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SDG3-related inequalities in women's, children's and adolescents' health: an SDG monitoring baseline for Latin America and the Caribbean using national cross-sectional surveys

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ABSTRACT

Objectives Latin America and the Caribbean (LAC) countries have made important progress towards achieving the Sustainable Development Goal (SDG) targets related to health (SDG3) at the national level. However, vast within-country health inequalities remain. We present a baseline of health inequalities in the region, against which progress towards the SDGs can be monitored.

Setting We studied 21 countries in LAC using data from Demographic and Health Surveys and Multiple Indicator Cluster Survey carried out from 2011 to 2016

Participants The surveys collect nationally representative data on women and children using multistage sampling. In total, 288 207 women and 195 092 children made part of the surveys in the 21 countries.

Outcome measures Five health intervention indicators were studied, related to reproductive and maternal health, along with adolescent fertility and neonatal and under-five mortality rates. Inequalities in these indicators were assessed through absolute and relative measures.

Results In most countries, subnational geographical health gradients were observed for nearly all women, child, and adolescent (WCA) indicators. Coverage of key interventions was higher in urban areas and among the richest, compared with rural areas and poorer quintiles. Analyses by woman's age showed that coverage was lower in adolescent girls than older women for family planning indicators. Pro-urban and pro-rich inequalities were also seen for mortality in most countries.

Conclusions Regional averages hide important health inequalities between countries, but national estimates hide still greater inequalities between subgroups of women, children and adolescents. To achieve the SDG3 targets and leave no one behind, it is essential to close health inequality gaps within as well as between countries.

Strengths and limitations of this study

- With eyes in the Sustainable Development Goals for 2030 and the Every Woman Every Child Initiative, we put together health inequality information for the largest possible number of countries in the Latin America and the Caribbean region establishing a baseline for monitoring progress.
- We present an assessment of socioeconomic inequalities on eight key health indicators for 21 countries, covering reproductive and maternal health interventions, plus adolescent fertility rate and child mortality indicators.
- Apart from being useful for monitoring, the results flag unacceptable levels of inequality that should prompt immediate action from governments and health authorities.
- Despite out best efforts, several countries in the region did not have any data suitable for these analyses, and some countries with data did not have information on all indicators studied.
- The data available for some countries were not very recent, some surveys dating from 2011, that these do not hinder the interest in the results in terms of presenting a baseline for monitoring.

INTRODUCTION

The 2030 Agenda for Sustainable Development includes 17 goals (Sustainable Development Goals (SDGs)) and 169 targets. The SDG framework goes beyond traditional indicators of poverty and survival and considers issues of peace, human rights and good governance as markers of progress.[1] In committing to the realisation of the SDGs, member states endeavoured to leave no one behind.[2] However, SDG targets set for 2030 are based on national averages and do not consider explicitly the focus on reducing within-country inequalities in health.

Achieving SDG3, 'Ensuring healthy lives and promoting well-being for all at all ages',[3] goes beyond what the health sector can do by itself. It requires that SDGs outside the health sector also be achieved because many of these address social determinants of health

(wealth, education, nutrition, and so on) in which health inequalities are rooted.[4]

For countries to achieve the SDG3 targets and leave no one behind, it is essential to eliminate the unjust differences in opportunities for health and well-being. Latin America and the Caribbean (LAC) has been characterised by high levels of socioeconomic inequality.[5] Despite this, several countries have made important progress towards achieving SDG3 targets at the national level.[6] However, socioeconomic inequalities in health remain rampant between and within countries. Large proportions of the population are still living in poverty[5] and facing as a result negative health outcomes.[7 8] For instance, inequalities in wealth and education level, along with ethnicity, affect women's ability to access quality reproductive and maternal health services.[6] Disparities on health and survival outcomes among ethnic groups are a stark example of health inequities.[9] Pre-existing gaps are being accentuated by the COVID-19 pandemic, which is threatening recent achievements in health indicators.[10–13]

Using the Global Strategy for Women's, Children's and Adolescents' Health as a framework,[14] the Every Woman Every Child (EWEC) Initiative aims at providing further resources and technical guidance for countries to implement a multisectoral approach to women's, children's and adolescents' health. It is within this scope of work that the EWEC movement for LAC (EWEC-LAC)[15] was created. The goal of the EWEC-LAC is to support countries in accelerating efforts in the reduction of socioeconomic inequalities in women's, children's and adolescents' health. EWEC-LAC has prioritised a set of core indicators to monitor inequalities in the region.[16]

We aimed at describing the status of socioeconomic inequalities in women, child, and adolescent (WCA) health in LAC on selected indicators of the SDG3 indicator framework, as a baseline for monitoring the 2030 Agenda. We present the main findings for all countries with data stratified by household wealth; area of residence; subnational region; and, when applicable, women's education and age and sex of the child.

