and nutrition of indigenous peoples

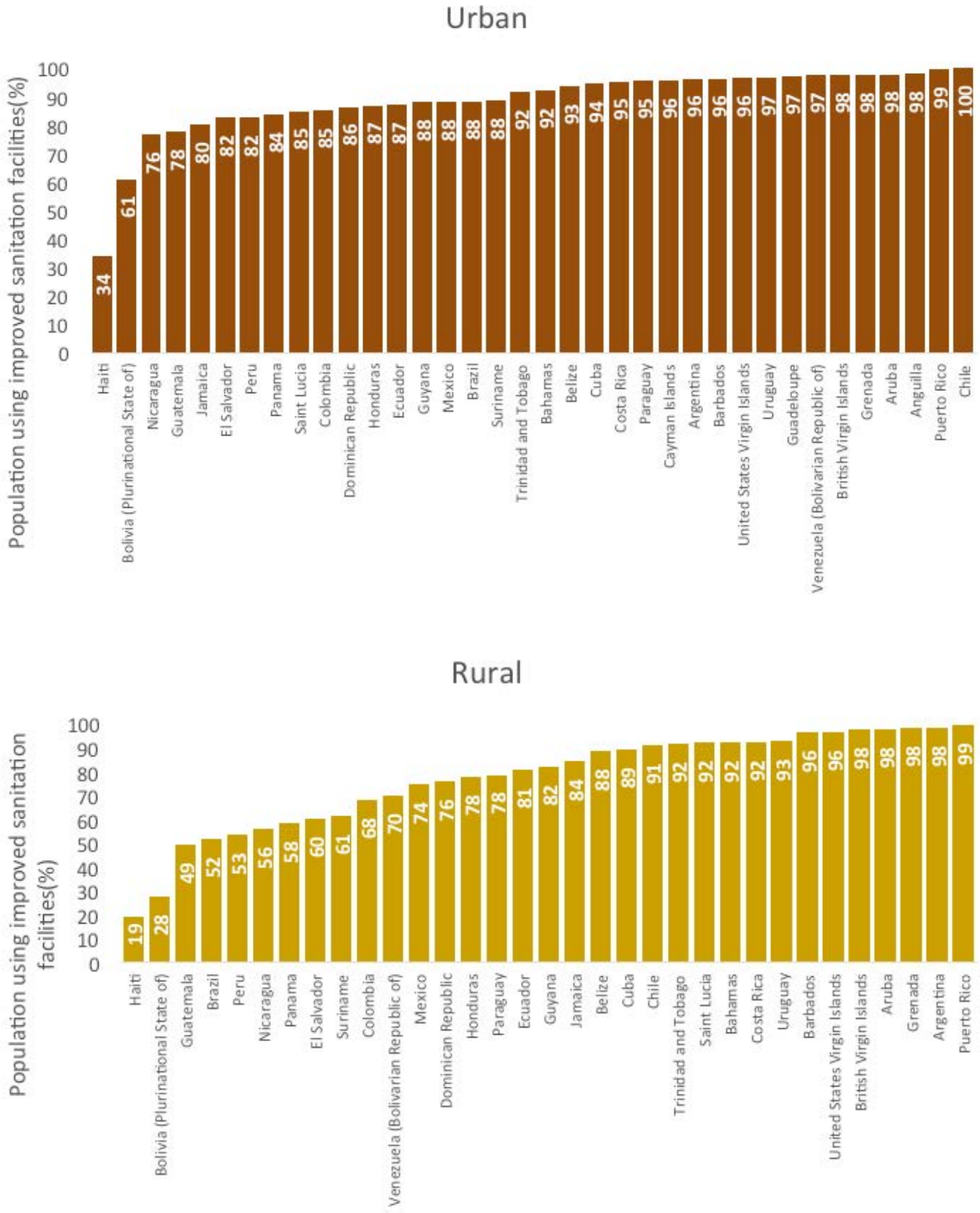
Figure 31a. Percentage of the population with access to improved water facilities by urban and rural residence in Latin American and Caribbean countries, 2015





Source: Analysis based on UNICEF, WHO. Progress on Sanitation and Drinking Water – 2015 update and Millennium Development Goal assessment. New York: UNICEF and World Health Organization, 2015.

Figure 31b. Percentage of the population with access to improved sanitation facilities by urban and rural residence in Latin American and Caribbean countries, 2015



Source: Analysis based on UNICEF, WHO. Progress on Sanitation and Drinking Water – 2015 update and Millennium Development Goal assessment. New York: UNICEF and World Health Organization, 2015.

in Brazil indicated that in the North, 30 per cent of families did not seek help at the Indian health centre or multidisciplinary team of indigenous health when a child developed diarrhoea or a respiratory infection.[424] In Ecuador, the indigenous and Afro-descendant populations are the most negatively affected by the lack of connection to a sewer or alternative system for the disposal of faecal wastes.[437]

To improve access to water and sanitation, initiatives are needed to translate current knowledge about water, sanitation, hygiene and health into action through community projects and research. Improved methodology and indicators need to be developed and used to measure health impacts of water, sanitation and hygiene interventions in households and in other settings, including schools, health care facilities and workplaces. Researchers could use the results of additional randomized, controlled studies to better understand health, nutrition, education and other outcomes from different interventions among key subgroups, such as children.[438]

Equity-related information on how climate change and natural disasters affect access to water and sanitation is needed to better understand the resulting health outcomes related to water and sanitation. The WHO commissioned the Vision 2030 study to increase understanding of how climate change will affect drinking water and sanitation systems, particularly in low- and middle-income countries.[439-441]

Treatment of diarrhoea

The administration of oral rehydration salts (ORS) to children with diarrhoea can prevent dehydration and mortality.

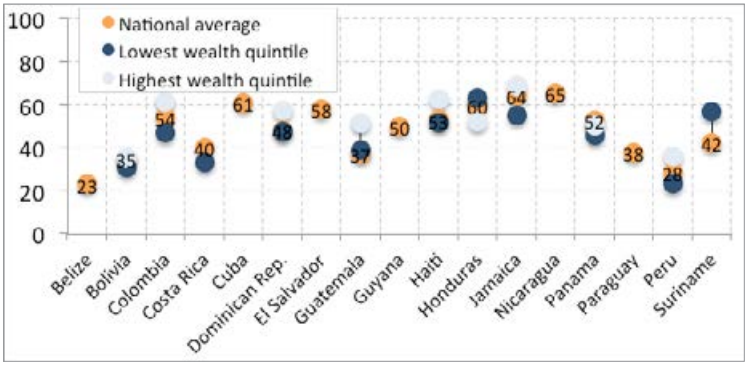
Summary

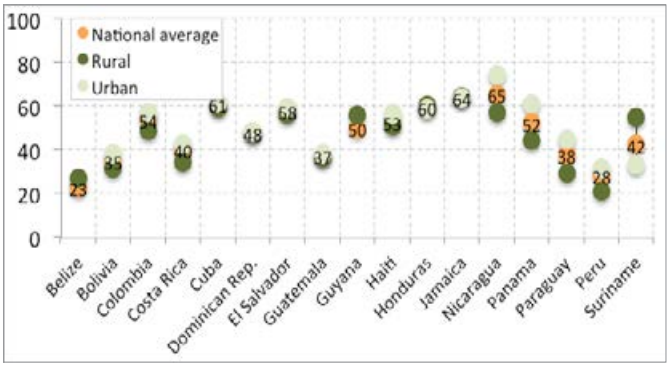
Throughout the region, rural and less affluent populations spend a larger proportion of their incomes on water and yet still have less access to water and sanitation services. As a result, children from these disadvantaged demographics are more likely to suffer from diarrhoea and other adverse health outcomes. More focused policies and programmes are needed to promote equitable access to water, sanitation and hygiene, as well as treatments for diarrhoea and parasitic infections.

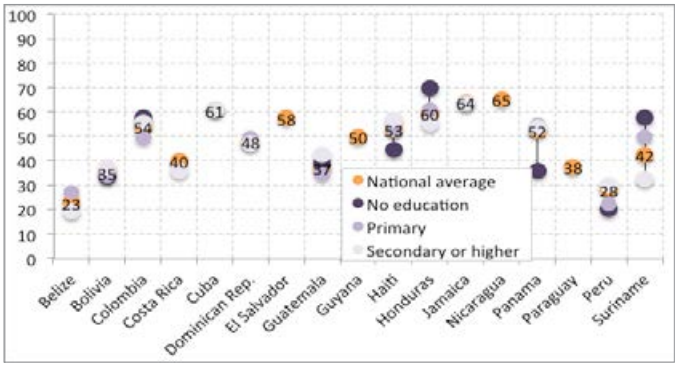
Box 17. Gaps in children with diarrhoea receiving ORS (Figure 32)

- In the administration of ORS in case of diarrhoea, the prevalence is similar in rural and in urban areas, except in Belize and Suriname, where the adminitration of ORS is greater in rural than in urban populations.
- In the administration of ORS in case of diarrhoea, the prevalence is similar among boys and girls, except in Costa Rica, where boys receive the treatment more frequently than girls.

Figure 32. Gaps in the percentage of children born in the three or five years preceding the survey with diarrhoea in the two weeks preceding the survey who received oral rehydration salts (ORS) in Latin American and Caribbean countries, by wealth, place of residence and educational attainment of the mother, household surveys 2007-2014







Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

4.5 Pneumonia, asthma, other respiratory conditions and the environment

Pneumonia

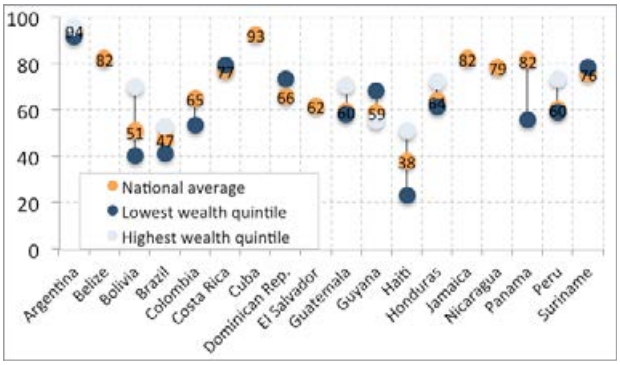
Pneumonia, an infection of the lungs caused by viruses or bacteria, is the main cause of mortality among children aged 1-59 months in Latin America and the Caribbean; it causes 10 per cent of all deaths in that age group.[421] Pneumonia deaths are concentrated among the poorest children.[442,443] Given that effective case management is an important strategy to reduce pneumonia-related morbidity and mortality in children, inequity in access to health care for pneumonia is a factor in explaining differential health outcomes.

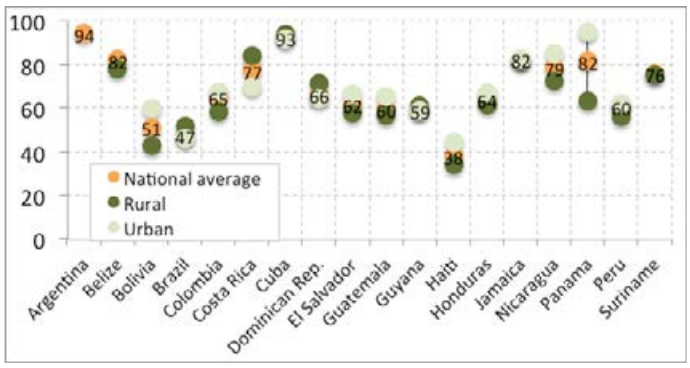
Based on a 2015 systematic review among low- and middle-income countries, young maternal age, low maternal education,

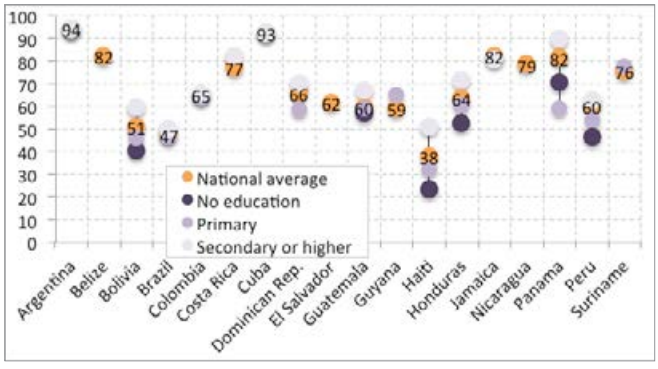
Box 18. Gaps in children with symptoms of pneumonia taken to a healthcare provider (Figure 33)

- Haiti has the lowest prevalence of children with symptoms of pneumonia taken to a healthcare provider: 51 per cent among the wealthiest children and those whose mothers have secondary or higher education, compared to 23 per cent among the poorest and those whose mothers have no education.
- The widest gaps in children with symptoms of pneumonia taken to a healthcare provider are within wealth and education groups, but there is no regional trend within wealth groups: in some countries, the poorest take their children for care more often and in others the opposite is true. However, children of mothers with no education are taken less frequently to a health facilty in case of symptoms of pneumonia than children of mothers with secondary or higher education.
- There is no trend in the differences between rural and urban areas.
- In most countries with available data, there are no differences between girls and boys taken to a healthcare provider in case of symptoms of pneumonia, except in Belize, Costa Rica, Dominican Republic and Suriname, where more girls than boys are taken for care, and Jamaica, where more boys than girls are taken for care.

Figure 33. Gaps in the percentage of children born in the three or five years preceding the survey with symptoms of pneumonia taken to a health facility in Latin American and Caribbean countries, by wealth, place of residence and educational attainment of the mother, household surveys 2007-2014







Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

low socioeconomic position, second-hand smoke exposure and indoor air pollution/exposure to solid fuel use are all associated with increased odds of death from acute lower respiratory infections in children under age five years.[444-446] A cross-sectional study among children under age five years with an acute respiratory infection who were treated by an emergency service in a hospital in Guadalajara, Mexico found that house overcrowding favoured the development of respiratory co-infections.[447] In Santiago, Chile, a cross-sectional study conducted in 2000 found that environmental exposure to tobacco smoke was significantly associated with a higher prevalence of children aged 13-14 years having asthmatic symptoms, but this association was not found with frequency of asthmatic symptoms and exposure to combustible used for cooking and heating in the home.[448] A study in Colombia conducted between 2001 and 2003 found that more than half of the families included in the study had to resort to loans or salary advances to be able to pay for the cost of care for their child with pneumonia.[449] Of the families included in this study, 41 per cent did not have health insurance, 38 per cent contributed to health insurance and 21 per cent had publicly subsidized insurance. This indicates that more than one third of the cases belonged to very poor families that would become even poorer by having to take out loans or salary advances to pay for treatment for their children.

In Goiania, Brazil, a prospective population-based study conducted between 2007 and 2009 found that the incidence of confirmed pneumonia in children was significantly higher in very low-income areas compared to high-income areas. Spatial analysis further illustrated clustering on the western and south-eastern parts of the city—areas that had very few primary healthcare centres, hospitals and referral hospitals.[450] These 15 districts that were home to the populations with the highest incidence of confirmed pneumonia and lowest socioeconomic position were found on the periphery of the municipality.[450] This study also found an inverse association between head-of-household income and risk of developing pneumonia. As illiteracy in mothers increased, a 12 per cent increase in child pneumonia was seen.

Among indigenous populations, poor living conditions, inadequate nutrition and higher risk of exposure to infectious pathogens cause a heavy burden of disease in infants and children, including upper and lower respiratory tract infections.[451] Additionally, inequities in the probability of accessing appropriate health care exist within these populations. In a study conducted in Guatemala among two different indigenous communities, maternal literacy and higher level of maternal education were significant predictors of prompt care-seeking for their children with pneumonia; while both communities were poor, knowledge among caregivers was significantly lower in the community with

just 49 per cent of Spanish speakers than in the one with 96 per cent of Spanish speakers.[452] In Brazil, a study conducted between 2007 and 2008 among Guaraní children found that children with younger mothers, living in households without bathrooms, in households classified at level 1 of the physical characteristics index or in households where children slept on the floor showed higher odds for hospitalization due to acute lower respiratory infections.[453]

Asthma

Latin America is a region where both traditional and modern environmental threats exist side by side, increasing the risk for communicable diseases such as respiratory infections as well as non-communicable diseases such as asthma. Asthma in Latin America is a growing public health problem that is most common among poor urban populations; among children in the region, asthma is mostly non-atopic (non-allergic) and has been linked with exposure to household dirt, malnutrition, obesity and psychosocial stress, factors that are also related to poverty and inequality. [454] Current information on the burden and impact of allergic conditions on adults and children in any Latin American country is limited.[455]

Using data available from Latin American urban centres from the period 2000–2003, an ecological analysis found a strong association between socioeconomic and environmental variables and prevalence of asthma symptoms in Latin American urban children.[456] There is also growing evidence that psychosocial stress may be an important risk factor for the development of non-atopic asthma,[454] findings that suggest that social inequalities are a central determinant of the high prevalence of asthma in the region.[456] In Ecuador, an ecological study from 2011 found that a greater prevalence of asthma was associated with variables that characterized a better socioeconomic position and more urban lifestyle.[457] As well as other health conditions, asthma also affects children's education opportunities. A cross-sectional, school-based study in six cities of Colombia during the academic year 2009–2010 found that asthma generated the largest amount of out-of-pocket monthly expenditures and was responsible for the highest frequency of reported absenteeism within the previous six months: four days absence from school for children and three days absence from work for their caregivers.[455]

Childhood asthma in Latin America and the Caribbean is generally non-atopic and has been associated with exposures that are related to environmental dirt, diet and psychosocial distress, all factors that are strongly linked to poverty and inequality.[454] There have been conflicting studies that have not found associations between asthma and socioeconomic position, while some studies have found asthma symptoms correlated with higher maternal education.[455] The prevalence of asthma symptoms in Colombia increased from 10 per cent in 1999 to 12 per cent in 2010. Symptoms were most frequent in children aged one to four years with increasing evidence suggesting that bronchial obstruction during acute respiratory infection in childhood can be linked with successive asthma development.[455] Risk factors that lead to the development of psychosocial distress like maternal stress in early childhood, physical and sexual abuse, emotional behavioural problems and depressive symptoms have been associated with asthma.[454] In Brazil, the prevalence of asthma was higher among children whose mothers had common mental disorders, children with behavioural problems and those who did not have enough social support.[454]

Wheezing and recurrent wheezing, which is defined as having three or more episodes of this condition in the last year, are two of the most common reasons for medical consultation and hospital admissions during an infant's first year of life, which can have large economic impact on the families accessing health services.[458] In a population-based study conducted between 2005 and 2007, an increased likelihood of an infant having episodes of recurrent wheezing was largely associated with male gender, smoking during pregnancy, mould stains on household walls, parental predisposition to asthma, having an increased number of persons living at home and having a mother with a lower level of education.[458] The impact of having an increased number of persons living at home and having a mother with a lower level of education were risk factors that were higher in non-affluent families.[458]

A high proportion of infants and young children in Latin American cities have recurrent wheezing in early life due to exposure to allergens, indoor and outdoor pollutants and tobacco smoke.[458,459] In a study conducted in Lima, Peru in 2003, asthma among school-aged children was associated with increased exposure to traffic flow, which included exposure to traffic at school and home and air pollution from traffic.[460] Low socioeconomic position has been shown to be a risk factor for wheezing and pneumonia.[450,458-460]

The urban poor in Latin America experience the highest prevalence of asthma as they live in poor-quality and overcrowded housing and in neighbourhoods with limited or no access to basic services including clean water, sanitation and healthcare resources.[454] The process of urbanization occurs at varying levels with the implementation of basic infrastructure and basic services occurring more slowly than other processes. In an ecological analysis in Ecuador between 2005 and 2008, a high number of communities reported having a television but not having basic services, which includes access to clean water, sanitation and healthcare resources.[457]

Summary

Respiratory infections perpetuate social inequalities throughout Latin America and the Caribbean. Children from low-income families are more likely to contract respiratory infections and to face inequity in access to health care for conditions such as pneumonia. In particular, asthma has become a major issue for children living in low-income areas who may be frequently exposed to indoor and outdoor pollutants and to psychosocial stress. Both asthma and pneumonia not only cause adverse health outcomes for the children affected, but treatment for the conditions can also pose financial burdens for their families and limit children's educational opportunities, thus exacerbating their situations of poverty.

4.6 Disabilities and opportunities

There are common links between disability and poverty that are characterized by social, economic and political exclusion. The compounded effect of being poor and disabled makes meeting basic needs, having safe living and working conditions and accessing healthcare and educational systems much more difficult.[461,462] As stated by UNICEF in 2013, "excluding children with disabilities from school and play not only violates their rights but also harms society, because these children can, with the appropriate support, become full and productive members of society".[463] According to the World Bank, in Latin America and the Caribbean only between 20 and 30 per cent of children with disabilities attend school,[464] creating further inequalities for this population. Additionally, awareness about institutions that support access to education among children with disabilities is low. In a study specific to Santiago, Chile, mothers of children with disabilities did not perceive or were not aware of government support that would allow their children to become involved in the educational system.[465]

Summary

Children with disabilities who live in poverty may be subjected to severe social, economic and political exclusion and they may face barriers to accessing healthcare, employment and educational opportunities. More research and attention are needed to investigate and mitigate the numerous inequalities facing these populations.