METHODS

Data for 21 countries were analysed from Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Survey (MICS) (table 1). Both survey families are highly comparable, including sampling approaches and questionnaires.[17 18] For Ecuador, the ENSANUT 2012 Survey was included,[19] with indicators estimated in a comparable way. All surveys used nationally representative samples obtained through multistage cluster sampling, with weights calculated according to the sampling probabilities of each cluster and individual, plus adjustments for losses (ref: DHS sampling manual). Information was obtained on women aged 15–49 years and on children aged less than 5 years.[18]

Eight health indicators were included: demand for family planning satisfied with modern methods (mDFPS); antenatal care with four or more visits (ANC4+); quality antenatal care, defined as at least one ANC visit plus having blood and urine test done and blood pressure measured (ANCQ); skilled attendant at birth (SAB); postnatal care for the mother (PNM); adolescent fertility rate (AFR); under-five mortality rate (U5MR); and neonatal mortality rate (NMR). These indicators were selected because they are sentinel indicators for the continuum of maternal newborn child and adolescent health. Another important criteria are that these indicators are both SDG3 and core EWEC-LAC indicators,[20] except for ANCQ and PNM. Online supplemental table S1 shows the definitions for all indicators.

The dimensions of inequality used in the analysis were household wealth, as a proxy for socioeconomic position (household quintiles: Q1 (poorest), Q2, Q3, Q4 and Q5 (wealthiest)); place of residence (urban/rural), geographical regions based on the sampling domains used in each survey; sex of the child (male and female); woman's/maternal education (any primary education, incomplete secondary and complete secondary or higher); and woman's age (15–19 or 20–49 years). Information on wealth quintiles was not available for Cuba. Due to insufficient sample in two or more quintiles for Saint Lucia, some indicators could not be presented by wealth. This also applied to the rural sample in Uruguay. Results based on less than 25 observations for prevalence, 250 births for mortality or 250 women-years for adolescent fertility were omitted from the analyses.

Two summary wealth-related inequality measures were used: the Slope Index of Inequality (SII) for absolute inequality and the Concentration Index (CIX) for relative inequality. The SII is calculated through logistic regression for coverage indicators and linear regression for rates (mortality or fertility).[21] The SII represents the absolute difference between the fitted values of the health indicator for the top and the bottom of the wealth distribution. An SII of zero indicates no inequality, positive values indicate higher coverage in the advantaged subgroups or pro-rich inequality and negative values indicate higher coverage in the disadvantaged subgroups or pro-poor inequalities. The SII is typically positive for health interventions such as coverage indicators and negative for adverse health outcomes such as mortality indicators. The CIX is expressed on a scale from −100 to +100, with zero representing equal distribution of the attribute across the wealth scale,[21] and was estimated using a convenient regression approach.[22] Positive CIX values represent a pro-rich distribution, usually observed for health coverage indicators. Negative values represent a pro-poor distribution, being usually observed with adverse health outcomes. The SII expresses the gaps in percent points, being easier to interpret than the CIX. Geographical inequalities were expressed as the difference in coverage among the highest-coverage and lowest-coverage subnational regions.

All estimates presented were calculated from the original microdata for each survey according to standardised

Table 1 Surveys included in the analyses with sample sizes and national-level results (coverage, prevalence, rates and SII) for the eight indicators by country

Indicators	Source and year	Demand for family planning satisfied with modern methods SDG 3.7.1	Antenatal care (four or more visits) SDG 3.8.1 (tracer)	Antenatal care quality (blood and urine test and blood pressure)	Skilled attendant at birth SDG 3.1.2	Postnatal care for the mother SDG 3.8.1 (tracer)	Neonatal mortality rate SDG 3.2.2	Under-five mortality rate SDG 3.2.1	Adolescent fertility rate (15–19 years) SDG 3.7.2
Argentina	MICS 2011	–	89.8 (SII=9.5)	97.3 (SII=4.0)	–	–	–	–	–
Barbados	MICS 2012	70.7 (SII=19.1)	87.9 (SII=13.2)	99.3 (SII=0.0)	98.9 (SII=2.8)	96.9 (SII=−17.6)	–	–	–
Belize	MICS 2015	66 (SII=22.1)	92.6 (SII=5.7)	97.2 (SII=−1.0)	96.8 (SII=7.3)	96.7 (SII=5.8)	8.2 (SII=−9.3)	17.0 (SII=−19.1)	82.2 (SII=−84.0)
Colombia	DHS 2015	86.5 (SII=8.0)	89.6 (SII=18.9)	93.8 (SII=11.6)	96.3 (SII=16.0)	–	9.8 (SII=−8.3)	18.8 (SII=−22.4)	77.2 (SII=−145.7)
Costa Rica	MICS 2011	89.3 (SII=11.3)	90.2 (SII=13.5)	94.0 (SII=−7.0)	98.4 (SII=3.1)	–	–	–	–
Cuba	MICS 2014	89.7 (SII=na)	97.8 (SII=na)	98.1 (SII=na)	99.4 (SII=na)	99.2 (SII=na)	–	–	–
Dominican Republic	MICS 2014	85.2 (SII=8.6)	92.9 (SII=6.4)	97.2 (SII=2.5)	98.7 (SII=0.9)	94.5 (SII=5.0)	24.8 (SII=3.1)	35.3 (SII=−6.3)	91.4 (SII=−168.2)
Ecuador	ENSANUT 2012	–	88.2 (SII=21.1)	–	91.1 (SII=24.6)	–	–	–	–
El Salvador	MICS 2014	84.8 (SII=6.8)	90.1 (SII=14.5)	94.8 (SII=5.2)	97.7 (SII=7.8)	93.7 (SII=3.8)	10 (SII=−4.0)	19.9 (SII=−24.0)	75.5 (SII=−87.5)
Guatemala	DHS 2014	65.3 (SII=34.6)	85.9 (SII=14.5)	62.8 (SII=61.1)	68.1 (SII=70.2)	77.7 (SII=41.6)	17.5 (SII=−10.7)	38.5 (SII=−44.7)	93.5 (SII=−124.7)
Guyana	MICS 2014	52.4 (SII=15.3)	86.7 (SII=9.1)	93.6 (SII=22.3)	92.4 (SII=33.8)	93.2 (SII=24.8)	21.2 (SII=−0.4)	36.5 (SII=−13.7)	77.2 (SII=−180.2)
Haiti	DHS 2016	43.1 (SII=8.9)	64.3 (SII=46.9)	75.7 (SII=45.0)	41.5 (SII=69.9)	28.7 (SII=49.0)	31.7 (SII=7.2)	82.4 (SII=−28.4)	59.4 (SII=−90.9)
Honduras	DHS 2011	76.0 (SII=11.9)	88.4 (SII=17.7)	86.0 (SII=32.4)	84.7 (SII=49.2)	84.9 (SII=40.2)	16.5 (SII=−4.2)	29.4 (SII=−19.0)	99.0 (SII=−129.6)
Jamaica	MICS 2011	–	85.6 (SII=10.6)	97.4 (SII=1.4)	99.1 (SII=4.5)	–	–	–	–
Mexico	MICS 2015	86.1 (SII=13.8)	94.3 (SII=11.5)	90.3 (SII=13.1)	97.7 (SII=10.6)	95.2 (SII=7.4)	–	–	–
Panama	MICS 2013	76.4 (SII=33.1)	87.9 (SII=31.0)	86.8 (SII=34.4)	91.6 (SII=51.3)	92.2 (SII=44.4)	–	–	–
Paraguay	MICS 2016	86.4 (SII=−3.0)	93.6 (SII=13.4)	94.5 (SII=17.2)	95.5 (SII=17.6)	94.5 (SII=16.3)	8.2 (SII=−8.4)	19.6 (SII=−32.6)	76 (SII=−139.2)
Peru	ENDES 2016	64.2 (SII=20.8)	95.7 (SII=9.3)	93.2 (SII=18.9)	93.2 (SII=38.7)	95.5 (SII=16.2)	9.1 (SII=−8.8)	18.7 (SII=−25.2)	62.9 (SII=−126.5)
Saint Lucia	MICS 2012	72.5 (SII=8.7)	90.3 (SII=ne)	95.9 (SII=6.3)	98.7 (SII=ne)	91.5 (SII=ne)	–	–	–
Trinidad and Tobago	MICS 2011	64.3 (SII=18.3)	87.3 (SII=6.0)	97.7 (SII=0.8)	98.0 (SII=1.9)	92.0 (SII=−3.4)	–	–	–
Uruguay	MICS 2012	–	76.8 (SII=15.4)	98.1 (SII=1.6)	98.2 (SII=−1.1)	–	–	–	–
Median		76 (SII=12.9)	89.6 (SII=13.4)	94.7 (SII=6.3)	97.3 (SII=13.3)	93.7 (SII=16.2)	13.3 (SII=−6.3)	24.7 (SII=−23.2)	77.2 (SII=−128.0)