4.7 The differential risk for tuberculosis, Chagas disease, dengue and HIV among children

In spite of the rising global preponderance of non-communicable diseases, communicable diseases are still a major public health concern in Latin America and the Caribbean, affecting mainly the poorest sectors of the population.[466] In Haiti, the incidence of tuberculosis (TB) is seven times that of the rest of the region[467] and the Caribbean is the second area worldwide most affected by HIV.[467] Latin America is also affected by neglected infectious diseases, which are common infections mostly among the poor.[466,467] The total burden of neglected infectious diseases in the region may exceed the disease burden posed by malaria or tuberculosis and, according to some estimates, by HIV as well.[467]

Tuberculosis

Social conditions such as food insecurity and malnutrition, poor housing, environmental conditions and financial, geographic and cultural barriers to healthcare access give rise to unequal distributions of TB incidence and prevalence.[468] Living in conditions of poor ventilation and overcrowding increases the likelihood of TB transmission,[469] while poverty, malnutrition and hunger increase the susceptibility to infection, disease and severity of the clinical outcome.[468] Even when tuberculosis diagnosis and treatment are available and free of charge in most countries in the region, a study in Medellín, Colombia among adults receiving treatment for TB showed that only one third of the children under age five years living with them had been tested for TB and that 8 per cent of these children tested positive for TB.[470]

Dengue

The dengue epidemic has been linked with increased population movements and rapid urbanization, but the discontinuity of vector control programmes, which follow the disinvestment and collapse of public health infrastructure, coupled with increased inequalities in access to health care, have had greater consequences in the increased transmission of dengue in Latin America and the Caribbean, given that increasing urbanization and greater human density offer a perfect breeding ground for the mosquito and the virus to thrive and spread.[471] Results from resolution satellite imagery and ground-based data were analysed for Puntarenas, Costa Rica and it was found that there are significant correlations between dengue incidence and urban structures.[472] The increased incidence of dengue has been affected by the proliferation of breeding sites of the mosquito due to climate change, poor sanitation and extreme poverty.[473,474] In 2013, 2.4 million cases of dengue were reported in the Americas, of which 37,687 cases were severe dengue.

Even if dengue affects all socioeconomic groups, a retrospective study analysing data from 2003-2010 in the Colombian Caribbean city of Córdoba showed that 53 per cent of reported dengue cases were people younger than 14 years of age.[475] Furthermore, in the same study significant differences were observed in the distribution of cases by health insurance scheme and area of residence; 26 per cent of cases were found among populations without health insurance and that were predominantly rural.[475] A problem that affects mostly young children is that their symptoms are not specific; because they present like other viral infections, it could go unnoticed among caregivers and delay appropriate treatment,[476] which can affect morbidity and mortality. Different knowledge among socioeconomic groups about dengue transmission—as found in a study in Barranquilla and Puerto Colombia, Colombia—can also affect the ability of communities to prevent its transmission.[477]

HIV

Despite the increased coverage of HIV testing and treatment during pregnancy since 2007, an estimated 1,200 infants acquired HIV perinatally in 2013 in the region, which reflects a 5 per cent transmission.[299] In 2015, Cuba became the first country in the world to have eliminated perinatal transmission of HIV and syphilis.[478] Anguilla, Barbados, Montserrat and Puerto Rico have reported data compatible with perinatal transmission of HIV smaller or equal to 2 per cent, a paediatric HIV rate of less than 0.3 per 1,000 live births and a congenital syphilis transmission of less or equal than 0.5 per cent per 1,000 live births.[299] The percentage of infants exposed to HIV who underwent early diagnosis testing within two months of birth in 2013 ranged from 1 to 95 per cent testing,[299] a range that is too wide to understand the actual coverage.

Adherence to treatment is an important challenge for children living with HIV. Social factors such as caregiver's level of education and social position play an important role in achieving better health outcomes. In Porto Alegre, Brazil, a study among children with HIV showed that children whose parents were professional or had a higher education level had higher adherence to treatment than other children.[479] Similar results were found in Mexico, where a study among 18 children receiving treatment for HIV found significant correlations between adherence to treatment and the level of education of their caregivers.[480]

Chagas disease

Poverty is the main factor associated with the transmission of Chagas disease, as it primarily affects families who live in mud and straw dwellings which are not isolated.[481] Another source of inequalities for this condition is perinatal transmission, which can be aggravated in endemic areas if women have not had antenatal or postnatal screening.[482] In Chuquisaca, Bolivia, a study analysed congenital Chagas disease in infants under one year of age born to women who tested serologically positive. Even if the sample was small (34 women), the study found that 97 per cent of the mothers did not take their infants to their first laboratory control, 82 per cent missed the second control, 94 per cent missed the third one and 85 per cent missed the fourth.[483]

Summary

Communicable diseases remain a pressing issue especially for children throughout Latin America and the Caribbean. Poverty and poor social conditions fuel the transmission of Chagas disease, tuberculosis and HIV, and dengue is often connected with poor access to water and sanitation and the region's rapid urbanization. Consequently, poor children suffer an inequitable risk for these conditions and frequently lack access to effective care.

5. Adolescent health (10 to 19 years old)

5.1 Health, access to education and sexuality education in schools

In 2008, all the ministers of health and ministers of education from Latin America and the Caribbean convened in Mexico City to discuss strategies for improving sexual and reproductive health among their adolescent populations. The product of the meeting was the Mexico City Ministerial Declaration, which called for increased implementation of comprehensive sexuality education in schools, strengthening of reproductive health services for adolescents that are youth-friendly and accessible, development of multisectoral strategies to identify and address youth reproductive and sexual health needs, and the creation of mechanisms to report discrimination or low-quality care or sexuality education.[484]

This review found only one study that specifically assessed the effects of the 2008 Mexico City Ministerial Declaration.[485] However, as of 2009, a year after the declaration, Latin American and Caribbean countries had sex education policies that varied in comprehensibility and effectiveness.[486,487] According to a 2009 regional report, Brazil, Argentina and Costa Rica had the most advanced national policies, all of which detailed the ages at which students should receive sexuality education, the content of sexuality education programmes and the mandatory inclusion of sexuality education in schools.[486] Colombia, the Dominican Republic, Bolivia, Chile, Nicaragua, Ecuador, El Salvador, Uruguay and Venezuela had mixed levels of legislation concerning required components of sexuality education programmes, with some countries not requiring the inclusion of programmes in schools or not specifying the programmes' content.[486] While Peru delegated the administration of sexuality education programmes to provincial governments,[486] Mexico, Haiti and Panama had the lowest levels of sexuality education policies. Several countries, such as Antigua and Barbuda, Bahamas, Guyana, Paraguay, Barbados, Saint Lucia, Suriname, Trinidad and Tobago and Jamaica, had no legislation concerning sexuality education.[486]

Despite the 2008 Ministerial Declaration and growing prevalence of national sexuality education policies, evidence suggests that current sexuality education programmes may not be sufficiently reaching adolescents most vulnerable to acquiring HIV or STIs. One such vulnerable population is youth who are not attending school.[488,489] A 2007 study in León, Nicaragua, found that adolescents not attending school were not only more likely to have already experienced sexual initiation, but also were least likely to have adequate understanding of HIV or STI transmission.[488] Additionally, current sexuality education programmes might not address the needs of adolescents from low socioeconomic backgrounds or unstable home environments.[489,490] For instance, one 2010 study in the Pampas, Peru interviewed 20 adolescents who revealed that sporadic sexuality education in schools did not sufficiently counteract their low self-efficacy in practicing safer sexual behaviour that resulted from living in poor and unstable households.[490] Both a 2009 regional report and 2013 study in Brazil found that many sexuality education programmes actively excluded the needs of homosexual or bisexual students[486,491] and a 2012 study in Belize, Mexico and Guatemala found that indigenous adolescents were significantly less likely to receive sexuality education in schools, partly due to lower school attendance.[485] Finally, adolescents with children and adolescents of younger ages also have a larger unmet need for sexuality education to address pregnancy prevention.[489,492-494] As one 2011 investigation discovered, many schools in Paraguay and Peru actively discouraged adolescent mothers from returning to school, where they might receive sexuality education about preventing subsequent pregnancies.[493]

In addition to excluding vulnerable populations, a salient issue with adolescent sexuality education is the limited content of the educational programmes. The 2008 Ministerial Declaration suggests that the most effective sexuality education programmes should focus not just on the prevention of STIs and adolescent pregnancy, but also on mitigating inequitable gender norms and expanding open dialogue concerning healthy sexuality.[484] One study found that the most successful sexuality education programmes in Latin America were in countries with lower Gini coefficients.[495] This finding implies that broader trends of social and economic inequality may also emerge in the delivery and reception of sexuality education programmes.[495]

Various publications in this review indicate that efforts to monitor and evaluate the success of sexuality education programmes and policies may be inconsistent, incomplete or completely absent.[486,489,495-498] In order to improve these monitoring and evaluation strategies, different authors suggest incorporating gender equity assessments into evaluations,[499] increasing the use of experimental and quasi-experimental designs (as opposed to simple pre- and post- tests),[495] and choosing indicators and designs that can best measure subtle and incremental changes in knowledge and behaviours.[500]

Summary

Although every country in the region has expressed commitment to expanding sexuality education for adolescents, existing efforts have failed to sufficiently meet the needs of certain vulnerable adolescent populations. More initiatives are needed to provide comprehensive sexuality education for adolescents who do not attend school, inhabit unstable home environments, belong to indigenous ethnicities, have a non-heteronormative sexual orientation or gender identity and have children. This comprehensive sexuality education should work to address the gender and social inequalities underlying differential reproductive health outcomes among adolescents. Overlooking the needs of vulnerable adolescent populations places those groups at increased risk for sub-optimal reproductive health outcomes and perpetuates health inequities between different population groups.

5.2 Early marriage and sexual initiation

According to UNFPA, one third of girls in low-income countries become married before reaching adulthood.[501] In Latin America, there have been no significant changes in the percentage of women aged 20 to 24 years who were married before the age of 18 years since the early 1980s.[502] A 2012 global study estimated that 18 per cent of adolescent girls in a Latin American study sample were married.[503] Earlier studies had estimated the regional early marriage prevalence at 15-23 per cent in 2004 and at 25 per cent in 2006.[504,505] Of particular concern, a 2011 regional review cited a marriage prevalence among adolescent girls under the age of 15 years of 12 per cent in Nicaragua and 10 per cent in the Dominican Republic.[506] Evidence suggests that many adolescent girls entering into marriages inhabit rural settings and belong to lower socioeconomic groups. [501,503,505,507] Figure 34 shows the regional variation in the percentage of women aged 20-24 years who were first married before the age of 15 years and before the age of 18 years.

With numbers of formal marriages decreasing, the past decade has seen a growth in informal, consensual unions among adolescents throughout the region.[505,508-510] A 2008 regional review noted that the frequency of consensual unions outnumbered formal marriages among girls and women under the age of 25 years in 14 of 19 Latin American countries examined.[509] That review also found that consensual unions comprised more than 80 per cent of girls and women under the age of 25 years in unions in Panama, Dominican Republic, Peru, Colombia and Honduras.[509] These informal unions have widely become a socially accepted form of marriage through which partners may cohabit and raise children. However, research indicates that the formation of consensual unions with adolescent girls may both reflect and perpetuate social inequities.

Primarily, adolescent girls in consensual unions often come from disadvantaged situations; these girls frequently inhabit younger age brackets, have lower levels of education and come from disadvantaged socioeconomic backgrounds and rural locations.[505,508,509] For example, a 2007 review found that the average age for women in Venezuela to enter into informal unions was 18 years in 2001, compared to 19 years for formal marriages,[508] and nearly 80 per cent of the adolescents in unions were in consensual unions.[508] Of the adolescents aged 15 to 19 years in consensual unions, 63 per cent were from rural areas and the frequency of cohabiting with a consensual partner was higher for those with lower levels of education.[508] Additionally, in 2008, a study reported that women from the wealthiest socioeconomic group in Colombia were 77 per cent less likely to enter into a consensual union than women from the poorest group.[509] Similarly, in the Dominican Republic, women who had attended university were 82 per cent less likely to enter into a consensual union than were women without higher education,[509] and among women aged 25 to 49 years, the wealthiest married about four years later (at the median age of 21 years) than the poorest (17 years).[502] Among people in consensual unions, women from lower socioeconomic position may be more likely to have partners who are also from disadvantaged financial backgrounds and lower levels of education.[509] Although more recent research is needed in this area, findings suggest that pursuing consensual unions may not necessarily reflect women's preference for informal marriage, but instead could reflect inequalities in obtaining legally recognized marriages or cultural conceptions of marriage distinct to different disadvantaged populations.

Figure 34. Percentage of women aged 20-24 years who were first married or in union before ages 15 and 18 years in Latin American and Caribbean countries, household surveys 2008-2013

Source: Analysis based on UNICEF global databases (Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national household surveys). [40]

Additionally, being in a consensual union may increase adolescent girls' social vulnerabilities. Consensual unions have been shown to be less stable than formal marriages.[508-510] For example, a 2005 study found that 27 per cent of consensual unions involving adolescents in the Dominican Republic and 30 per cent in Nicaragua had been terminated within five years.[510] Among women aged 15-44 years in Venezuela, over half of the women who had first entered into a consensual union had ended the relationship within the study period, whereas only 15 per cent of legal marriages had dissolved.[508] Without the legal obligations associated with formal marriages, the rupture of consensual unions can create negative financial impacts for women as well as for any children that the former partners may have had.[509] Furthermore, a 2008 regional study found that Latin American women in consensual unions may be subject to more mistreatment from their partners than women in formal marriages.[509] According to this report, women in consensual unions were more likely than married women to experience higher levels of control from their partners and experience domestic violence in the form of sexual, physical and emotional abuse.[509] More specifically, women in consensual unions in Nicaragua are 34 per cent more likely to experience domestic violence than are married women; that likelihood is 31 per cent in Colombia, 25 per cent in the Dominican Republic and 23 per cent in Peru.[509] Overall, more research is needed to examine gender inequalities connected to consensual unions, as research suggests that those informal unions may contribute to more negative health outcomes among adolescent girls than do formal marriages.

Independently of the type of marriage, however, adolescent unions can reduce autonomy and cause negative health outcomes for adolescent girls. Primarily, early marriage is associated with fewer years of schooling, as adolescents who enter into unions may assume increased household or family responsibilities.[503,511,512] Additionally, women who marry as adolescents are more likely to have male partners from older age brackets. A 2013 study in Peru, for example, found that only 1 per cent of adolescent mothers had partners who were the same age.[513] These age gaps can contribute to power imbalances within relationships that favour older male partners;[504,509,511] adolescent girls may have less autonomy to negotiate use of condoms or contraceptives, to challenge partners' extramarital sexual practices and to have autonomy in making general decisions for the household.[493,501,511] The lack of autonomy can also limit women's economic and social opportunities, thus making them dependent on the male partners and reducing their own options. As a consequence, adolescent married girls may have increased risk for STIs, HIV and pregnancy. In 2006, a global study reported that 80 per cent of adolescents who reported unprotected sexual practice during the past week were married, and married adolescents were significantly less likely to use contraceptives, regardless of their pregnancy intentions.[504] This can result in unintended pregnancy and place adolescent girls at higher risk of maternal health complications associated with young age.[503] Early marriage has historically been associated with unintended adolescent pregnancy, even though research suggests that increasing numbers of adolescents are becoming pregnant without stable partners.[489,510]

Early marriage can also be the result of adolescent pregnancy. For adolescents in dating relationships at the time of conception, pregnancy causes many of those relationships to become marriages or unions.[497,512-514] For example, a 2008 study in Argentina found that the number of pregnant adolescents cohabiting with their partners increased from 41 per cent at the time of conception to 62 per cent by the time of childbirth.[497] That same year, a pilot study in Bogotá, Colombia observed that 40 per cent of pregnant adolescents obtained a formal or common law marriage during their pregnancy.[514] Seventy-one per cent of a sample of adolescent mothers in Mexico were married in 2012 and the majority of them entered into marriages during the same year that they became pregnant.[512] In many areas throughout Latin America, these unions function as a means to legitimize a pregnancy, avoid the stigma associated with single motherhood and gain economic support.[510,513,515] Nevertheless, these unions may be less stable than marriages that occur independently of pregnancy and may result more frequently in separation or divorce.[512-514] As will be discussed in subsequent sections of this report, girls who become pregnant during adolescence are more likely to come from unstable homes, lower wealth and education strata, rural areas and minority ethnicities. Consequently, the vulnerable situations that put girls at risk for adolescent pregnancy may also contribute to early marriage and unstable marital unions.

Summary

The existing evidence suggests that early marriage of adolescent girls is another manifestation of gender inequities that persist throughout Latin America and the Caribbean. Girls in formal and informal unions may have fewer social and economic opportunities, as well as increased risk for negative health outcomes. More efforts are needed to delay the age of marriage. As the majority of girls entering into early unions are from disadvantaged backgrounds, those efforts will likely require an examination of social and gender inequalities and an expansion the opportunities of available to girls from vulnerable situations.

5.3 Sexual and reproductive health services for adolescents

In the last 15 years, much attention has been given to the need for youth-friendly health services that would incorporate the participation of adolescents in their design, protect patient confidentiality and privacy, employ compassionate personnel who do not express judgment or biases, offer free or low-cost services and provide comprehensive information concerning sexual and reproductive health and sexuality.[516-519] Given the distinct sexual and reproductive health (SRH) needs of adolescents, such youth-friendly services are crucial to ensuring optimal health outcomes among adolescents, and evidence has repeatedly demonstrated that the most effective SRH services for youth cater actively to the needs of their adolescent populations.[516,518,520-523] Successful SRH programmes for adolescents covered in this review have worked to identify and address the specific individual, community and structural barriers affecting their target populations.[521,523,524] Expanding beyond the scope of general primary care or issue-specific programmes, these interventions have also targeted the knowledge and behaviours of medical providers. [521,522,524,525]

However, youth-friendly SRH services have not yet been implemented universally throughout Latin America. Evidence suggests that certain vulnerable populations of adolescents may lack access to services that meet their SRH needs. For example, while indigenous youths are more likely to become sexually active at younger ages, a 2010 PAHO report documented that indigenous adolescents in Bolivia, Guatemala, Ecuador and Nicaragua had a larger unmet need for contraception.[515] In Nicaragua, the prevalence of unmet need for contraception among indigenous youths in the South Atlantic Autonomous Region was 28 per cent, nearly double the 14 per cent prevalence at the national level.[515] This lack of access may stem from widespread discrimination against indigenous persons that permeates health service delivery, lack of cultural appropriateness in SRH services and cultural norms stigmatizing adolescent sexuality.[526] Additionally, indigenous adolescents living in rural and remote areas may encounter geographic barriers to reaching facilities that offer comprehensive, youth-friendly SRH services.[526,527]

Impoverished adolescents with low levels of education may also be more likely to experience barriers to accessing SRH services.[497,515,528] A 2008 regional review of DHS surveys found that the poorest quintile of adolescent girls unilaterally had the greatest unmet need for contraception.[526] Similarly in Nicaragua, a study of 3,000 adolescent female participants found that girls who were from a low socioeconomic position and less educated were less likely to use SRH services.[529] These same trends occur for low-income women seeking antenatal care. A 2008 study in Argentina discovered widespread deficiencies in antenatal care coverage for adolescent girls living in poverty and with lower levels of education.[497] A study in Brazil found that adolescent girls with low levels of education were more likely to face barriers in access to antenatal care.[158] These statistics imply the persistence of financial barriers to accessing SRH services.

Although more disaggregated data are needed to identify adolescent populations without access to SRH services, other underserved populations may include early adolescents[497,500,527] and Afro-descendant adolescents.[526] Additionally, various studies discussed marital status as a factor contributing to barriers to SRH services, but these publications presented mixed findings. While two reports cite married adolescent females as a particularly underserved group,[501,524] other publications cite that unmarried females may face exclusion from SRH services.[517,518,521]

Finally, throughout the region, adolescent girls may experience unique barriers to accessing quality SRH services. The fear of social stigma, shame or embarrassment can deter adolescent girls from pursuing SRH services.[518,530,531] After deciding to seek SRH services, they may then face increased discrimination and mistreatment or receive inadequate care from medical providers. Regional reports suggests that some medical providers stigmatize young adolescents for being sexually active.[501,532] Also, medical providers may be unfamiliar with practices to offer appropriate care and counselling to female adolescents, or they may be unfamiliar with national policies concerning confidentiality and parental consent for receiving treatment.[521,525,533] One study in Nicaragua found that 82 per cent of pharmacists surveyed in Managua would not distribute emergency contraceptives to adolescents without parental consent, although the pills were widely available in private pharmacies.[533] Furthermore, adolescents, particularly unmarried females, cite fear of confidentiality breaches, personnel unfriendliness and judgment from medical personnel as key factors that deter them from seeking care.[501,517,519,521,525,531,534]

Summary

Overall, more progress is needed to create and implement youth-friendly SRH services throughout Latin America. The lack of access to these services reflects the social inequalities faced by adolescent girls from disadvantaged socioeconomic groups and minority ethnicities. Implementing effective SRH services will require a gender and equity perspective to ensure equitable access to care for adolescents of different demographics.

5.4 Adolescent pregnancy, agency and the perpetuation of poverty

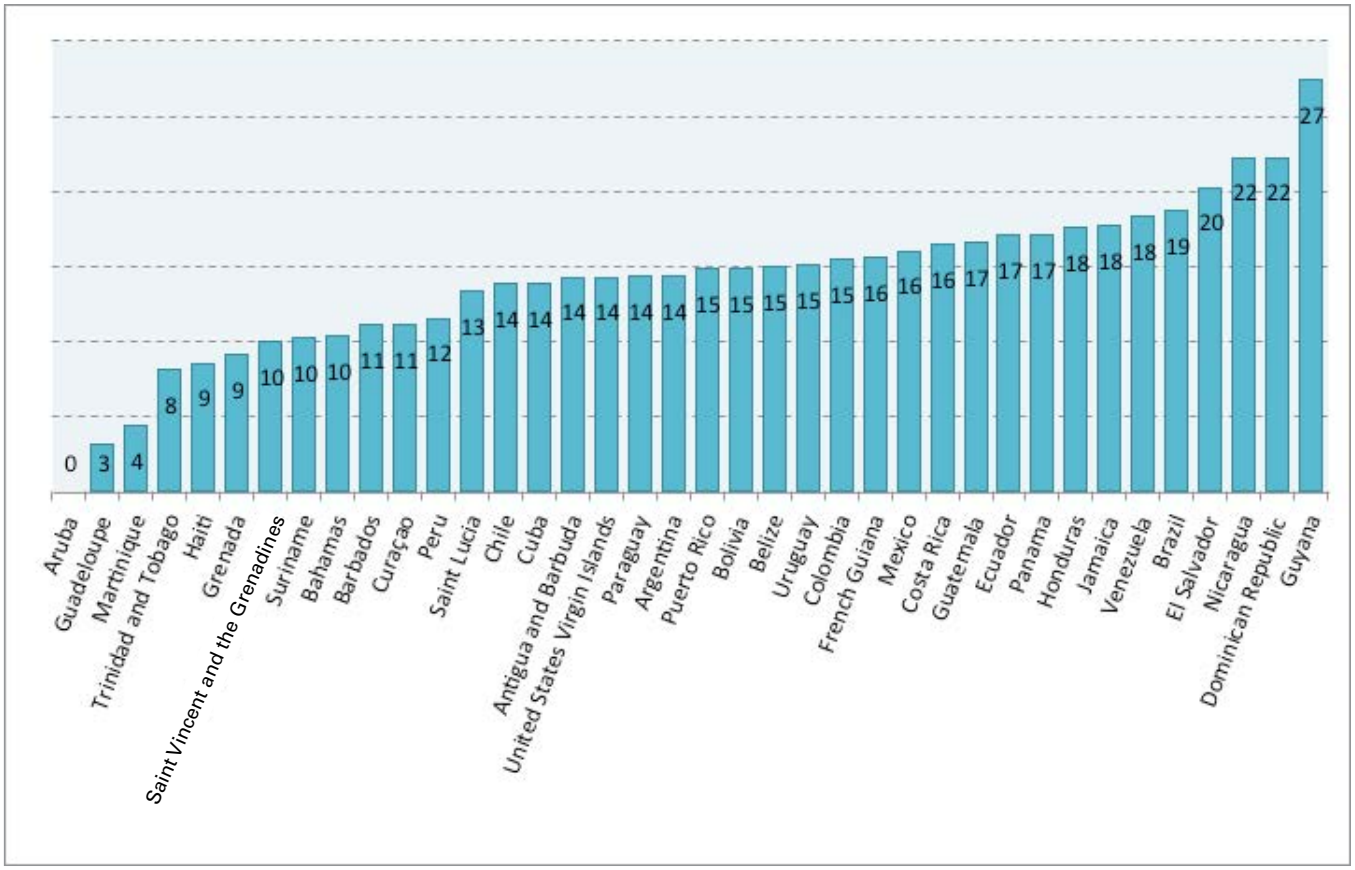
Latin America and the Caribbean, where 17 per cent of births in 2010-2015 occurred among adolescent women and girls, is the region with the highest concentration of adolescent pregnancies in the world, followed by Africa with 14 per cent.535 The adolescent birth rate (the number of births per 1,000 women aged 15 to 19 years) for that period was 67 per 1,000, compared to 98 in Africa. As shown in Figure 35, the countries with the highest concentration of adolescent pregnancies are Guyana, Dominican Republic, Nicaragua and El Salvador.

Adolescent pregnancy is often a component of intergenerational poverty, with children inheriting their parents' low socioeconomic position. As studies in various Latin American countries have demonstrated, women from poor socioeconomic backgrounds throughout the region universally are more likely to become pregnant as adolescents than their wealthier peers.[469,474,511-518]

Adolescent women living in poverty are frequently less likely to have access to reproductive health and abortion services,[536] to complete higher levels of education[537] and receive sexual education in schools,[538] to have strong social support networks[539] and to enter the workforce at younger ages.[515]. Marginalized and poor adolescents are less likely to have their needs heard and met by policymakers and health services.[540] However, while in some countries such as the Dominican Republic, adolescent women and girls may view having children as a way to ensure financial security in old age,[541] existing data reveal that in fact, adolescent pregnancy decreases autonomy and reduces women's economic and educational opportunities.[497, 507,512,513,542-545]

Figure 38 shows that in the Dominican Republic in 2010, for example, 70 to 73 per cent of women aged 19 and 20 years with primary education already had children, compared to 15 per cent of those who had started secondary education; the percentages

Figure 35. Percentage of adolescent pregnancies among total pregnancies in Latin American and Caribbean countries, 2010-2015



Source: Analysis based on United Nations. *World Population Prospects: The 2015 Revision, Key Findings and Advance Tables. Working Paper No. ESA/P/WP.241.* New York: United Nations, Department of Economic and Social Affairs, Population Division, 2015.[535]

Box 19. Gaps in adolescent pregnancy (Figures 36 & 37)

- The highest prevalence of adolescent pregnancy is among women with no education from various countries followed by the poorest women from various countries.

Education:

- The widest gaps in the prevalence of adolescent pregnancy are within education groups: in all countries with data, adolescent pregnancy is consistently more prevalent among women with the lowest levels of education.

Wealth:

- The second-widest gaps are within wealth groups: adolescent pregnancy is consistently more prevalent among the poorest women in all countries with available data. On the contrary, across all countries, fewer than 12 per cent of the wealthiest women are pregnant or have had children.

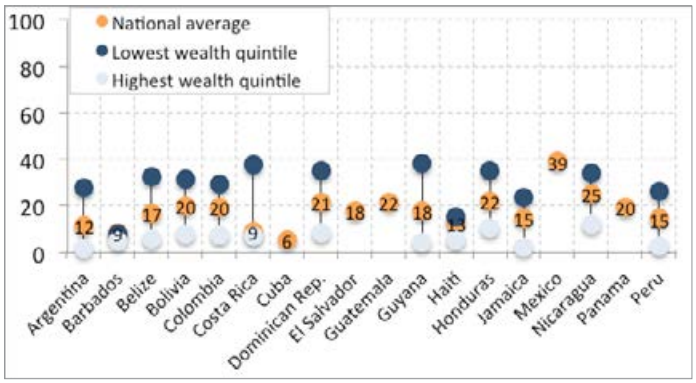
Place of residence:

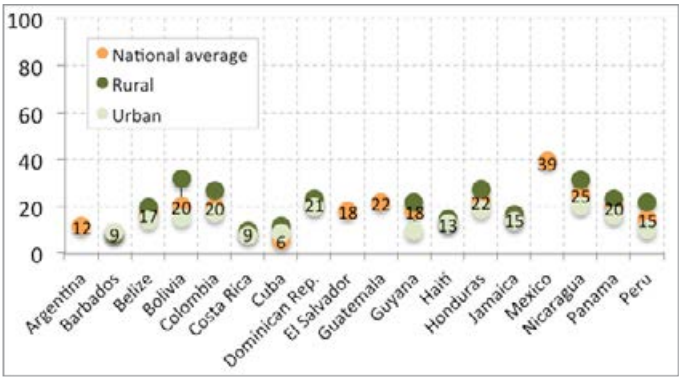
- Although the prevalence of adolescent pregnancy tends to be higher among rural women, the differences between rural and urban women are less marked than those for education and wealth quintile.

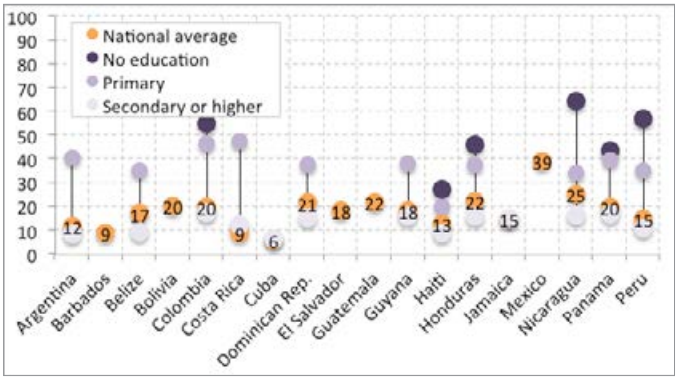
Ethnicity:

- Adolescent pregnancy is five times more prevalent among indigenous women than among Afro-descendant women in Costa Rica (49 per cent among indigenous and 10 per cent among Afro-descendants) and almost twice greater in Panama (17 per cent among indigenous women and 10 per cent among Afro-descendants).

Figure 36. Gaps in the percentage of women aged 15-19 years who have begun childbearing in Latin American and Caribbean countries, by wealth, place of residence and educational attainment, household surveys 2007-2014

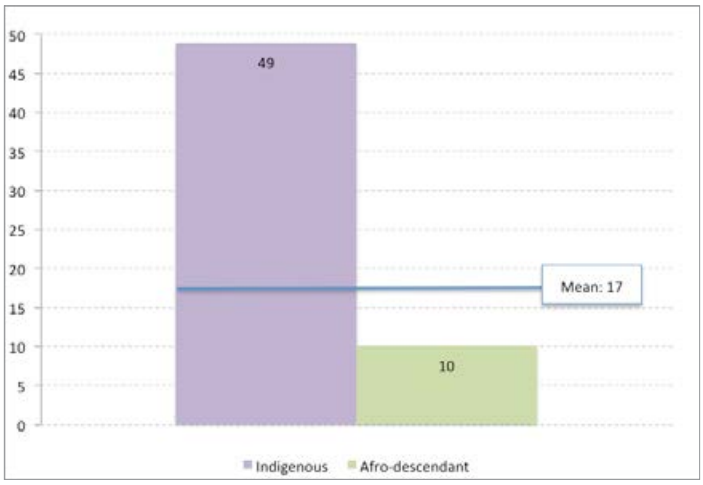






Source: Analysis based on Demographic and Health Surveys, Reproductive Health Surveys, Multiple Indicator Cluster Surveys and other national surveys, 2008-2014.[1]

Figure 37. Gap in the percentage of women aged 15-19 years who have begun childbearing, by ethnic group in Costa Rica, 2011



Source: Analysis based on Multiple Indicator Cluster Survey from Costa Rica, 2011.[1]

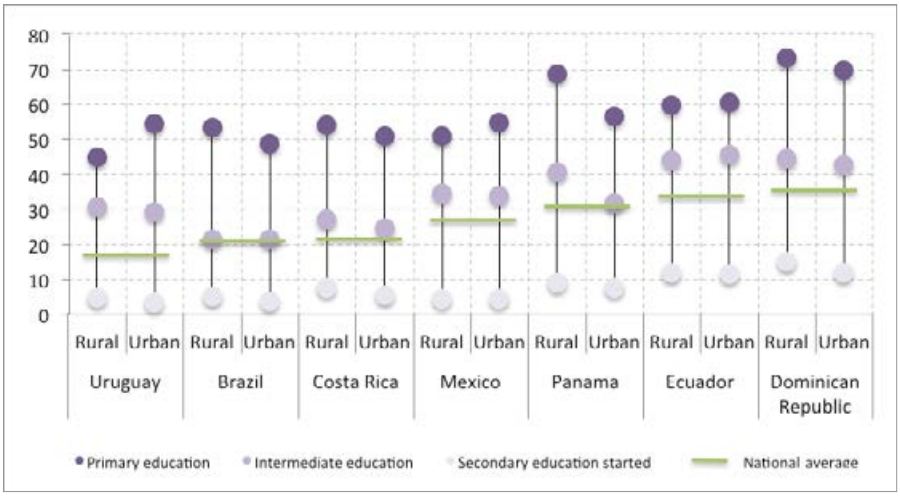
between rural and urban areas were similar.[546] In 2000, the prevalence of motherhood at ages 19 and 20 was smaller but the distribution across education levels and residence was similar to that seen in 2010.

Pregnant adolescents, particularly under 16 years of age, are more likely than adult m to suffer maternal health complications and adverse health outcomes[512,513,547-553] and their children may suffer more neonatal and infant morbidities.[548,554] Adolescent pregnancies may require greater public health expenditures.[512] In assessing all of the subsequent trends and risk factors for adolescent pregnancy in Latin America detailed below, socioeconomic position emerges as a common, underlying theme that puts women at greater risk of having an adolescent pregnancy and suffering decreased autonomy after childbirth.

Evidence suggests that the same barriers preventing adolescent girls and women from using contraceptive methods may persist after they have become mothers.[487,546] For example, in various studies, adolescent women cite that their partner's or spouse's objections constitute a principle barrier to accessing or successfully using contraceptive methods.[555,556] In other studies, adolescent women also attribute pregnancy to a lack of education or understanding of contraceptive methods.[487,540,541,555] Another factor influencing contraceptive use among adolescent women is whether the pregnancy was actually wanted. Especially among women of low socioeconomic backgrounds, having children may be viewed as a means to gain independence and respect from their communities.[487,541] A qualitative study conducted in Paraguay and Peru found that adolescent pregnancy resulted from early formal unions, educational underachievement and low expectations of life.[537] Growing evidence suggests that these factors may persist after pregnancy for adolescent women and girls and lead numerous adolescents to have more than one child before reaching adulthood.[487,497,507,542]

Ages of sexual initiation are decreasing in Latin America and the Caribbean, but regional prevalence of contraceptive use are not increasing fast enough to counterbalance those effects on adolescent pregnancy.[546,557] Some studies suggest that the younger the age of sexual initiation, the more likely the women is to become pregnant as an adolescent.[493,556] The age of sexual initiation tends to be earlier among adolescent women from poor or marginalized backgrounds.[487] Another study has found that the higher the schooling of the adolescent and that of her mother, as well as the wealth index of the family and maternal age at first pregnancy, the later the age of sexual initiation of adolescents.[558] In this study, sexual initiation before the age of 15 years was also related to practices such as use of alcohol, tobacco and illicit drugs.[558] The same study found that adolescents whose sexual initiation occurred before the age of 15 years were less likely to use healthy contraceptive practices

Figure 38. Percentage of women aged 19 and 20 years who have had children, by education and place of residence in Uruguay, Brazil Costa Rica, Mexico, Panama, Ecuador and the Dominican Republic, 2010



Source: Analysis based on Vignoli JR. *La reproducción en la adolescencia y sus desigualdades en América Latina: introducción al análisis demográfico, con enfásis en el uso de microdatos censales de la ronda de 2010 [Reproduction among adolescents and their inequalities in Latin America: introduction to the Demographic Analysis with emphasis on the use of census microdata from 2010].* Santiago, Chile: Economic Comission for Latin America and the Caribbean (ECLAC), 2014.[546]

and more likely to be coerced.[558] Another study suggests that indigenous populations may have higher prevalence of early sexual initiation than other populations.[515] In one study in Argentina, men were found to be more likely to have earlier sexual initiation, but were more likely to use a condom. While fewer women were beginning sexual relationships during adolescence, those relationships were more likely to result in unwanted pregnancy or STIs. The study found that women had their first child at earlier ages than men.[559] This same study found that adolescents whose sexual initiation occurred before the age of 15 years were less likely to use contraceptive practices and more likely to experience sexual coercion.[558]

Current evidence indicates that the prevalence of pregnancies among adolescents under the age of 15 years is rising.[501,546,558] In many countries, early pregnancy often results from sexual violence or coercion,[487,506,543,560] and often the youngest women are the least able to access reproductive health education and services.[501,506]

Numerous articles discuss adolescent pregnancy as a factor that detracts from educational attainment among young women in Latin America. Adolescent pregnancy not only fuels school dropout, but school dropout may also drive adolescent pregnancy. Numerous studies have found that many pregnant adolescents either had already dropped out of school when they became pregnant, or that they had minimal educational aspirations for themselves prior to the pregnancy.[493,498,536,539,542] The coexistence of low educational attainment and low aspirations is higher among girls from lower socioeconomic backgrounds, rural areas and families in which the mother herself had been an adolescent mother.[497,542,561] In one study, most adolescents who had discontinued schooling cited as reasons the low quality of schools, domestic or economic responsibilities or other accessibility issues.[497] Accordingly, a 2012 study found that adolescent women in Mexico who planned to attend university were more likely to use a condom than women who did not plan to attend university.[485] Among adolescent women who become pregnant while attending school, the occurrence of school dropout remains high.[493,512,562] Women may drop out because of fear of discrimination from peers or shame.[497] They also have fewer opportunities to have their needs accommodated by schools.[543] One study also has found that pregnant adolescents who dropped out of school already had low educational aspirations and were doing poorly in school at the time they became pregnant.[493] Overall, quality and accessible education continues to emerge as a protective or deterring factor for adolescent pregnancy.[512,513]

Numerous studies and reports document that the prevalence of adolescent pregnancy is higher in rural than urban areas,[493,501,513,536,539,540,543,546,563] although this trend may be reversing.[513] Rural areas are more likely to lack reproductive health services for adolescents, have higher occurrence of adolescent marriage and in some areas, are more likely to have cultural norms accepting or promoting adolescent pregnancy.[503,543] Other studies suggest that adolescent pregnancies may be more frequent in areas that adolescents cite as being unsafe, insecure or overcrowded.[498,503,559]

Trends have been observed in which the daughters of adolescent mothers are more likely to become adolescent mothers themselves, a testament to the effect of adolescent pregnancy on the cycle of poverty.[498,558] Living with both parents and having good communication with parents has been shown to be a protective factor against adolescent pregnancy.[485,536,539,561] Conversely, in one study in Chile, the researchers found that 33 per cent of adolescent mothers studied said they had grown up in dysfunctional families.[498] Also, daughters of parents with low educational attainment are more likely to become pregnant as adolescents.[493] Adolescents who live in families where they must take care of younger siblings or extended family must assume adult responsibilities earlier and consequently may be more at risk for adolescent pregnancy.[493,536] Women may also perceive fewer opportunities when their own mothers were adolescent mothers.[493]

While the age of sexual initiation is decreasing, the average age of marriage is increasing, which could imply that more adolescents are getting pregnant without stable partners. However, overall the studies included in this review suggest that adolescent pregnancies occur in a variety of relationship contexts. Six studies found that the fathers of infants of adolescent mothers were more than five years older than the mothers.[493,496,501,513,556,563] Many adolescent pregnancies happen within relationships, but not always with a spouse or long-term partner.[487,556] Some studies suggest that some adolescent women who become pregnant marry or cohabit with their partners to "legitimize" the pregnancy or for economic reasons.[497,510] Single mothers are more likely to be stigmatized and social norms may compel women to move in with the partner.[515] Single adolescent mothers, especially from poorer socioeconomic backgrounds, often must rely on their own parents for support.[515,563] This can create economic burdens for their families and increases the likelihood of the child growing up in an unstable household.[513]

Ethnicity and adolescent pregnancy

Overall, adolescent pregnancy seems to be higher among women of minority ethnicities, such as indigenous populations, Afro-descendants and immigrants or migrant workers. Social and economic exclusion of these ethnicities is generally echoed in a higher prevalence of adolescent pregnancy. These populations generally have lower levels of educational attainment, fewer economic opportunities and a lower socioeconomic position, all of which may contribute to a higher prevalence of adolescent pregnancy. Adolescent pregnancy may be both the product and a perpetuator of these inequalities.

The prevalence of adolescent pregnancy among indigenous populations has fallen throughout the past decade, but still is generally higher than among non-indigenous women.[485,546] Panama, Costa Rica, Venezuela, Brazil and Paraguay currently have the largest differences in fertility rates between indigenous and non-indigenous adolescents.[546] In Brazil, 17 per cent of indigenous adolescents aged 15-19 years living in urban areas and 32 per cent of those living in rural areas were mothers, as compared with 11 and 15 per cent respectively among non-indigenous women.[546] Similarly, 31 per cent of all indigenous

adolescent women in Panama were mothers as of 2010, compared with 13 per cent among non-indigenous women.[546]

Cultural factors that fuel a higher prevalence of pregnancy among indigenous adolescents may include the increased importance of childbearing, childbearing as women's purpose and children as cultural continuity.[546] However, adolescent pregnancy also stems from and symbolize historical patterns of discrimination against indigenous peoples and gender inequities in access to education, health services and economic opportunities.[546] There may also be differences among adolescent pregnancies within indigenous groups. For example, the prevalence of adolescent pregnancy tends to be lower among indigenous adolescents with higher levels of education.[513,546] More research is needed to understand the cultural and structural factors specific to adolescent pregnancy among indigenous women, especially considering geographic location and education as compounding factors.

According to a 2011 ECLAC report, the prevalence of adolescent pregnancy is higher among Afro-descendant populations than national averages.[564] Overall, more current, disaggregated data are needed to best analyse these trends. However, in the early 2000s, the prevalence of adolescent pregnancy was 44 per cent higher among Afro-descendant young women than non-Afro-descendant young women in Ecuador.[564] Similarly, the prevalence was 30 per cent higher among Afro-descendant women in Colombia and Brazil.[564] As with indigenous populations, there may be differences in the prevalence of pregnancy among Afro-descendant adolescents that are correlated with varying levels of educational achievement.[564] Regarding migrant populations, in Costa Rica, the prevalence of adolescent pregnancy tends to be higher among Nicaraguan immigrants than native Costa Ricans.[565]

Summary

Discussions of adolescent pregnancy in Latin America and the Caribbean require broader examination of gender equity. Reducing the prevalence of adolescent pregnancy can be seen as a means to reduce the disproportionately high prevalence of poverty among women in the region. Policies encouraging general educational attainment, health equity and socioeconomic opportunities will likely decrease the prevalence of adolescent pregnancy.

5.5 Vulnerability, agency and lifestyle

Nutrition among Latin American adolescents

Historically, nutrition policies in Latin America have focused primarily on undernutrition, which continues to be an urgent issue for the region's adolescents and youth.[404] Recently, however, both undernutrition and obesity have come to coexist in many countries; fostered by the infiltration of high cholesterol diets associated with the increased import of consumer products and a decrease in physical activity associated with rapid urbanization,[566,567] the numbers of obese and overweight youth have continued to increase rapidly throughout the region.[404,568] For example, one 2004 study documented that overweight prevalence among Brazilian children and adolescents increased from 4 to 14 per cent between 1975 and 1997.[569] In 2003, an estimated 30 per cent of adolescent study participants in urban areas of Costa Rica consumed more than the recommended amount of total and saturated fat and over 50 per cent consumed high levels of cholesterol.[570] The estimated national prevalence of overweight and obesity in adolescents in the region ranged from 17 to 36 per cent in 2014 and approximately 17 million to 21 million Latin American adolescents were considered overweight or obese.[404] Even within populations traditionally plagued by undernutrition, such as marginalized indigenous populations, the prevalence of overnutrition may be growing. Within a sample of 45 Mbya Guaraní indigenous persons from different areas in Argentina, 93 per cent of the participants experienced some form of malnutrition. While 85 per cent of them displayed stunting, 10 per cent were considered overweight.[568]

Currently, there is a scarcity of disaggregated data regarding obesity among Latin American adolescents. Three studies in this review observed a higher prevalence of obesity among youths from higher-income families in Colombia[567] and Brazil,[566] but existing regional data suggest that the prevalence of obesity is shifting from high-income to low-income populations, creating a double burden of malnutrition for youths of low socioeconomic backgrounds.[567,571,572]

Substance use: alcohol, tobacco and illicit drugs

Throughout the Latin American and Caribbean region, consumption of alcohol, tobacco and drugs remains concentrated among adolescents and young adults.[573] While higher numbers of older adolescents engage in substance use, evidence suggests that more adolescents are trying alcohol, tobacco or drugs at earlier ages.[574-580] For example, one 2005 study in Ecuador noted that of the 13 per cent of participants who consumed tobacco, 70 per cent had begun smoking before they were 15 years old and 80 per cent of adolescents who had tried alcohol reported consuming alcohol before age 15 years.[574] Similarly, a 2008 investigation found numerous adolescents who had experimented with drug use at the ages of 12 or 13 years.[578] A study in Brazil found that 50 per cent of adolescent smokers in Pelotas, Brazil had first tried tobacco before the age of 10 years.[577]

Use of alcohol, tobacco and drugs is universally higher among adolescent males than adolescent females.[576,579,581] Additionally, adolescent boys from rural areas have been shown to have a higher level of alcohol and tobacco consumption.[581,582] According to an analysis of household surveys distributed among 17,974 Mexican adolescents, alcohol and tobacco use increased as the size of the adolescents' localities decreased.[582] The investigators of this study speculate that rural areas in Mexico may be more accepting of adolescent alcohol consumption in public spaces and events.[582]

In addition to geographic location, education and socioeconomic position may also affect trends in substance use. One 2006 global study found that adolescents from lower socioeconomic origins were more likely to abuse alcohol and in Brazil, drug use was associated with urban poverty. [573] Another study in Brazil with 4,394 adolescent participants linked tobacco use with lower socioeconomic position.[577] Poverty was also found to be a risk factor for substance abuse in Ecuador,[574] Haiti[583] and Brazil.[576] Additionally, tobacco and alcohol use have been associated with lower levels of education among males in Brazil,[577] Mexico[580] and throughout the region.[584] Youth who report low levels of connection to schools or religious organizations also have higher levels of alcohol consumption[585] and drug use.[574,586]

Finally, adolescents' home environments significantly influence patterns of alcohol consumption and abuse.[539,586] Particularly among adolescents living in poverty, youths with parents who abuse alcohol are significantly more likely to abuse alcohol.[539] Additionally, alcohol consumption is higher among adolescents who grew up in single parent households, express low levels of connectedness with parents and were subjected to domestic abuse as children.[587] Similarly, smoking tobacco is correlated with parents' smoking patterns, low levels of maternal education, domestic abuse, participation in physical fights, high stress levels and living with a single mother.[575,577] As with alcohol consumption, illicit drug use is more common among adolescents who live in unstable and single parent homes and who feel disconnected from their parents and communities.[574,586]

Summary

Vulnerability to nutrition and substance abuse issues is undergoing shifts in Latin America. The prevalence of obesity and excess weight is growing and the ages of first substance use are becoming younger. Increased research is necessary to monitor these trends and create policies that target the most vulnerable populations, especially given the associations between substance abuse and violent crimes and accidents. Amidst efforts to reduce substance abuse, initiatives should work to target not only individual knowledge but also broader social and economic inequities that permeate adolescents' home environments and affect their autonomy.

5.6 Vulnerability, agency and HIV among youth

Throughout the past 15 years, the incidence of HIV infection generally has been declining among youth populations in Latin America and the Caribbean. Between 2001 and 2012, the number of new infections among youths age 15 to 24 years dropped by 15 per cent in Latin America and 55 per cent in the Caribbean.[588] Nevertheless, HIV remains a pressing issue affecting vulnerable youth populations. In 2013, there were an estimated 4,000 adolescents living with HIV in Argentina, 29,000 in Brazil, 7,800 in Colombia, 2,300 in the Dominican Republic, 3,000 in Guatemala, 5,800 in Mexico and 3,600 in Peru.[1] That same year, adolescents accounted for 7 per cent of the total population with HIV in Haiti, Guyana, Nicaragua and Paraguay.[1] Adolescents also comprised 8 per cent of the population with HIV in Bolivia and 10 per cent in Honduras.[1]

A key factor in the HIV epidemic, condom use remains low among male and female adolescents throughout the region.[540,589] Between 2009 and 2014, only 20 per cent of adolescent girls in Peru, 40 per cent of girls in the Dominican Republic and 39 per cent of girls in Honduras reported using a condom during the most recent sexual intercourse.[1] Additionally, in 2010, 80 per cent of adolescent participants in a study in Brazil reported having sex without condoms.[590] Three years later, a national survey of Brazilian high school students found that about half of sexually active adolescents had not used a condom during their previous sexual encounter.[589] According to a 2010 survey in Santander, Colombia, 92 per cent of adolescent women in relationships did not regularly use protection against HIV or other STIs.[591]

While regional efforts to expand sexual education in schools have emphasized HIV/AIDS awareness, knowledge of HIV remains incomplete among the region's adolescent boys and girls. According to the most recent UNICEF statistics, only 20 per cent of adolescent girls and 24 per cent of adolescent boys in both Bolivia and Guatemala had a comprehensive understanding of HIV.[1] In Haiti, those numbers were 32 per cent and 25 per cent among adolescent girls and boys respectively, 29 per cent and 33 per cent in Honduras and 29 per cent among adolescent girls in Costa Rica.[1] In areas with higher levels of comprehensive knowledge of HIV, a large divide still persists between adolescents' knowledge of sexual risk and sexual behaviours.[495,583,592] For example, in Colombia, although 67 per cent of participants in a 2012 study reported having received information about HIV and STIs, only 33 per cent of the sexually active participants had used condoms during their previous sexual encounter.[591]

Gender and the HIV epidemic

Globally, young women aged 15 to 24 years are 50 per cent more likely to acquire HIV than males of the same age group.[588] This pattern is similar with Latin American and Caribbean adolescents, where HIV prevalence and a low level of condom utilization are often concentrated among female adolescents.[501,540,588] In Brazil, for example, women aged 15 to 24 years are four to seven times more likely to acquire HIV than their male counterparts.[590] Additionally, while adolescent men are more likely to be sexually active, adolescent women are least likely to use a condom during sexual relations.[488,593-595] These trends have been noted in Nicaragua,[488] Brazil,[594,595] Mexico,[593] Colombia[596] and Panama.[596]

These trends may reflect broader gender inequalities throughout Latin America that diminish adolescent women's autonomy in relationships and in negotiating condom use. Whereas adolescent men are encouraged to have multiple sexual partners and forego protection, women are expected to be subordinate to their partners' wishes and adolescent female sexuality is stigmatized in many areas.[488,540,595] Consequently, unmarried women may encounter stigma when seeking information or services relevant to HIV prevention.[518] Married adolescents, especially those married to older men, may also struggle to negotiate condom use within their relationships. A 2006 regional report found that 80 per cent of adolescent women who had engaged in unprotected sex were married.[504] A 2012 study in Brazil also found that adolescent women in relationships often replaced condom use with "trust" of their partner.[595]

Poverty and vulnerability to HIV

This literature review identified several other factors that increase HIV risk for adolescents of both genders. Primarily, Latin American youth are beginning sexual relations at younger ages, and numerous studies have linked early age of sexual initiation with increased risk for HIV. Publications from Haiti,[583] Chile,[597] Brazil[558,590,598] and Peru[599] have linked early age of sexual initiation with lower frequency of condom use. These low levels of condom use could stem from the high prevalence of sexual coercion and violence that affect early adolescents. In one study from 2000, 62 per cent of girls who became sexually active before age 15 reported that they had experienced coercion or sexual violence; in comparison, this figure was 28 per cent for women whose sexual debut happened after age 22.[599] In general, various studies have documented the role of sexual coercion and violence in contributing to the transmission of HIV.[588,590,599] Sexual coercion and sexual violence usurp adolescents' autonomy in making decisions concerning their sexual behaviours. Particularly for adolescent girls, another factor that increases exposure to HIV is intergenerational sex. Girls whose partners are significantly older may be less able to negotiate condom use, given the unequal power dynamics inherent to those relationships.[504,600] Finally, drug and alcohol use have also been associated with increased exposure to HIV among adolescents throughout the region.[515,558,589,590] For example, a 2013 survey of Brazilian high school students found that adolescents who did not use a condom at last sexual intercourse were 32 per cent more likely to binge drink and 43 per cent more likely to consume illegal drugs than adolescents who used condoms frequently.[594]

Poverty is a common theme that connects all of the factors that increase exposure and social vulnerability to HIV, such as early sexual initiation, sexual coercion, intergenerational sexual relations and drug and alcohol abuse, all of which occur more frequently among adolescents from poor and vulnerable

settings,[539,583,588,590,594,599] particularly among adolescent girls who come from low socioeconomic backgrounds.

Ethnicity and vulnerability to HIV

The effects of gender and economic inequalities on vulnerability to HIV may be particularly manifest among indigenous adolescents. Throughout Latin America, indigenous people are subject to social and economic exclusion and increasing evidence highlights indigenous youths as a population particularly vulnerable to HIV infection.[515,593] For example, PAHO has documented very early ages of sexual initiation among indigenous adolescents in Peru, Nicaragua, Bolivia and Ecuador.[515] Studies have also documented high levels of sexual violence committed against indigenous adolescent girls, as well as gender norms that reduce girls' autonomy in negotiating condom use in relationships.[515] Adolescent indigenous girls have cited social stigma and discrimination from medical providers as key barriers to seeking health information or obtaining condoms.[515] Overall, the prevalence of condom use is very low among indigenous youths. In Bolivia for example, PAHO reports that only 2 per cent of indigenous adolescents ages 15 to 19 years regularly use condoms.[515]

Summary

The HIV epidemic increasingly affects adolescents who are subject to broader gender, social and economic inequalities in the Latin America and Caribbean region. Considering these factors, successful efforts to curb the prevalence of HIV infection among youth in the region likely will need to address the social inequalities that fuel these vulnerabilities. HIV prevention efforts should work to bridge the divide between adolescents' knowledge of HIV and healthy sexual behaviours and create contexts in which adolescents are able to assume more autonomy in those behaviours.

Challenges of transition from childhood to adolescence for youth with HIV

Although national and international initiatives have worked to reduce perinatal transmission of HIV, infants continue to be born with HIV throughout Latin America and the Caribbean. In 2014, there were approximately 2,000 new cases of HIV in Latin America and 400 in the Caribbean among children under the age of 15 years, many of these cases resulting from perinatal transmission.[601] However, increased access and adherence to antiretroviral therapy (ART) have allowed more children to survive through adolescence and adulthood. Throughout the past decade, nearly every Latin American and Caribbean country has expanded access to ART for children and adolescents.[601] Even within the past five years, Bolivia has doubled its coverage of ART for children less than 15 years old from 10 per cent in 2011 to 21 per cent in 2014.[601] In the same time period, coverage for that age group increased in Haiti from 18 to 34 per cent, in Nicaragua from 22 to 36 per cent, in Mexico from 44 to 63 per cent and most strikingly, in Colombia from 23 to 60 per cent.[601] Similarly, ART coverage levels for persons over the age of 15 years have also expanded almost unilaterally throughout the region.[601]

Research has proven that ART improves the quality of life for infected children and adolescents.[528,594,602] By reducing opportunistic infections and immune suppression, ART enables children to reach cognitive and physical maturity alongside other adolescents.[603] A 2006 study conducted in Brazil also documented that ART changes public perceptions of HIV as a definitive death sentence and enables adolescents to defy conventional portrayals of youths with HIV youths as sickly or frail.[528]

Stigma and HIV

For many children perinatally infected with HIV, adolescence marks the time in which they assume more control of their treatment adherence and begin exploring their sexuality. Nevertheless, this transition to adolescence can also be a period affected by stigma and social exclusion, as adolescent experiences of stigma may cause feelings of isolation and other psychological ailments that can detriment their quality of life.[603,604] Stigma against adolescents with HIV may also deter them from seeking medical care or health information, may compromise their adherence to ART and may inhibit them from obtaining information concerning sexuality and sexual health.[528,605] The stigma experienced by adolescents with HIV not only is the product of discrimination against HIV, but also amplifies broader marginalization of persons from disadvantaged backgrounds.[606]

Adolescents infected with HIV through perinatal transmission often are discriminated against because of their HIV-positive status. In indigenous communities in Ecuador, Guatemala, Nicaragua, Bolivia and Peru, HIV may be socially constructed as the result of female promiscuity or male homosexual behaviour, both of which are stigmatized by many traditional societies.[515] Consequently, no matter the form of transmission through which they contracted the virus, youths with HIV in these societies are subjected to condemnation and discrimination.[515] Studies in Brazil have found that children and adolescents with HIV may be excluded from attending standard schools or from acquiring employment, although those trends may be decreasing.[607] Within the context of healthcare services in Brazil, stigma may limit youths with HIV from sexual and reproductive health information or receiving nondiscriminatory care.[605]

Discrimination and stigma against youths with HIV can also originate from within adolescents' families. Ideally, families should function as support networks for adolescents, and studies have found that caregiver and family support can significantly affect adolescents' adherence to ART.[607,608] Unfortunately, however, caregiver support is not always the reality. One 2013 study in Brazil found that adolescents with HIV experienced higher prevalence of physical and psychological violence within their families.[609] Family members may also refuse to discuss or acknowledge their children's HIV status in order to avoid rejection from extended family or their communities.[604] In extreme cases, family members may even abandon or isolate children with HIV.[528]

Stigma and situations of social vulnerability

Apart from their HIV status, many perinatally infected adolescents are born into situations of social vulnerability. For example, various publications have reported that adolescents perinatally infected with HIV often live in conditions of poverty or may be from minority ethnic groups which can be subject to social marginalization.[515,528,609-612] A 2010 study observed that children and adolescents receiving ART at a public hospital in Mexico City lived in situations of extreme social vulnerability, in which household breadwinners were only marginally

employed, and that their children lacked options for educational and economic growth.[611] Other studies in Brazil and elsewhere have found that adolescents infected through perinatal transmission were more likely to live in poverty, with unstable households, unemployed parents, parents with substance addictions, a history of family violence and few support networks.[528,609,610] These same factors may also place adolescents with HIV at increased risk of intrafamilial violence or abuse. For example, one 2013 study in Brazil with adolescents who acquired HIV perinatally found that 68 per cent of participants were subjected to psychological abuse, 42 per cent to corporal punishment and 23 per cent to physical mistreatment from relatives.[609] Orphanhood is also more prevalent among children and adolescents with HIV, as at least one parent had HIV and parents may suffer incidents related to the impoverished or dangerous environments in which they live.[528,610,612] Finally, adolescents from vulnerable populations may have less consistent adherence to ART. While there is a scarcity of literature concerning adolescents' adherence to ART in Latin America, existing studies suggest that low ART adherence may be found among adolescents from low-income backgrounds or with caregivers who abuse alcohol or drugs.[611,613]

While each of these factors independently can fuel discrimination against adolescents and the exclusion of youths from social and educational opportunities, these vulnerabilities may serve to enhance the stigma that adolescents receive for their HIV status. For example, in Brazil, orphan children of parents with HIV may be more likely to suffer malnutrition and experience discrimination because of their parents' status.[612] In areas of Brazil, orphans with HIV may also be subjected to exclusion if their parents died as a result of criminal activity, gang violence, alcoholism or drug use.[528] Social exclusion of minority ethnicities may also amplify the discrimination against indigenous youths with HIV.[515] Overall, adolescents' experiences of stigma reflect both discrimination against people with HIV and marginalization of other vulnerable youth populations.

Stigma and disclosure of HIV status

Stigma also affects the timing when caregivers and health providers disclose HIV status to the infected youth. Numerous articles in this review describe that caregivers often postpone disclosing adolescents' HIV status to avoid stigma and discrimination.[602,603,605,607,614] For example, a study throughout Colombia found that only 3.8 per cent of children and adolescents with HIV knew their status.[614] In addition to the lack of familiarity with legal obligations to disclose the diagnosis, both healthcare providers and family caregivers in the study did not reveal the seropositive status in order to protect the affected youth from psychological trauma or discrimination.[614] There have been similar findings in different areas of Brazil which suggest that caregivers commonly hide children and adolescents' diagnoses for fear of stigma.[602,603,607]

However, although caregivers may be trying to protect the adolescents, understanding their diagnosis is an important process for youth with HIV in the transition from childhood to adolescence. Disclosure of the HIV status allows adolescents to cope with the diagnosis psychologically, take autonomy in controlling the virus and comprehend risk factors as they begin sexual relationships.[602,614] Additionally, as opposed to adolescents who are unsure of their status, adolescents who know their HIV status have been shown to have more self-esteem and autonomy.[610]

Summary

Stigma is a key factor that affects the transition to adolescence of children with HIV. While perinatally infected youths frequently are subject to discrimination because of their HIV status, this stigma also reflects broader patterns of social exclusion of adolescents from vulnerable populations. More efforts are needed to ensure equitable access to ART among adolescent populations and to support caregivers in providing the best care possible.

5.7 LGBT adolescents and discrimination

Discrimination against LGBT youth is endemic throughout Latin America and assumes various forms. Primarily, the region's LGBT adolescents may encounter discrimination in school settings. Studies have noted that sexuality education programmes often fail to address sexual orientation and gender identity, and some programmes focus exclusively on adolescent pregnancy among heterosexual girls.[486,491,615] This lack of comprehensive sexuality education is in itself discriminatory in that it prevents a vulnerable population of adolescents from obtaining sexual health information and social support. Additionally, school settings may serve as an environment in which LGBT adolescents are subjected to rejection and condemnation by their peers. In one 2013 study in Ceará, Brazil, for example, investigators found that adolescent students frequently used derogatory language against homosexuals in classrooms settings as well as in casual conversations during school hours.[491] Similar findings from Nicaragua,[488] Chile[615] and other areas of Brazil[616,617] found that LGBT adolescents may be targets of derision and social exclusion from their peers. This discriminatory behaviour is often perpetuated by teachers' beliefs and actions that promote heterosexuality and conventional norms as being normal or superior.[491,616] For example, teachers in the Ceará study did little to combat the derogatory behaviours and at times even supported the contempt.[491]

LGBT adolescents may also encounter discrimination within the context of health services. The privacy and confidentiality issues that deter other adolescents from seeking SRH services may be particularly dissuading for LGBT youths.[618] Evidence suggests that health providers in Brazil and Mexico are not familiar with the needs of LGBT adolescents and that providers may actively express homophobic attitudes within clinical settings, thus limiting LGBT adolescents' access to services and SRH information.[618-620] The issue of provider discrimination may be especially detrimental to transgender adolescents. One 2015 study in Rio Grande do Sul, Brazil described a situation of "symbolic violence" apparent in healthcare settings, in which medical personnel fail to identify or recognize the needs of transgender individuals, do not use their self-chosen names or condemn them for their "choices" to be transgender.[621] As a consequence of these practices, transgender participants reported that they experienced "humiliation," "judgment" and "discrimination" when seeking healthcare services.[621] While this study included only adult participants, it can be assumed that transgender adolescents may experience similar issues of discriminatory care.

In addition to education and healthcare settings, LGBT adolescents may suffer discrimination, physical violence and sexual abuse from their families and communities. Research in Colombia and Mexico suggests that LGBT adolescents may be targets of bullying, interpersonal violence and hate crimes.[619,622] Within family units, LGBT adolescents may be pressured to comply with heteronormative gender roles and may experience neglect, abandonment or physical violence when they diverge from those standards.[599,623,624] A case study from Mexico and interviews in Brazil also suggest that family violence and rejection may initiate a series of discriminatory actions that transgender persons experience throughout adolescence and adulthood.[621,624] Finally, sexual coercion and violence are pressing issues that affect LGBT adolescents.[599,616,617,624] A 2000 study in Lima, Peru found that sexual coercion was common in homosexual initiation for both men and women.[599] In 2012, a survey of over 2,000 students in São Paulo, Brazil revealed that 27 per cent of non-heterosexual adolescents and 12 per cent of heterosexual youth had experienced sexual violence.[616] Two years later, another study in Brazil found that 12 per cent of homosexual and bisexual teenagers had been victims of sexual violence, as opposed to 2 per cent of heterosexual teenagers.[617]

Health effects of discrimination against LGBT adolescents

Discrimination has negative effects on the mental health, physical health and health practices of LGBT adolescents. Primarily, the discrimination that LGBT adolescents face in their daily lives has been connected with negative psychological effects such as feelings of emotional and social isolation, denial of sexuality, low self-esteem, self-loathing, shame, defensiveness, internalized homophobia and depression.[615,616,620,622] These psychological effects may be particularly damaging for LGBT adolescents, as many of them already struggle to find counselling and support resources that address the needs of non-heteronormative youth.[619] As a consequence, discrimination acts as a key driver of the high prevalence of suicide and suicidal thoughts observed in the region's LGBT adolescents. Numerous publications have argued that LGBT adolescents have a higher prevalence of suicidal tendencies than their heteronormative peers.[616,617,622] For example, one 2014 survey in Brazil found that 42.5 per cent of homosexual and bisexual adolescents had experienced suicidal thoughts, as opposed to 18.7 per cent of heterosexual teens.[617] Two years earlier, another survey in Brazil observed that non-heterosexual students were twice as likely as heterosexual peers to contemplate suicide and more than three times as likely to attempt suicide.[616] In 2005, a study found an alarmingly high prevalence of suicidal thoughts (60 per cent) and suicide attempts (26 per cent) among lesbian, gay and bisexual (LGB) adolescents.[619] All of these publications link suicidal thoughts not to adolescents' LGB sexual orientation, but instead to the frequency with which adolescents experience discrimination because of their LGB orientation.

Additionally, discrimination may fuel high levels of alcohol and substance use among LGBT adolescents. A 2005 study in Mexico discovered that 21 per cent of lesbian and bisexual women suffered from alcoholism, a higher percentage than in the heterosexual female study population.[619] Ten years later, the same investigator discovered that the prevalence of alcoholism and substance use continued to be higher among Mexican LGBT adolescents than their heterosexual peers and that LGBT teenagers were more likely to smoke cigarettes.[623] In Brazil, while

19 per cent and 11 per cent of surveyed LGB adolescents reported using alcohol and marijuana, respectively, only 6 and 2 per cent of heterosexual adolescents reported alcohol and marijuana use.[617] These trends have also been noted in Brazil[616,620,625] and Argentina,[626] and evidence suggests that alcohol and substance use may serve as a coping mechanism for LGBT adolescents struggling with the isolating effects of discrimination.[620]

Finally, discrimination against LGBT adolescents may drive risk behaviours for HIV and other STIs. As mentioned previously, discrimination against LGBT adolescents can cause victims to hesitate in seeking relationship advice, health services and sexuality information. Without information or social support, LGBT populations may then be more likely to engage in practices that increase their exposure to HIV, such as higher numbers of sexual partners,[620] low levels of condom use[617] and transactional sex or prostitution.[620,624] LGBT adolescents with low levels of self-esteem may also be less able to negotiate condom use and other safe-sex practices.[618] As a result, LGBT adolescents have become an extremely vulnerable population for HIV and other STIs. Primarily, men who have sex with men have long been considered as a vulnerable population to HIV. As of 2005, an estimated half of adolescents with homosexual activity in Brazil had contracted an STI at some point in their lives.[620] In Argentina, 42 per cent of transgender participants at a health centre study tested positive for syphilis while only 19 of cisgender individuals, i.e., those whose gender aligns with the sex they were assigned at birth, had acquired the infection.[626] Acquiring HIV and other STIs may then in turn prompt more discrimination, as those infections often carry additional stigma.

Summary

Throughout Latin America and the Caribbean, LGBT adolescents are an underserved, vulnerable population. Although increasing research has brought to light the issues affecting the region's LGBT youth, discrimination continues to obstruct these adolescents from obtaining optimal mental, physical and sexual health outcomes. Given the extent to which this discrimination permeates health services, educational settings and social climates, all areas that have a meaningful impact on adolescent health and well-being, there is a pressing need for policies and research to identify the needs of LGBT adolescents and take action to address those needs.

This review also contends that the discrimination directed towards LGBT adolescents is a product of the rigid gender norms and inequities that afflict many areas throughout Latin America and the Caribbean. Non-heteronormative sexual behaviour is condemned because it challenges traditional gender norms that demand male sexual dominance over subordinate females. In areas where 'manliness' is associated with aggression, control and lack of emotion, societies may reject behaviour and attitudes that defy those conventions and homophobia may become incorporated into 'masculine' identity. Therefore, in order to combat discrimination against LGBT adolescents and prevent the inequitable health outcomes that they experience, Latin American and Caribbean societies should also reexamine gender inequities and work to expand narrow definitions of gender identity.

6. Implications of violence on health equity

6.1 Physical, sexual and verbal abuse of women and children

Violence and abuse of children with disabilities

Children with disabilities are more likely to be neglected, physically abused and sexually abused than children without disabilities.[627] In Latin America and the Caribbean, living with disabilities as a child is associated not only with poverty but also with violence and maltreatment that can take the form of discrimination, social exclusion and stigma.[627]

It is worth mentioning the role of public institutions in the alleviation of violence against children with disabilities. Reporting systems that are designed to protect victims and identify abuse have been recognized as poorly organized.[627,628] Even when services are available, people have inaccurate or incomplete perceptions of the role of these institutions.[629] There is also evidence that in some institutions, children with disabilities are subjected to inhumane and degrading conditions that can lead to some institutions being considered dangerous and life-threatening.[630]

Summary

Throughout the region, children with disabilities are more likely to be subjected to physical or psychological abuse, neglect, discrimination, social and economic marginalization and stigma. More services are needed to address the needs of these children and reduce their exposure to violence.

The impact of landmines on children

Colombia is the most mined country in the world and the only country in Latin America where landmines still exist.[631] Landmines have contributed to the increased incidence of permanent functional disabilities in the country[632] and have disproportionally affected populations in rural areas who live in poverty.[633] Death, dismemberment, sight and hearing loss and lifelong disability are some of the consequences of stepping on landmines or of preparing and planting the explosive artifacts into the ground, which children are sometimes forced to do by armed groups.[634] Although in Colombia the cumulative percentage of all landmine victims among children and adolescents since 1990 is 10 per cent,[635] the proportion of civilian landmine victims since 2010 who are children and adolescents has increased steadily and was 35 per cent in 2013.[636]

In addition to the numbers of children who become orphaned as a result of landmines, children are more likely than adults to die from landmine injuries.[637,638] Among those who survive, they may require longtime care that is geographically or financially inaccessible. If they do have access to medical, surgical and prosthetic treatment, they periodically require new prostheses during their growth period.[637] Impaired vision, hearing or mobility, particularly in rural areas, can hamper access to education and employment for these children and create catastrophic expenses for their families, exacerbating conditions of poverty and limited opportunities in life, worsening already inequitable conditions.

The consequences of landmines go beyond direct physical disability, as they can generate inequitable health outcomes in mental and cognitive impairment. In 2005, it was estimated that the prevalence of post-traumatic stress disorder among children in two of the municipalities where landmines, displacement, violent deaths or other threats were common was between 16.8 and 23.2 per cent.[639] The findings of a study of child and adolescent victims of the armed conflict in Colombia who suffered post-traumatic stress disorder and/or depression showed lower attention and memory performance than national population averages, particularly among the adolescents.[633]

Summary

Landmines are a major source of disability and mortality for children living in poor rural areas of Colombia. For these socially and economically disadvantaged youth populations, the physical, cognitive and psychological impacts of landmines further impede their development and human capabilities. In that sense, landmines function not only as literal weapons, but also as agents of violence that impede the health and livelihood of disadvantaged populations.

Sexual abuse of adolescents and mental health conditions

In various areas throughout the world and in Latin America and the Caribbean, adolescent girls are subjected to various forms of intimate partner violence. As of 2014, approximately 84 million, or one in three, adolescent girls worldwide had experienced sexual, physical or emotional violence from their partners or spouses.[640] In Latin America and the Caribbean, according to a 2014 UNICEF report, proportion of all adolescents aged 15 to 19 years who had a lifetime experience of sexual violence ranged from 3 per cent in Guatemala and Colombia, to 7 per cent in Nicaragua and El Salvador, to 8 per cent in the Dominican Republic, to 11 per cent in Jamaica.[640] The same report found that a higher proportion of adolescents girls in Latin America and the Caribbean have suffered emotional abuse from partners than in other regions of the world. In 2013, a study in Bolivia found that of 10,119 adolescent and adult women who were living with a partner, 47 per cent had experienced some form of intimate partner violence and 7 per cent had experienced sexual violence from their partners. Of these women, 95 per cent had also experienced psychological abuse and 83 per cent had also experienced physical abuse.[641]

In Latin America and the Caribbean, sexual violence is particularly prevalent against girls aged 10 to 15 years. For example, in 2005, youths under the age of 18 accounted for 71 per cent of reported acts of sexual violence in Colombia and sexual violence was the fourth highest cause of non-fatal injuries, with 40 cases of sexual transgressions per every 100,000 inhabitants. Within those cases, the populations aged 10 to 14 years had the highest prevalence of experiencing sexual violence, with 104 per 100,000 people, followed by children aged 5 to 9 years, then finally by adolescents aged 15 to 17 years.[642] In 2002, an estimated 46 per cent of girls

in Haiti had experienced some form of abuse and 43 per cent of those victims were aged 10 to 14 years.[583] A later study in the same country found that from 2005 to 2006, an estimated 11 per cent of adolescent girls ages 15 to 19 years were victimized by their partners.[526] A 2013 PAHO report found that between 40 and 60 per cent of sexual violence within families in the region affects girls under the age of 15 years.[526] Similarly, a World Bank report found that 12 per cent of women in São Paulo and 9 per cent of women in Pernambuco, Brazil had suffered sexual abuse before the age of 15 years. Similar statistics were found in Guatemala, Peru, Honduras and El Salvador.[526] Additionally, a 2006 study in Morelos, Mexico found that 28 per cent of 262 public school students surveyed had experienced dating violence.[643]

In addition to age, studies have associated other factors with greater likelihood of experiencing sexual violence among adolescents: living in poverty, being female, having low levels of education or poor academic performance, low self-esteem, multiple sexual partners and tobacco or alcohol use.[526,590,643-646] A report in Peru also linked sexual violence to women who had large families, lived with their partners and had partners who abused alcohol.[647] Adolescent girls living in conflict areas, such as guerilla-occupied areas of Colombia and post-conflict Guatemala, have also shown a higher prevalence of experiencing sexual assault.[647]

Finally, a small number of studies included in this review highlight intergenerational cycles or repeated instances of sexual abuse that affect adolescent girls. For example, one study in Chile found that the mothers of sexually abused children were more likely to have suffered sexual abuse during childhood than were mothers of children who had not been sexually abused.[648] Another study in Bolivia found that exposure to interparental sexual abuse increased women's chances of being abused.[641] Additionally, within women's own life courses, childhood experiences of sexual abuse may be a risk factor for sexual abuse as adolescents. One 2008 study in El Salvador discovered that experiences of sexual abuse during childhood increased women's likelihood of partner abuse during adolescence by four times.[644] The authors of a study in Brazil observed that experiences of sexual abuse may detract from a woman's self-esteem and self-protection mechanisms, thus rendering her more vulnerable to future instances of abuse.[646]

Sexual violence and HIV

Sexual violence likely contributes to the HIV epidemic affecting adolescent populations in Latin America. As noted by several publications included in this review, adolescent girls and women who experience sexual violence are less able to negotiate condom use and, therefore, are more susceptible to infection by HIV and other STIs.[590,599,600,649-651] Experiencing sexual abuse has also been linked with other factors that directly increase risk for HIV and other STIs such as higher numbers of sexual partners, more frequent unprotected intercourse, drug and substance use and intergenerational sex.[590,600,650,652,653] Experiencing sexual abuse is also associated with other factors that may indirectly increase the risk of exposure to HIV and other STIs. For example, a study in Haiti found that adolescents who had been sexually abused were more likely to drop out of school.[583]

Sexual violence and adolescent pregnancy

Sexual abuse and violence have been attributed as causes for the high prevalence of adolescent pregnancy throughout the Latin America and Caribbean region. In Nicaragua, women who reported unintended pregnancies in the 2006 DHS were significantly more likely to have experienced sexual violence, abuse or coercion.[650] A study in El Salvador found that girls who suffered some form of abuse were 11 times more likely to become pregnant during adolescence.[644] Of the study participants who had become pregnant during adolescence, about 80 per cent had experienced some form of sexual, physical or emotional abuse in their lives.[644] Domestic violence by their partners can limit women's ability to obtain contraceptives and use them effectively.[650,651]

After becoming pregnant or giving birth, adolescents may continue to suffer mental health consequences of sexual abuse. One study in Porto Alegre, Brazil discovered that 32 per cent of adolescent mother participants had experienced psychological distress, and having suffered abuse was associated with having little or no expectations for their future.[561]

Violence, depression and other mental health conditions

Adolescent mental health issues are an important yet often overlooked topic in Latin America and the Caribbean.[461] A 2010 report observed a prevalence of 13 per cent for psychiatric disorders among children and adolescents living in urban and rural areas of São Paulo, Brazil.[654] Similarly, in Mexico City, one recent survey found that adolescents had a notable prevalence of mild (10 per cent), moderate (20 per cent) and serious (9 per cent) mental disorders.[654] Overall, 4 of 10 adolescents suffered some form of psychiatric disorder in Mexico City.[655] Evidence has suggested that mental health disorders may be concentrated among female adolescents from poorer socioeconomic backgrounds,[656] indigenous or other minority ethnicities,[654,655] low levels of education,[647,655] areas with high levels of violence [655] and settings with limited opportunities for employment.[647]

Evidence gathered in this review suggests that sexual abuse and violence during childhood and adolescence may also contribute to the prevalence of mental health disorders among female adolescents in Latin America.[643,650,653,657,658] To cite a few specific examples, a 2010 study in Mexico documented that up to 72 per cent of adolescents seeking psychiatric care had suffered some form of violence.[659] A study in São Paolo found that girls who had suffered abuse were more likely to experience depression or post-traumatic stress disorders.[660] While it included both adolescents and adult women, a 2013 study in Bolivia associated intimate partner violence with an increased prevalence of depression, anxiety, non-epileptic seizures and psychiatric disorders.[641]

Summary

Sexual abuse is both the product of gender inequity and a primary driver of gendered inequalities in reproductive and mental health outcomes. More research and programmatic initiatives are needed to mitigate the widespread abuse of adolescents and expand services for youths who have already experienced sexual abuse. Such programmes will be critical to the successful achievement of gender equity in Latin American and Caribbean countries.

Intimate partner violence during pregnancy

Across the globe, 30 per cent of all women who have ever been in a relationship have experienced physical and/or sexual violence by their partner.[661] Among adolescents aged 15 to 19 years worldwide, approximately one third of girls have experienced emotional, sexual or physical violence from their partners or spouses.[640] The prevalence of intimate partner violence varies across countries. A comparative analysis of population-based surveys from 12 countries in the region found that in all of them, between one fourth and one half of women who had ever been married or in union reported having experienced ever physical or sexual violence by an intimate partner, from 54 per cent in Bolivia in 2003 to 17 per cent in the Dominican Republic in 2007.[662]

A 2005 WHO multicountry study on women's health and domestic violence against women provided valuable information on more than 24,000 women from 10 countries. Women from Peru reported a lifetime prevalence of physical and/or sexual intimate partner violence of 69 per cent in provincial settings and 51 per cent in the city, while in Brazil, 37 per cent of women in provincial settings and 29 per cent of women in cities reported lifetime prevalence of physical and/or sexual intimate partner violence.[663] Most acts of physical violence by an intimate partner are not isolated events but rather reflect patterns of continuing abuse. Most women who had reported ever having been physically abused by partners had experienced acts of violence more than once, sometimes frequently.[663]

Violence against women often changes in frequency during pregnancy.[664] In a 2003 study of women who delivered at a tertiary centre in Northeast Brazil, the prevalence of domestic physical violence was 13 per cent before pregnancy and 7 per cent during pregnancy. The pattern of violence changed during pregnancy, stopping for 44 per cent of women, showing a reduction for 27 per cent and increasing for 11 per cent.[665]

Pregnancy-associated violence also affects adolescents. A 2013 study in Rio de Janeiro revealed that 5 per cent of the adolescents and 3 per cent of the young adult women experienced physical violence during pregnancy. For both adolescents and young adults, the factors associated with physical abuse were lower educational level, lower support from the child's father and more attempts to interrupt the pregnancy.[664]

Conditions associated with intimate partner violence can be divided into personal, family and social factors.[663] In the WHO multicountry study, personal factors included "the woman's level of education, financial autonomy, previous victimization, level of empowerment and social support, and whether there was a history of violence in her family as she was growing up".[663] Family factors, or those associated with the partner, included "the male partner's level of communication with her, use of alcohol and drugs, employment status, whether he had witnessed violence between his parents as a child and whether he was physically aggressive towards other men".[663] Among participants in a 2014 study of pregnant women who had antenatal care at a public maternity hospital in São Paulo, Brazil, 16 per cent had suffered physical intimate partner violence, specifically 15 per cent had suffered psychological violence, 5 per cent physical violence and 0.4 per cent sexual violence.[666] Women who did not desire the pregnancy were 4.3 times as likely to experience physical intimate partner violence, compared with those who desired gestation.[666] The main risk factors associated with violence in a study of women who delivered at a tertiary centre in Northeast Brazil were low female educational level, previous history of violence in the women's family and alcohol use by and unemployment of their partners.[665]

Factors related to social context in the WHO study included "the degree of economic inequality between men and women, levels of female mobility and autonomy, attitudes towards gender roles and violence against women, the extent to which extended family, neighbours and friends intervene in domestic violence incidents, levels of male aggression and crime, and some measure of social capital".[663] According to data collected in highly deprived Mexican states through the 2003 National Survey on Violence Against Women, variables significantly associated with violence in pregnancy were: woman's illiteracy; history of violence in childhood; sexual abuse in her childhood; and her partner's daily alcohol consumption.[667] Additionally, the study showed that violence during pregnancy is a regular event in the economically depressed region and that its expression is more severe.[667]

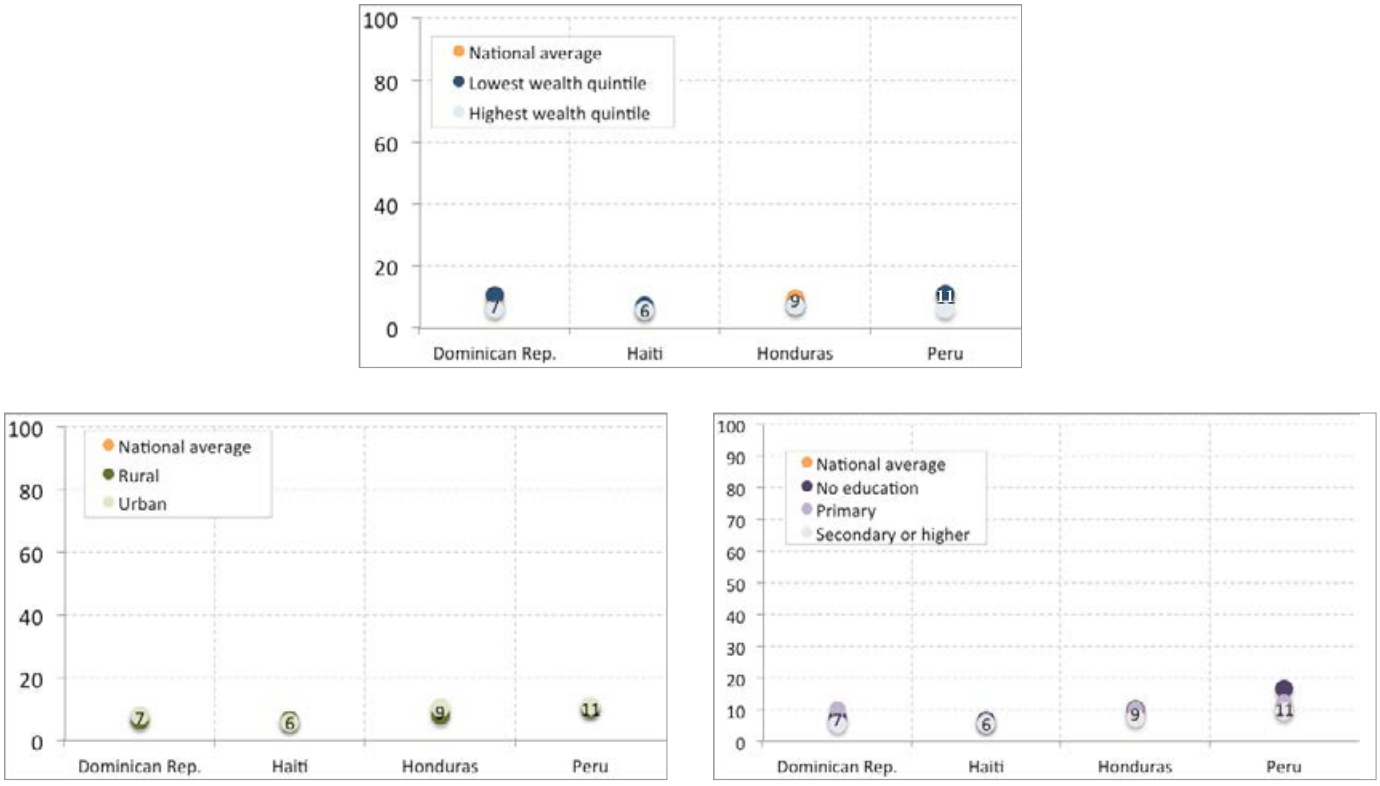
Age is another factor that should be taken into account. Young women face a double burden of vulnerability due to their gender and youth.[664] A 2013 study in Rio de Janeiro found that an increase in alcohol consumption was associated with physical abuse in adolescents, while illicit drug use was associated with physical abuse in young adults.[664] According to data collected by WHO, in urban Peru, 41 per cent of 15-to-19 year olds had experienced physical and/or sexual violence, versus 8 per cent of 45-to-49 year olds.[663]

Physical intimate partner violence is highly prevalent in the Latin American and Caribbean region, with poor obstetric-related outcomes.[668] A 2014 systematic literature review of partner abuse and pregnancy in the region indicated that physical intimate partner violence was "significantly associated with unintended pregnancies and adverse maternal (depression, pregnancy related symptom distress, inadequate antenatal care, vaginal bleeding, spontaneous abortion, gestation weight gain, high maternal cortisol, hypertension, preeclampsia, STIs) and infant (prematurity, low birth weight, neonatal complications, stillbirth) outcomes".[668] Low birth

Box 20. Gaps in violence during pregnancy (Figure 39)

- Within countries with available data, the highest prevalence of violence during pregnancy is among Peruvian women with no education (17 per cent) and the lowest is among Haitian women employed for in-kind payment (5 per cent).
- Although there are no clear patterns across countries, violence during pregnancy tends to occur more frequently among the poorest, urban, least educated and those employed for cash.

Figure 39. Gaps in the percentage of women aged 15-49 years who experienced violence during pregnancy in the Dominican Republic, Haiti, Honduras and Peru, household surveys 2010-2013



Source: Analysis based on Demographic and Health Surveys, 2012-2014.[1]

weight can result from either preterm birth or growth restriction in utero, both of which can be directly linked to stress. The chronic stress resulting from an abusive and dangerous environment can therefore directly affect maternal health and birth weight.[661] Intimate partner violence was shown to be positively associated with low birth weight and preterm birth even after adjusting for confounding factors in a systematic review of the prevalence of intimate partner violence by WHO.[661] In one multicountry study, women who had suffered physical intimate partner violence were 16 per cent more likely to have a low-birth-weight newborn.[663] In a 2003 study of a low-income urban settlement of San José, Costa Rica, newborns of mothers who had suffered acts of violence were three times more likely to be born with low birth weight than newborns of the women who had not experienced acts of violence and weighed on average 450 grams less.[669] Violence suffered by the mother (direct association) and the mother's weight gain during pregnancy (inverse relation) were the variables that were most closely associated with low birth weight.[669]

Studies in the region also support a link between intimate partner violence and neonatal mortality. An increase in neonatal mortality was observed in victims of domestic violence in a tertiary centre in Northeast Brazil.[665] In a 2013 study in Rio de Janeiro, the children of women who had suffered physical violence during pregnancy had a two-fold increased chance of neonatal death and a three-fold increased chance of post-neonatal death.[664] Contributing to worse obstetric outcomes for women who suffer physical intimate partner violence, women are often less likely to access prenatal and postnatal care services. Women in Brazil who had experienced physical intimate partner violence showed less adequate antenatal care than those who had not experienced violence.[666] In urban areas of Brazil and Peru, women who reported intimate partner violence were significantly less likely to have received postnatal care for their most recent live birth than those women who did not report such violence.[663]

Summary

Intimate partner violence during pregnancy is prevalent throughout Latin America. Physical intimate partner violence most often affects women from marginalized populations, such as those from poor, urban settings who have low levels of education and those in informal employment. Physical intimate partner violence is the product of gender inequalities and causes adverse health outcomes for both women and their children. Efforts to improve maternal and neonatal health outcomes should incorporate initiatives to reduce such violence that address the gender and economic inequalities that exist in the contexts in which they are implemented.

6.2 Discrimination and violence in health facilities

Widespread discrimination and violence by providers are chief barriers that prevent women from ethnic minorities from accessing quality health services in Latin America and the Caribbean. Such behaviour by medical personnel, as shown in an extensive review in 2015 which concluded that discrimination and violence against women from ethnic minorities in Latin American and Caribbean clinical settings is a pressing and overlooked issue that merits further investigation and action at a national and regional scale.[16] The impunity with which these violations occur is a reflection of how generalized they are in society at large and how normalized they are by women from ethnic minorities and by their healthcare providers. The effects of provider discrimination directly compromise access to treatment, as it can become a key factor that deters women from ethnic minorities from seeking medical care[173,670-676] and may obstruct the development or implementation of policies promoting indigenous rights.[675,677]

The review found six categories of discrimination and violence in health facilities in the region.[16] First, language and communication barriers are common and can constitute forms of discrimination,[678] as providers do not attempt to address patients' needs and promote unequal power structures between doctors and patients.[674,679,680] Second, healthcare providers throughout the region frequently do not provide intercultural care and lack cultural sensitivity.[681] Specific examples: disregard for women's opinions concerning their condition and treatment;[682-685] condemnation of traditional concepts of medicine and healing;[674,678] and active rejection of benign or even beneficial cultural practices, such as giving birth in a vertical position,[686] drinking tea after childbirth or giving birth in a room with a warm temperature.[674] In a 2013 study in the Jalisco region of northwestern Mexico, Huichol indigenous women reported feeling shamed and treated as morally and intellectually inferior by the local health personnel.[687,688] Similar experiences of shame were reported among Nicaraguan healthcare users in Costa Rica,[689] indigenous women in Peru and the Yacapaní region of Bolivia[673,674] and Peruvian women seeking care in Chile.[690] A 2011 study in Guatemala concluded that social exclusion of indigenous people was particularly manifest in clinical settings, where non-indigenous healthcare providers often reject Maya people and beliefs and blame illnesses on cultural practices.[691]

Third, provider discrimination can take the form of verbal abuse, which includes patient blaming, public humiliation, scolding and name calling,[532,673,686-688,692,693] causing shame and creating exclusion.[673,688,689,694,695] Fourth, physical abuse is another form of discrimination, in which providers perform unnecessary procedures or hit, slap or touch women in painful or uncomfortable ways[532,679,696] or refuse to administer pain medication.[532,697] Fifth, discrimination also appears through providers' purposeful neglect of patients, with Nicaraguans living in Costa Rica,[689] Peruvian indigenous women,[674] Haitian women in the Dominican Republic[698] and Afro-Brazilian and Guatemalan Maya women all citing this issue as a key barrier to care.[691,697] Finally, research highlights incidents of Peruvian indigenous women[690] and Nicaraguan immigrants in Costa Rica[689] being denied medical attention for both minor and life-threatening health concerns. Some studies suggest that shortages of medical personnel and supplies in health facilities may fuel increased provider discrimination.[674]

Alleviating discrimination requires policy and structural changes within health systems that go beyond interventions targeting individual health provider behaviours. Strategies aimed only at changing providers' behaviours will have limited impact if they do not address women's needs and the context of high socioeconomic inequality in which intrahospital relations are built. Larger-scale policies and strategies that transform power dynamics inside medical schools and health facilities and in society at large are critical to alleviating the root cause of inequity within healthcare settings, namely social discrimination and violence against women and ethnic minorities. Critical to the reduction of this discrimination is the formation of collaborative and horizontal partnerships between women from ethnic minorities and their healthcare providers. This form of community participation must occur within the context of broader discussions concerning gender equity and the rights of indigenous and Afro-descendant populations in the region. Healthcare providers should also receive training about the impact of discrimination and violence on health outcomes of minority ethnic groups and their contribution to persistent health inequity.

Summary

Throughout the region, women of ethnic minorities may encounter discrimination and abuse in healthcare facilities. These discriminatory practices stem from broader trends of exclusion that disproportionally affect women of ethnic minorities and compromise maternal health outcomes as well as health-seeking behaviour. Overall, discrimination within health settings is a crucial yet previously overlooked issue that demands more attention in the pursuit of health equity.

6.3 Health implications of urban poverty, violence and forced migration

Urbanization, urban migration and urban inequalities

The Latin American and Caribbean region has witnessed dramatic growth in the population of its urban areas throughout the past century. In the past 50 years, the number of cities in the region has increased six fold and the region has seen the advent of some of the world's most populous megacities, such as São Paulo, Rio de Janeiro, Mexico City and Buenos Aires.[699] Between 1970 and 2010, urbanization increased by at least 20 per cent in Colombia, Costa Rica, Ecuador, El Salvador, Honduras and Uruguay and by more than 30 per cent in Brazil, Haiti and Suriname.[700] Although urbanization has decelerated since 2000, approximately 80 per cent of the inhabitants of Latin America and the Caribbean currently live in urban areas, more than two thirds of the region's wealth is produced in urban areas and cities have been expanding in area to accommodate the growing numbers of inhabitants.[700]

The growth of Latin American cities has stemmed in part from migration patterns in which residents of rural areas have relocated to cities within their own or neighbouring countries. For example, in Guatemala, rural-to-urban migration accounted for nearly 60 per cent of urban growth between 1990 and 2000, with figures of 51 per cent in the Dominican Republic, 31 per cent in Mexico, about 53 per cent in Panama and approximately 45 per cent in Paraguay in the same time period.[700] Rural-to-urban migration is the product of numerous phenomena. Primarily, many people have fled to cities to escape conflicts and unrest occurring in rural areas, as in Colombia.[699,701,702] Additionally, the appropriation of rural land by governments and international corporations for mining or industrialized agriculture has hindered residents' abilities to practice traditional farming, limiting rural food supplies, as agricultural products are largely exported, and driving previously rural populations to seek improved conditions in cities.[699,703] Finally, rural dwellers have migrated to urban areas to pursue employment in the growing industrial labour markets of cities.[699,704]

All of these migration trends have primarily affected vulnerable populations. Especially among persons displaced by conflict as in Colombia, migrants tend to originate from low socioeconomic backgrounds and minority ethnicities, and migration has become increasingly feminized, with more women relocating to urban areas.[702,703,705] However, while many migrants move to urban areas to improve their economic situations, they may continue to face adverse living conditions within cities.[699,703] A study in Bogotá, Colombia found that migrants displaced from the conflict had worse health outcomes, fewer employment opportunities and worse living conditions than permanent residents of the city.[705] In 2013, another study from Colombia found that forcibly displaced persons live in situations of poverty in their new cities and often face discrimination due to their informal employment and need for public assistance.[702] In urban areas of Argentina, Guaraní-speaking Paraguayans may face language and cultural barriers to settling in their new cities,[703] and Bolivian migrant women encounter social exclusion and ethnic and gender inequalities in work settings.[706]

The growing populations of Latin American and Caribbean cities have met increasing social and economic inequalities in those urban spaces. While the majority of the region's wealth is produced in urban areas, large populations of urban residents do not enjoy the benefits of that prosperity. For example, as of 2015, 39 per cent of the population in Haiti and 27 per cent in Bolivia lived in urban areas without improved sanitation, and 21 per cent of the Haitian population lived in areas without improved drinking water sources.25 In 2010, 26 per cent of the region's urban population lived in poverty or indigence, with the highest proportions of urban poverty found in Honduras (56 per cent), Paraguay (47 per cent), El Salvador (41 per cent) and the Dominican Republic (40 per cent).[700] These wealth inequalities are also apparent through the spatial fragmentation of Latin American cities. Although many countries have enacted initiatives to improve living conditions for the urban poor, an estimated 111 million people throughout the region live in urban slums.[700] These slums are often physically separated from the urban enclaves in which wealthier populations reside and are characterized by instability, scarce educational and economic opportunities and subpar living conditions.[699]

Violence in urban settings

Another product of rapid urbanization and growing social inequalities, violence has become an endemic public health issue throughout urban areas of Latin America and the Caribbean. Only 10 per cent of the world's total population lives in Latin America and the Caribbean, yet the region is home to approximately 25 to 30 per cent of global homicides.[640,707] While the regional homicide rate is about four times the global average,[640] homicide rates in the Northern Triangle of Central America (Guatemala, Honduras and El Salvador) are five to seven times higher than global averages. As of 2012, 19 of the 20 most violent cities in the world are located in Latin America.[708]

Violence not only fuels high numbers of unnecessary deaths, but also hinders development and economic growth throughout the region. As of 2007, the cost of violence in Latin America and the Caribbean reached an estimated 14 per cent of the regional gross domestic product (GDP).[709] Similarly, the loss of human capital due to violence cost 2 per cent of the region's GDP, a figure comparable to the regional amount spent on primary education.[709] In 2003, over 7 per cent of El Salvador's national healthcare budget went to treating victims of firearm violence in public hospitals.[710]

Homicide is a critical health issue for the region's youth; in 2012, the highest share of the world's 95,000 fatalities among youths

aged 0 to 19 years were concentrated in Latin America and the Caribbean.[640] The four countries in the world with the largest proportions of youth homicide victims per 100,000 population are El Salvador, with 27 victims per 100,000 people, Guatemala with 22, Venezuela with 20 and Haiti with 19.[640] In these countries as well as others in the region, adolescents aged 15 to 19 years account for the vast majority of homicide victims among youth populations.[640]

Violent crimes in Latin America and the Caribbean are disproportionally committed against young men.[707,709,711-715] According to a 2014 UNICEF report, Latin American and Caribbean youth under the age of 20 years are about seven times more likely to die from violence than their female peers.[640] In 2008, Salvadorian man had a mortality rate due to homicide of 120 per 100,000 population, compared to a rate of 14 for Salvadorian women.[716] Similarly, those figures were 71 for men and 9 for women in Guatemala, and 55 for men and 5 for women in Brazil.[716] Homicide is the current leading cause of death for adolescent boys in Brazil, Colombia, El Salvador, Guatemala, Panama, Trinidad and Tobago and Venezuela, [640] and the level of violence is increasing throughout the region.[713,717] Overall, 1 of every 50 Latin American youth will become a victim of homicide before reaching the age of 31 years, according to a 2013 report.[707] Homicides among adolescent males aged 15 to 19 years comprise 4 per cent of the world's total homicides for all ages.[640]

In addition to being the victims of homicides, young men are also the most frequent perpetrators of violent crimes. A study in Medellín, Colombia found that adolescents under the age of 18 years were more likely than other age groups to be perpetrators of verbal aggression, fraud, armed aggression, robbery, sexual assaults and severe threats.[712] Similar findings emerged from a World Bank investigation in Argentina: men aged 18 to 24 years accounted for one third of all homicide indictments between 2002 and 2005 and young men aged 18 to 20 years were responsible for 25 per cent of the country's criminal convictions.[713] Finally, a 2007 regional report observed that men under the age of 35 years committed 80 per cent of violent crimes in the Caribbean.[709]

Social inequalities within urban areas place certain populations at increased risk for committing and experiencing violence. Primarily, violence is concentrated among the region's urban populations, who experience economic and social exclusion. The Latin American and Caribbean countries with the highest Gini coefficients also have the highest homicide rates.[715,718] Within these situations of inequality, numerous studies throughout the region and from Argentina, Brazil, Colombia and El Salvador have documented that both perpetrators and victims of violence tend to be from lower socioeconomic populations.[539,709-711,713-715,719-721] For example, a 2009 study discovered that adolescents from the "worst living conditions" in Recife, Brazil had a mortality rate of 95 per 100,000 population due to violence, while adolescents from the "best living conditions" had a rate of 47.[722]

Unemployed youth with less education, another marker of socioeconomic position, may be more likely to perpetrate violence.[710,713,715,719] A 2010 study in Córdoba, Argentina found that adolescents with lower levels of education were significantly more likely than more educated adolescents to have used firearms or been arrested for robbery.[723] Similarly, a 2009 study in Argentina associated youth unemployment and low education with committing violent acts.[713] However, while youth from disadvantaged economic backgrounds may be more likely to commit violence, some research from Argentina and Colombia suggests that educated populations may be at an increased risk of being victims of violence.[712,713]

While more disaggregated data are needed in this area, existing evidence suggests that Afro-descendant and indigenous men may be at increased risk of perpetrating and suffering from violence.[709,711,714] Various studies indicate that Afro-descendants are more likely to be victims of homicide and other violent crimes in urban areas of Brazil. A 2009 investigation found that 93 per cent of the violence-related deaths that occurred among adolescents in Recife, Brazil were of Afro-descendant youth, with adolescents of European descent accounting for only 7.6 per cent of victims.[722] Another study found that the areas of Salvador, Brazil with high proportions of Afro-descendant residents also had high rates of homicide.[720] Overall, Afro-descendant youth aged 15 to 17 years throughout Brazil are 126 per cent more likely to be murdered than adolescents of European descent of the same age, and Afro-descendant adolescents aged 18 to 24 years are 129 per cent more likely to be murdered than non-Afro-descendant peers.[564] Throughout the country, Afro-descendant youth often inhabit marginalized spaces of urban settings that lack infrastructure and health services, and these populations are subjected to discrimination and have limited access to social and economic opportunities.[564,724] Consequently, the patterns of exclusion and structural inequalities that affect Afro-descendant youth seem to fuel ethnic inequality in violence-related deaths in the country.

Inequitable patterns of substance use may also fuel violence throughout Latin America and the Caribbean. Research from Colombia,[725,726] El Salvador,[710] Haiti[583] and Argentina[713] associated alcohol and drug use with perpetrating violence. As discussed in previous sections of this report, substance use is concentrated among adolescents from lower socioeconomic positions and from unstable home environments. Consequently, the same inequalities that contribute to patterns of substance use may also drive trends in violence throughout the region.

Finally, youth from unstable households and communities in urban settings may be more likely to perpetrate violence. One 2007 study found that family conflict and parents' marital instability were principal factors associated with youth violence in three cities of Colombia.[726] Additionally, a World Bank report from Argentina noted that youth with unstable home environments and parents who used drugs were more likely to experience or perpetrate violence.[713] Studies from Brazil[720] and Honduras[727] also linked violence with single parent households and parental support was shown to be a protective factor for violent practices in Chile and Mexico.[539] Outside of the family settings, living in a stressful or insecure environment can increase the risk of experiencing or perpetrating crimes. Among youth aged 15 to 24 years in Haiti, a 2007 study discovered that one quarter of

those youth do not feel safe going to the market, 85 per cent considered security and crime to be pressing issues and only 1 of 10 youths generally trusted their peers.[583] This pervasive sense of insecurity limits youth development and can fuel behaviours such as school dropout and violence.[583] Another 2008 regional study highlighted that the widespread social trends of carrying firearms and substance abuse promote violence,[715] and the 2009 Argentina report cited that living in high-crime areas or associating with criminal peers also fosters the perpetration of violence.[713] Finally, an investigation in Córdoba, Argentina linked violent behaviour to living in areas of normalized violence.[723]

Cycles of violence in Latin American and Caribbean cities

Violence is both a product and a cause of rampant inequalities that plague Latin American and Caribbean cities. According to various authors, growing wealth gaps in cities in the region create situations of deprivation that inhibit the urban poor from fulfilling their basic needs and accessing educational or employment opportunities to improve their situations.[719,720,728] Youth who live in poverty not only suffer material poverty, but also become separated from their peers socially, technologically and culturally.[719] In such settings, violence becomes a survival tool and a way to adapt to precarious living situations.[709,719,728] However, the violence concentrated in poorer areas perpetuates the fragmentation of cities, as wealthier areas seek to segregate and isolate themselves from the violence that occurs in those disadvantaged sections,[699,719,729] which creates further exclusion and marginalization as they are more frequently labeled as dangerous and unstable.[699,729] Furthermore, to confront the violence, many Latin American governments have assumed an aggressive, *mano dura* (firm hand) approach that often entails police violence or mass incarcerations of poor urban youth.[707,719] However, this state-led violence often can foster more violent resistance or create a large population of incarcerated people from economically disadvantaged backgrounds.[707]

Additionally, evidence suggests that youth who have witnessed or experienced violence are more likely to perpetrate violent acts themselves. One regional study,[709] as well as investigations from Colombia[725] and Argentina,[713] determined that youth who were exposed to domestic, physical, or sexual violence as children were more likely to be perpetrators as adolescents and adults. Consequently, the violence affecting youth in one generation may in turn drive violence in the next generation.

Summary

With thousands of persons affected by violence each year, violence is a public health issue that deserves urgent attention. The violence in Latin American and Caribbean cities is largely the product of social and economic inequalities that divide urban areas. Consequently, efforts to mitigate urban violence should consider inequalities in the distribution of wealth, labour opportunities and quality housing, all divisions that are becoming increasingly apparent through the spatial fragmentation of cities.

7. Conclusions

7.1 Indicators recommended to measure health inequity

Throughout the different chapters of this report, process, output, outcome and impact indicators were chosen to evidence the existing inequalities in maternal and child health in Latin America and the Caribbean. These indicators were stratified by relevant social characteristics such as wealth, place of residence, level of education, sex of the child and, when available, ethnicity. To further describe existing inequalities, we used simple measures that included differences to describe absolute inequality (in percentage points) and ratios to express the relative inequality between two subgroups.

This report's review and analysis of existing data indicate that the measuring and monitoring of health inequalities and inequities in Latin America and the Caribbean still require improvement. Accordingly, based on the experience of developing this report, we recommend strategies through which policymakers and researchers may assess health equity in the future:

- *Comprehensive health indicators.* Traditional indicators have focused on broader impacts exclusively and often have overlooked potential indicators that lead to those impacts. Data concerning processes, outputs and outcomes will contribute valuable information about the factors driving health inequalities and inequities and the best social policies to tackle those causes.
- *Relevant stratifiers.* While general social characteristics such as wealth, place of residence, level of education, sex of the child and ethnicity are indeed critical to understanding health inequalities in Latin American and Caribbean countries, it is also important to develop and field-test relevant stratifiers for specific topics that may serve to enrich the comprehension of inequality patterns within those themes. For example, marital status and age can constitute key stratifiers when examining access to contraception, as they may affect discrimination to seeking services or other barriers to access.
- *Reliable and comparable data sources.* The inconsistent availability of timely, reliable and comparable data is one of the region's principal challenges in assessing health equity. While censuses and household surveys are expensive to develop, vital registration systems, institution-based records and surveillance systems also frequently lack accuracy or comparability in their data. Strengthening, modifying or expanding existing data sources may be a feasible option to improve the availability of data in the region.
- *Mixed measures.* Simple and complex measures of inequalities have been developed and used to measure different health inequalities. While simple measures are straightforward and easy to interpret, they do not account for inequalities among more than just two subgroups and they discount population size and population shifts. Because of the vast availability of options and the particular characteristics of each health indicator, a detailed analysis should be developed in order to suggest relevant measures for each indicator and stratifier.

7.2 Areas in which more research on health equity is needed

To work towards accomplishing equity in maternal, reproductive, neonatal, child and adolescent health throughout Latin America and the Caribbean, three central themes require further attention. Primarily, for almost every topic included in this report, the authors discovered a need for more equity-focused research. While numerous international reports and scholarly articles highlight important themes such as maternal and child health, only some of these publications incorporate an equity perspective in their discussions. Furthermore, for various topics such as caesarean sections and postnatal care, equity research remains concentrated in only certain countries, most frequently Brazil. Increased research is therefore crucial not only to fortify and expand existing health equity data, but also to document how the social, structural and economic barriers driving those inequities change over time. From community-level qualitative studies to broader population surveys to national statistical reviews, more research is needed to understand the dynamics of health inequities and drive the change necessary to address the causes from the root.

Health inequities affecting indigenous and Afro-descendant populations is another key theme that merits particular attention. Nearly every section of this report highlights women and children of minority ethnicities as populations facing social and economic exclusion in their societies. Nevertheless, national and international data collection systems frequently have overlooked these minority populations and relevant quantitative data generally are lacking. Both additional quantitative and qualitative information will be vital to developing, implementing and evaluating interventions that serve ethnic minority populations. National efforts should recognize indigenous groups as a distinct vulnerable population and obtain data that are comparable with other population groups.

Finally, this report has sought to identify areas in which policymakers and regional leaders may prioritize equity in maternal, reproductive, neonatal, child and adolescent health. Along with these areas of prioritization, more research and documentation will be needed to assess how these strategies can be most effective, especially considering that the literature and data reviews covered in this report uncovered minimal information that addressed best practices or specific strategies to achieve health equity.

These areas in need of further research are applicable to every chapter of the report. However, there are several other specific topics that warrant further study. These additional areas for investigation are listed below by topic.

Reproductive health

Access to contraception and access to safe abortion.

The available qualitative and quantitative data all highlight that the poorest and least educated women experience the greatest unmet need for contraception. However, there is a need for more information to explore the reasons why women from these vulnerable populations might discontinue the use of contraceptives, as well as documentation of strategies that discourage discontinuation. Additionally, more research is needed to assess knowledge and perception of emergency contraception among women from different vulnerable populations. While existing literature primarily examines structural barriers to accessing emergency contraception, it is also important to identify potential negative perceptions or gaps in awareness among women who might need it.

Sexually transmitted infections

STIs among various overlooked populations require more focus from research and programmes. Primarily, this review did not find evidence of national or subnational data on HIV and STIs disaggregated by ethnicity. Indigenous populations, for example, are an underserved community where the HIV epidemic has not received enough attention. As minority ethnicities often have increased economic and social vulnerability, ethnicity could also play a role in the transmission of STIs and access to treatment. Historically victims of social and economic exclusion, transgender people or people with disabilities may be other vulnerable populations that merit special attention. Existing research in Latin America and the Caribbean highlights that both transgender communities and disabled persons may be especially vulnerable to HIV, but few studies present comprehensive data or best practices in extending preventive and curative services to those populations. Finally, people may belong to multiple vulnerable populations; for example, a woman can be a sex worker, indigenous and a drug user. More research is needed to understand the convergences of different categories that may increase the risk of acquiring an STI and to determine strategies for addressing the transmission of HIV and STIs among crossover populations.

In general, the vast majority of publications included in this review focused on populations with increased vulnerability to HIV. Database searches found fewer studies that emphasized other STIs such as syphilis, chlamydia and trichomoniasis, and these studies had smaller-scale study populations. More small- and larger-scale studies would be instrumental to understanding the prevalence and incidence of STIs in communities and populations, awareness of transmission and symptoms and accessibility of testing and treatment services.

Cancer screening and treatment

This literature review found minimal evidence of women's treatment for cervical or breast cancer from an equity perspective; existing literature focuses primarily on access to cervical or breast cancer screening services such as Pap smears, mammograms and clinical breast examinations. Beyond the health service aspects of cancer screening and treatment, in many rural or low-income areas throughout Latin America, women play a major role in caring for children and the management of households. Consequently, more data are needed to examine the psychological experiences, economic consequences and quality of life for women who are diagnosed and receive treatment for cervical cancer, as well as the implications for their families. More qualitative studies will also be needed to examine equity in women's experiences of accessing preventive or curative care for breast cancer, coping with the disease and accessing education about breast cancer. For example, the review only found one article discussing quality of life for women undergoing breast cancer treatment. This publication highlighted that women with higher levels of schooling and more financial assets enjoyed better quality of life than their poorer counterparts. These data will be crucial to the creation of effective palliative care programmes and strategies to ensure equity in cancer treatment.

Finally, more research is needed to develop an equitable repertoire of best practices in financing and promoting the HPV vaccine, particularly in different settings and with vulnerable populations.

Maternal health

Antenatal care and skilled birth attendance

As many women throughout the region seek antenatal care but obtain fewer than four antenatal care visits, more research is needed to examine possible individual, community-level and structural barriers to pursuing the recommended number of appointments. Those research initiatives should also examine the roles of traditional birth attendants or midwives in providing antenatal care, especially for women of minority ethnicities or in geographically remote locations. Additionally, more research is needed to understand the issues with continuity of pregnancy and maternity care, i.e., why some women who receive antenatal care do not deliver with skilled birth attendance. This issue is particularly relevant for indigenous women, among whom the prevalence of skilled birth attendance is significantly lower than antenatal care visits, and may further indicate the poor quality of maternity care available to indigenous women.

Maternal mortality

To fully understand and assess maternal health equity in Latin America and the Caribbean, more disaggregated data are needed to examine the relationship between women's sociodemographic backgrounds and the outcomes related to direct and indirect causes of maternal mortality and morbidity. Furthermore, more investigation is needed to document the maternal deaths and morbidities that occur outside of medical facilities. Underreporting of maternal deaths remains a prevalent issue and limits the scope with which equity in maternal health may be assessed.

Increased equity-focused information will also aid in understanding the distinct causes of maternal morbidities and mortalities. Most direct and indirect causes of maternal mortality can be mitigated through quality medical care, yet women from marginalized populations are more likely to receive a lower quality of care within health facilities. More research is needed to identify the quality-of-care issues that specifically compromise the treatment of hypertensive disorders, hemorrhaging and other causes of maternal mortality, particularly among women from disadvantaged groups.

Additionally, more research is needed to understand the barriers to quality post-abortion care that women experience before and while receiving those services. This review found scant evidence of indigenous women's access to safe abortions and post-abortion care. Given the high unmet need for contraception among indigenous populations, further study is required to ascertain the nature of the barriers that indigenous women face in accessing SRH including safe abortions. This review also uncovered few studies concerning adolescents. As minors, adolescents may have decreased autonomy in seeking reproductive health care and warrant investigation as a potentially vulnerable population.

Finally, more research is needed in Latin America and the Caribbean on the causal factors associated with anaemia and their effects on maternal and perinatal outcomes.[730] Future studies should also investigate potential socioeconomic barriers to maintaining appropriate diets or nutritional supplements during pregnancy.

Foetal deaths, stillbirth and the health of the pregnant woman

Despite their common prevalence, stillbirths and foetal deaths have received little attention from research efforts and national surveys. Latin American and Caribbean countries should work to register and collect more comparable data concerning stillbirths, as well as to attempt to identify the cause of the foetal death. More information is needed to further explore the link between stillbirths and pregnant women's sociodemographic backgrounds.

Diagnosis and treatment of HIV and syphilis during pregnancy

Further investigation is needed to examine equity in access to syphilis treatment and testing during pregnancy. More specifically, future research efforts should seek to develop a greater understanding of the access to syphilis and HIV testing and treatment for women with different insurance coverage, as insurance both reflects socioeconomic gradients in society and has implications concerning women's access to adequate antenatal care.

Caesarean sections

While evidence suggests that the proportion of births by elective caesarean section is increasing throughout the region, much of the existing equity research has focused on Brazil, due to its high volume of caesarean births. More research is needed to examine the frequency and distribution of caesarean sections in other countries. Especially in low-income countries such as Bolivia, Haiti, Guatemala or Nicaragua, national averages may mask inequities in access among lower-income or rural populations. Additionally, this review found little specific evidence concerning the prevalence and impact of unsafe caesareans, i.e., caesareans performed in unsanitary environments or without proper follow-up care. This lack of evidence may indicate that unsafe procedures are not an issue in the region, or alternatively, that they are a tremendously overlooked issue particularly for poor women throughout the region.

Neonatal health

Perinatal care and neonatal mortality

In the Latin American and Caribbean region, more information is needed on equitable access to life-saving interventions such as newborn resuscitation, kangaroo care, corticosteroid use and treatment of neonatal sepsis. Studies regarding interventions in the region have tended to focus on their cost-effectiveness, availability and potential for future utilization, but neglect to mention inequalities in availability, access or outcomes between vulnerable populations.

The study of asphyxia, prematurity (including retinopathy of prematurity), sepsis and other infections (pneumonia, meningitis, syphilis and tetanus) are underrepresented in studies on neonatal health and equity in Latin America and the Caribbean. More research is also needed into the number of underreported foetal deaths and how to address the low quality of information provided in death certificates throughout the region.

Breastfeeding

Given the benefits of breastfeeding, barriers to exclusive and partial breastfeeding for the recommended periods of time should be further explored. Breastfeeding practices and trends in indigenous and other ethnic minority populations should be further investigated. Negative trends in exclusive breastfeeding and duration of breastfeeding have been shown over time in indigenous communities, as seen in Mexico between 1999 and 2006 and in suboptimal feeding patterns emerging among Mayan mothers in Mexico, commonly in young mothers.[355,362] The reasons for these trends and differences across socioeconomic gradients and cultures require better understanding.

While cultural beliefs are thought to affect early initiation of breastfeeding, it is still unclear exactly how.[365] Women's experiences around the time of birth, specifically those linked to hospital services, and their effect on breastfeeding practices need to be better understood. Further investigation should also explore the use of human milk banks in the region to support infants in neonatal intensive care units and other at-risk infants, as well as their work to support the culture of breastfeeding, such as the milk banks promoted by the Government of Brazil.[360]

Caesarean deliveries are other experiences that affect breastfeeding initiation. A 2015 study of seven countries in the region showed that the poorest women exposed to caesarean delivery were at a higher risk of feeding milk-based prelacteals to their newborns compared to wealthier women. The relationships between socioeconomic position, caesarean delivery, the introduction of milk-based prelacteals and breastfeeding outcomes should be explored further, as the proportion of births by caesarean delivery in the region continues to grow.[367]

Finally, maternal utilization of oral contraceptives and the relationship with breastfeeding outcomes needs further investigation. The 2002 study of the effects of contraceptive use on breastfeeding outcomes showed that mothers who used oral contraception breastfeed for significantly less time than those who used other methods, including abstinence and withdrawal. In order to explain this phenomenon, additional studies are needed.[363]

Birth registration

While several country-specific studies and broader global and regional reports have been published, more up-to-date and disaggregated data are needed to explore the geographic, economic, social, cultural and institutional barriers to birth registration throughout Latin America and the Caribbean. Further research should also seek to establish recommended practices to enable birth registration and break the intergenerational cycles of failing to register births.

Postnatal care for mother and newborn

While national survey data reveal large differences in postnatal care attendance between and within countries, the vast majority of qualitative postnatal care research has focused on Brazil. Consequently, more qualitative research is needed with regard to determinants of postnatal care-seeking in other areas throughout the region, as this research will be necessary to comprehend the country-specific barriers to postnatal care that fuel low healthcare utilization and inequitable health outcomes. There is also a need to develop best practices in promoting the continuum of care throughout the antenatal, partum and postpartum periods for women from vulnerable populations, and in ensuring the maximum quality of care throughout theses stages.

Child health

Mortality in infants and children under five years of age

More up-to-date information is needed to gauge infant mortality among minority ethnicity groups, such as indigenous or Afro-descendant populations. The most recent disaggregated data concerning ethnicity were released 15 years ago and that information highlighted large inequalities

in infant deaths between dominant and minority ethnicities. Other equity variables that warrant consideration are the age and marital status of the mother. Additionally, there is a general need for equity-focused information concerning the various causes of infant and under-five mortality. This information should seek to understand health- seeking behaviours of the mother, as well as barriers to preventive and curative care for the children. Finally, regarding best practices in alleviating infant and under-five mortality, data have shown that initiatives to broadly improve gender and social equality have an impact on infant and child mortality, and more information is needed concerning effective community-level programmes.

Child growth and malnutrition

This review found a lack of epidemiological information relevant to child anaemia and micronutrient consumption. Another area that could warrant attention is differences in nutritional status according to gender. One study from Colombia found gender inequalities between overweight and normal-weight children, and such inequalities could exist for other nutrition issues. Ethnicity and child malnutrition also deserve research focus. Finally, evaluation efforts are needed to assess if certain vulnerable populations of children have not yet been sufficiently served by nutrition and child health initiatives.

Immunization and immuno-preventable diseases

In general, more information is needed from a broader range of countries to examine the barriers to immunizing children of different populations, such as low-income residents of rural or urban areas. This review found minimal evidence about the access to immunization among minority ethnicity populations. Vaccination among these populations may require investigation, as indigenous and Afro-descendant people often inhabit marginalized social and economic environments throughout the region. There also exists a lack of equity-focused information about non-immunized children who then suffer vaccine-preventable diseases. Further investigation is warrant to assess children's access to treatment for immuno-preventable diseases, especially in urban environments marked by overcrowding and minimal resources.

Water, sanitation, hygiene and diarrhoea

Further investigation should seek to collect equity-focused information on the differential impact of lack of access to clean water, sanitation and hygiene on outcomes for children in health, nutrition, education and other areas. While data have shown numerous gaps in access to water and sanitation among disadvantaged populations, more research is needed to assess the coverage and health impact of various policies and interventions, particularly among subpopulations such as children. Moving forward, there is a continuing need for more information to understand equitable access to clean water and sanitation in the context of natural disasters and evolving climate conditions that may affect local ecologies and agriculture.

Pneumonia, asthma and other respiratory conditions

Data from national surveys reveal disparities between wealth groups in taking children with symptoms of pneumonia to healthcare providers, but there is no regional trend in terms of which wealth group is most likely to seek care. These data suggest that different countries may experience unique factors that contribute to seeking care for pneumonia, and more research is needed to understand these trends. This review did not uncover publications that identified parents' familiarity with the warning signs of pneumonia, a potentially important factor in the decision to seek medical attention. This knowledge may vary among different populations and could merit investigation as a potential contributor to differential child health outcomes of pneumonia.

Asthma has been widely associated with various products of urban poverty, such as tobacco smoke, exposure to pollutants and psychosocial distress. Especially given the growing level of violence in urban areas throughout the region, more equity-focused investigations are needed to understand the connection between violence, stress and asthma among urban youths.

Disabilities

There is a general need for more qualitative and quantitative information concerning children with disabilities. Existing research indicates that children with disabilities, especially from low-income families, may suffer widespread stigma and exclusion from health, social and economic services.

Tuberculosis, Chagas disease, dengue and HIV

For Chagas disease and HIV, the majority of existing information has centred on perinatal transmission. More research is needed to identify the risks that children face after infancy, which populations of children are most affected and strategies for preventing and treating the conditions among those populations. More research is needed to investigate inequities in access to treatment for all of these communicable diseases,

Adolescent health

Sexuality education

More research is needed to assess the specific effects of the 2008 Mexico City Ministerial Declaration on sexuality education throughout the region. More specifically, assessments could pinpoint if countries' policies have expanded sexuality education initiatives to reach different demographics of adolescents. Especially for vulnerable adolescent populations, increased monitoring and evaluation efforts are needed to understand how and if youths access sexuality education that addresses their specific needs. Evaluation and research will also be critical to developing best practices in implementing sexuality education programmes and policies for these at-risk groups. For example, this review found little evidence of sexuality education programmes that address sexual orientation and sexuality. Further investigations could help us to understand the extent to which existing programmes

address the needs of non-heteronormative youth and promote or deconstruct social stigma against homosexuality. As another example, best practices are needed for providing informative and culturally appropriate sexuality education for indigenous adolescents, keeping in mind structural factors that affect the population's sexual and reproductive health.

Early marriage and sexual initiation

Overall, this review found a scarcity of up-to-date information directly pertinent to early marriage and equity in Latin America and the Caribbean. More research is needed to determine the trends in consensual unions and formal marriage among the region's adolescents and to gather equity-focused data concerning the factors fueling both types of unions as well as the health and social outcomes that stem from those unions.

Sexual and reproductive health services for adolescents

More research is needed to assess best practices in developing sexual and reproductive health service programmes that cater to the needs of adolescents in their various cultural contexts. A crucial component of these programmes will target the attitudes and practices of medical providers to ensure non-discriminatory care, especially for women of younger ages, lower socioeconomic backgrounds and minority ethnicities.

This search found no evidence of studies or programmes that address adolescents who do not identify as heterosexual or cisgender. These populations could be important to consider, especially in light of the prevalent HIV epidemic and increasing attention on adolescent mental health issues. In general, more disaggregated data are needed to examine the barriers to sexual and reproductive health services specific for various subpopulations of adolescents, such as ethnic minorities, young adolescents (under the age of 15 years), low-income adolescents, migrant workers, sex workers, adolescents with HIV, the displaced and adolescents not attending school. Further research could also examine best practices in offering health services for adolescents who are pregnant or who have HIV.

Adolescent pregnancy

Further research is needed to examine the economic, educational and social repercussions of early pregnancy (under 15 years of age) for adolescent girls and their children. Additionally, as many of the pregnancies occurring in girls under the age of 15 years result from sexual coercion or violence, more programmes and research should focus on preventing the sexual abuse of young women and on tracking the prosecution of their abusers. With a growing level of urbanization throughout Latin America and the Caribbean, more research could examine how urban migration may affect the distribution, causes and effects of adolescent pregnancies.

Vulnerability and lifestyle

As adolescent diets are shifting and youths are beginning to use alcohol and drugs at earlier ages, more research is needed to identify and monitor populations that may be vulnerable to the negative effects of these trends. This research should seek to acquire disaggregated data for over- and undernutrition among adolescents. Additionally, research is warranted to examine early workforce initiation both as a risk factor for substance use and independently as a lifestyle that increases the vulnerability of young people.

Vulnerability and HIV

There is a need for further research and consolidation of best practices to target women, ethnic minorities, sexual minorities and other populations that are vulnerable to HIV. These initiatives should work to gather more disaggregated data concerning vulnerability to HIV among indigenous adolescents, girls with older sexual partners and girls who experience sexual violence, and target interventions to the needs of these distinct populations. Other vulnerable populations that warrant examination are Afro-descendant youth, adolescents with disabilities, adolescents living on the street and adolescents who engage in homosexual behaviour. Additionally, this review found minimal evidence concerning HIV risk among adolescents under the age of 15 years. More research is needed in this area, especially considering the decreasing ages of sexual initiation and the concentration of sexual violence and coercion against adolescents of this age group.

Transition from childhood to adolescence for youth with HIV

Overall, more research is needed to understand HIV-positive youths' access and adherence to ART, especially as they transition from childhood to adolescence. As the vast majority of the studies in this review were conducted in Brazil, the focus of the research should expand to other countries and vulnerable populations such as indigenous groups or those living in poverty. Additionally, due to the focus of existing literature, this review discussed adolescents who acquired HIV through perinatal transmission. Further investigation should also include information for adolescents infected through sexual transmission or drug use to examine adherence to ART as a component of access to sexual and reproductive health services.

LGBT adolescents and discrimination

There is a paucity of research concerning LGBT adolescents in Latin America and the Caribbean. The majority of existing information has been gathered in urban environments of Brazil and Mexico and thus limits the possibilities to generalize data to the rest of the region. Additionally, with a few exceptions, the majority of existing studies from Latin America have focused on LGBT adolescents as a single population and has not examined disaggregated information concerning' socioeconomic standing, ethnicity, geographic location or educational achievement of LGBT youth. Consequently, more research is needed to determine the characteristics of LGBT adolescents in a greater number of countries and to identify the needs of various subpopulations of LGBT youth. Research could also serve to investigate best practices for including LGBT adolescents in educational settings and health services.

Violence

Abuse of women, children and infants

Evidence suggests that women, children and infants from disadvantaged populations in Latin America and the Caribbean may suffer various forms of abuse that contribute to inequitable health outcomes. However, there is a widespread lack of equity-focused research concerning these abuses and more information is needed to understand these trends of violence and formulate strategies for their mitigation.

Children with disabilities may suffer increased abuse in the form of neglect, discrimination and physical or verbal abuse. Nevertheless, there is a general paucity of information regarding this issue and even less data that consider the socioeconomic, geographic or ethnic backgrounds of children with disabilities who are abused. More equity-focused research is needed to understand the life trajectories of various subpopulations of children with disabilities, as well as the health, educational and social resources available to those groups.

Particularly for adolescents, more research is needed to understand the dynamics of cyclical or repeated experiences of sexual abuse. A few studies have documented that adolescents whose mothers suffered abuse during youth were more likely to experience partner abuse themselves. Other studies have connected experiences of childhood sexual abuse with a great likelihood of suffering partner abuse during adolescence or adulthood. Further research could help to determine the most vulnerable populations for experiencing multiple instances or intergenerational cycles of sexual abuse and investigate the psychological processes or structural settings that may render women more at risk. Furthermore, while sexual abuse predominantly affects female adolescents, existing research highlights LBGT youth as another population vulnerable to forced or coerced sex, suicide attempts or suicidal ideation and other mental health issues.[599,622,731] Further research is needed to understand LGBT youths as vulnerable populations and to develop strategies for providing mental health care in appropriate, non-discriminatory and confidential settings.

Finally, women of different ages may suffer various forms of intimate partner abuse during pregnancy. More disaggregated data are needed regarding the concentration of physical intimate partner abuse among women from different socioeconomic, educational and geographic demographics. Also, more research into the association between such violence and unintended pregnancy, substance use and social support will be useful in formulating strategies to reduce the occurrence of that abuse. To be effective, these strategies will also need to gather and consider the demographics of male abusers to incorporate them in violence reduction initiatives.

Discrimination and violence in health facilities

More research is needed to determine the various forms and effects of discrimination and violence that indigenous and Afro-descendant women experience in health care settings, as well as to define best practices in the design, implementation and evaluation of programmes to promote non-discriminatory care and to respond to women's needs. This research should be realized alongside the collection of national data disaggregated by ethnicity. Because there is a scarcity of comparable national information concerning ethnicity, such data will be crucial to understanding the needs and health outcomes of minority ethnicity women.

Urban violence

Rapid urbanization has generated new trends in social inequalities and violence. More research is needed to examine the social inequalities faced by populations that migrate to urban areas to seek work or escape conflict. More specifically, there is a need to understand the experiences of female migrants and displaced persons and their children. Women may also require more attention in regional studies regarding urban violence; while urban violence in Latin America is largely concentrated among young men, evidence suggests that women may be experiencing increasing rates of homicide and violent crimes.[699,721] More research is needed to determine the extent and causes of these possible trends. Additionally, more disaggregated data are needed to help clarify the mechanisms through which ethnicity and violence are connected. Finally, more research should focus on exploring community-level strategies for breaking cycles of violence.

7.3 Priorities in the implementation of equitable policies to improve reproductive, maternal, neonatal, child and adolescent health

The achievement of health equity in Latin America and the Caribbean will require a consistent process of change, in which policymakers and other officials prioritize the health needs of vulnerable populations and reduce the social and economic inequalities fueling inequities. This report marks the beginning of this process by pinpointing specific areas in which health inequities can be addressed. Now, the report's results must be followed by action that should entail at least three steps.

The first step to improving the health of the region's women and children will be the advocacy of health equity to key stakeholders such as governments, donors, non-governmental organizations, research institutions, civil society associations and leaders of target populations. As part of advocacy efforts, this report should be disseminated to all of these stakeholders and be used to spark discussions on equity within and between these groups. All discussion and advocacy initiatives should strive to be inclusive processes that incorporate the voices and perspectives of populations suffering inequities. Advocacy for health equity necessitates creating awareness of social inequalities, and the reduction of social inequalities cannot happen if disadvantaged populations are excluded from participating in social or health movements.

Other areas for action will include the establishment and collection of standard methods that incorporate the strategies proposed in the first section of this chapter to measure and monitor health inequity. To accomplish these actions, national and international organizations can play a chief role in promoting the use of comprehensive health equity indicators, incorporating these indicators into censuses and household surveys and ensuring consistent data collection. With the technical and financial support of international organizations, countries can also conduct investigations to understand the dynamics of inequity specific to their respective populations and gauge which populations have not benefited from policies that expand access to healthcare coverage. Additionally, research institutions can play a key role in collecting relevant qualitative data to understand the mechanisms underlying statistical data. All of these strategies will not only provide a more complete explanation of the inequalities affecting various countries and regions, but will also enable policymakers and health leaders to tailor initiatives to the needs of their target populations and provide a baseline for assessing the success of those initiatives.

Finally, multisector strategies have the potential to make a powerful impact in mitigating health inequities throughout Latin America and the Caribbean. Health, environment, education, industry and energy sectors throughout the region are interconnected and often directly affect each other. Similarly, health inequity results not only from health issues, but also from social, environmental, economic and educational factors. Consequently, after reviewing the findings of this report and other future studies, different sectors can collaborate to approach the drivers of health inequities in synergy from different angles. Such collaborative initiatives will be particularly important, given that many of the health inequities discussed in this report stem from deeply rooted social inequalities. The broader inclusion of different sectors and perspectives can catalyse broader improvements in social equality throughout the countries of Latin America and the Caribbean.

These processes provide a general guideline of actions to improve equity in reproductive, maternal, neonatal, child and adolescent health. All of the processes seek not only to improve equity in health outcomes, but also to contribute to the reduction of social and economic inequalities that fuel those inequities. Again, the achievement of health equity will ultimately require overarching structural changes that promote social, economic and political equality. However, there are concrete steps and specific populations that policymakers can prioritize to work towards achieving equity in the fields of reproductive, maternal, neonatal, child and adolescent health. These recommended areas of focus are described below, by topic.

Reproductive health

To improve reproductive health equity for women, policymakers should prioritize two key actions. First, policymakers and officials should work to gather and analyse equity-focused data concerning access to contraception, drivers and treatments of STIs and screening and treatment services for cervical and breast cancer. In addition to existing disaggregated data concerning HIV and access to contraceptives, more data are needed on access to emergency contraception, HIV prevalence and incidence disaggregated by ethnicity, the prevalence of other STIs apart from HIV, availability of testing and treatment for STIs and availability of screening and treatments for cervical and breast cancer. Not only will more disaggregated data emphasize the populations most in need of attention, but the information will also form a baseline from which the success of future initiatives and policies might be measured.

Second, leaders and policymakers should work to expand access to health services for vulnerable populations identified in this report and through their own data collection efforts. In each area of reproductive health, it is often the same populations—women from low income groups, with low levels

of education and of minority ethnicity—who experience health inequities. Consequently, it is a priority to tailor reproductive health services to the needs of these populations, as well as to work to overcome the specific obstacles that preclude their access to care and optimal health outcomes. Policymakers should work to identify and target barriers limiting access to quality and SRH services. Specific areas in which policymakers should work to identify and target the barriers to access, including the availability of different methods of contraception, emergency contraception and safe abortion. There must be improved access to service for testing and treatment of STIs, including HIV. Priorities for cervical and breast cancer reduction include expanding screening and treatment services and increasing the accessibility and social acceptability of the HPV vaccine. All of these efforts to expand access to care will require countries to examine their distribution of medical and human resources, to involve the participation of target populations and in some cases, to reexamine existing laws that compromise the health outcomes of disadvantaged female populations.

Key Priority: Expand equitable access to reproductive health services.

Maternal health

To decrease maternal mortality, regional policymakers first must collect more equity-focused data related to the various causes of maternal morbidities and mortalities. There is a scarcity of information including on the socioeconomic variables of women suffering various morbidities, and these data will be crucial to future interventions and surveillance efforts.

Additionally, although the majority of maternal morbidities and mortalities can be prevented with quality obstetric care administered during antenatal appointments, labour and delivery, inequities exist in access to quality antenatal care and skilled birth attendance. Antenatal care in particular is crucial to ensure timely detection and treatment of HIV, syphilis and other conditions that might lead to maternal or foetal deaths. For policymakers and leaders, more efforts are needed to improve financial, geographic and cultural access to antenatal care and skilled birth attendance for women from the poorest wealth groups, rural areas, minority ethnicities and with the lowest education levels. Health system planners are encouraged to improve the continuum of care from pregnancy through postnatal care to minimalize structural barriers that might prevent women from obtaining care continuously throughout the pregnancy.

Finally, while the accessibility of antenatal and delivery care is important for maternal health outcomes, accessibility alone does not guarantee health equity. The quality of maternal health care available to women from marginalized or disadvantaged groups must be improved. Women from poor wealth groups, minority ethnicities and with non-private insurance plans may receive inadequate or unnecessary testing or procedures during care, suffer mistreatment from medical personnel or face other structural flaws. To promote the maximum effectiveness of maternal health services, policymakers should focus on efforts to ensure that each antenatal care and delivery visit provides all of the recommended procedures and testing, that medical personnel do not discriminate and show compassion, that confidentiality is maintained as a priority and that women do not receive unnecessary caesarean sections or other needless procedures. All of these efforts will require constant monitoring and evaluation.

Key Priority: Facilitate and strengthen the continuum of quality care available to all women throughout pregnancy, labour, delivery and the postpartum period.

Neonatal health

Neonatal health outcomes are often connected to the effective delivery of maternal health care. Consequently, to improve neonatal health outcomes, policymakers must work to strengthen the delivery of neonatal healthcare services as part of the continuum of maternal health care. The importance of postnatal care for the health of mothers and newborns is often neglected, and data have highlighted large inequities in access to postnatal services. More efforts are needed to promote and expand access to quality postnatal care among disadvantaged populations of women. Mechanisms should be created to ensure that mothers of all backgrounds and their newborns are discharged at appropriate times, that patients receive counselling about warning signs for themselves and their newborns and that the initiation of breastfeeding is facilitated. Postnatal care could also function as a mechanism to facilitate birth registration and ensure that all children receive legal recognition of their existence. In order to achieve equity in birth registration, it must be free of cost, confidential, continuously available and easily accessible to all people, regardless of their place of residence, ethnicity, income or education level.

Another area requiring prioritization is the support and encouragement of exclusive breastfeeding through newborns' first six months of life. To accomplish this task, researchers must first conduct more country- and community-level initiatives to understand the cultural and social views surrounding the practice within specific contexts. Interventions can then be tailored to the specific needs of different communities and linked to existing services to monitor the health of mothers and newborns.

Key Priority: Strengthen the integration of quality postnatal and neonatal services into the continuum of maternal health care.

Child health

Inequitable health outcomes among children stem from inequalities in their surrounding environments. Frequently, children with the worst health outcomes are from disadvantaged populations that lack economic resources, live in high-stress or geographically isolated environments, belong to minority ethnicities or come from families with minimal education. It thus follows that the achievement of equity in child health necessitates a heightened focus on mitigating the inequalities that children face in their environments.

First, environmental policies to reduce pollution will enhance the respiratory health of children from low-income urban environments that frequently encounter air contaminants. Second, policies and interventions could work to improve living conditions of children from disadvantaged backgrounds. For example, improved sanitation and accessible water will alleviate the burden of malnutrition and diarrhoea among impoverished children. Housing initiatives could also reduce indoor smoke, overcrowding and other conditions that lead to the contraction and transmission of respiratory infections and communicable diseases such as dengue, tuberculosis or Chagas disease. Third, policies can work to increase the financial and geographic accessibility of primary health care services to aid in the prevention and treatment of vaccine-preventable diseases, malnutrition, respiratory illnesses, diarrhoea and other maladies. While many countries have expanded primary health care services, equity in access to quality care continues to require the attention of policymakers and leaders. Finally, leaders are encouraged to work to create environments in which children with HIV or disabilities are not the targets of stigma or discrimination and can access care for their conditions.

Key Priority: Create healthier environments that promote the health and well-being of children from marginalized or disadvantaged populations.

Adolescent health

Although adolescents have been receiving more attention as a distinct age group among researchers and interventionists, there is a need for more disaggregated data concerning subpopulations of adolescents characterized by wealth, education level, place of residence, ethnicity and sexual orientation. There exists stratified information regarding adolescent pregnancy, but more country-specific data are needed to assess equity in adolescents' access to sexual and reproductive health services, nutrition, access to testing and treatment for HIV and sexuality education, among other topics.

Furthermore, policymakers and leaders should prioritize the development and equitable distribution of adolescent-friendly health services. This will require increased training of health professionals to interact with and treat adolescents, as well as equipping centres with youth-appropriate equipment, treatment and educational materials. Additionally, policymakers must work to improve the affordability and geographic accessibility of health centres and establish accountability mechanisms to ensure that adolescents of all backgrounds can receive non-discriminatory, confidential and compassionate care. These youth-friendly services can have a powerful impact by educating youths about their sexual and reproductive health, providing contraception methods and counselling, offering confidential screening and treatment for HIV and other STIs and counselling adolescents on nutrition and substance use issues.

Key Priority: Establish accessible youth-friendly health services that cater specifically to the needs of diverse populations of adolescents.

Violence

Throughout the region, numerous forms of violence affect vulnerable and marginalized populations, including landmines, intimate partner violence, homicide and obstetric violence. Ultimately, all of these issues stem from social and economic inequalities and they demand fundamental social changes. While different forms of violence may require unique targeted responses, leaders are encouraged to prioritize a few general responses.

The first key priority for all issues of violence will be advocacy. Violence demands more attention as a major driver of inequitable health outcomes of women and youth. There is a need for increased dialogue among policymakers, health officials and other key stakeholders to understand that these issues are the product of social and economic inequalities and to devote more resources to addressing violence at the interpersonal, community and structural levels. It will also be important to create community-level advocacy campaigns that address the needs and cultures of specific populations. Advocacy processes should also entail the regular collection of equity-focused data through national surveys and community-level studies.

Another priority for policymakers is the creation of accountability mechanisms, both within health systems and in society. Within health systems, accountability is needed to ensure the equitable treatment of patients, regardless of their ethnicity, level of education or income. There is also a need for mechanisms to report violence in the home and other institutional settings and to acquire justice for victims, who may have limited resources to advocate for themselves.

Finally, policymakers and leaders must work to create more resources for the prevention of violence and the care of victims. There is a need for more community- and system-level resources to offer support, counselling, medical assistance and legal aid for victims of violence, especially for people with disabilities, mental health issues and other pressing health needs. Medical personnel can be key figures in recognizing signs of abuse and connecting their patients with those

resources. Also within health systems, medical education should be adjusted to emphasize humanized approaches to care, respect and lack of discrimination against patients and, in areas with large indigenous populations, intercultural care strategies. Within a country's educational systems, school-based sexuality education could be an effective outlet to increase awareness and teach prevention strategies for certain types of violence, such as sexual abuse and intimate partner violence, to youth. Youth development programmes may also serve to help alleviate homicide and violent crime among urban youth populations.

Key Priority: Advocate for the importance of addressing different forms of violence, create mechanisms to ensure justice for victims of violence and provide resources to aid in violence prevention and offer services to victims.

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