Continued

Table 1 Continued

Indicators	Source and year	Demand for family planning satisfied with modern methods	Antenatal care (four or more visits)	Antenatal care quality (blood and urine test and blood pressure)	Skilled attendant at birth	Postnatal care for the mother	Neonatal mortality rate	Under-five mortality rate	Adolescent fertility rate (15–19 years)
		SDG 3.7.1	SDG 3.8.1 (tracer)		SDG 3.1.2	SDG 3.8.1 (tracer)	SDG 3.2.2	SDG 3.2.1	SDG 3.7.2
Min		43.1 (SII=−3.0)	64.3 (SII=5.7)	62.8 (SII=−7.0)	41.5 (SII=−1.1)	28.7 (SII=−17.6)	8.2 (SII=−10.7)	17.0 (SII=−44.7)	59.4 (SII=−180.2)
Max		89.7 (SII=34.6)	97.8 (SII=46.9)	99.3 (SII=61.1)	99.4 (SII=70.2)	99.2 (SII=49.0)	31.7 (SII=7.2)	82.4 (SII=−6.3)	99.0 (SII=−84.0)

DHS, Demographic and Health Surveys; ENDES, Encuesta Nacional de Demografía y Salud; ENSANUT, Encuesta Nacional de Salud y Nutrición; MICS, Multiple Indicator Cluster Survey; na, wealth score not available; ne, not estimable due to small sample sizes; SDG, Sustainable Development Goal; SII, Slope Index of Inequality.

SDG indicator definitions. Analyses were carried out with Stata V.16 (StataCorp, 2019), considering the sample design of each survey (clusters, weights and strata).

Role of the funding source

This work was supported by the Pan American Health Organization, contract CON19-00020318. The institution had no role in defining the topic, the design or the methods used or in the writing and interpretation.

Patient and public involvement

The current study uses data from nationally representative health surveys, which do not include patients. The data are publicly available, and data collection was under the responsibility of the institutions coordinating the study in each country. The dissemination of results to the participants and the population in the countries is the responsibility of the coordinators of each study.

RESULTS

The analyses included survey data from 293 124 households with 288 207 women (15–49 years old) and 195 092 children under 5 years old, from 21 countries, carried out between 2011 and 2016, with a media year of 2014 (table 1). The median sample sizes were 9431 women and 5846 children per country. Descriptive results at national level for the selected health indicators by countries are shown in table 1.

Figure 1 shows 'equiplot' graphs (www.equidade.org/equiplot) with outcome indicator levels stratified by wealth quintile, for each country with information. Similarly, figure 2 shows coverage levels by women's education, which can be seen as a proxy of women's status in a society. In figure 3, the national coverage estimates are plotted against their respective absolute inequality measured by the SII, with each dot representing one country. In the supplementary materials, we present additional equiplots for urban or rural residence (online supplemental figure S1), woman's age (online supplemental figure S2) and child's sex (online supplemental figure S3).

Reproductive and maternal health-related indicators in the SDG3 goal

We observed median coverage above 90% for key indicators in the continuum of maternal and newborn care, namely, ANCQ, SAB and PNM. Across the 21 countries in this analysis, Haiti presented the lowest national coverage of all reproductive and maternal indicators, except for ANCQ, for which Guatemala had the lowest coverage. In contrast, Cuba presented the highest national coverage for all indicators, except for ANCQ, surpassed by Barbados (table 1).

For mDFPS, data were available for 17 countries. The median coverage was 76% ranging from 43% in Haiti to 90% in Cuba (table 1). mDFPS presented pro-rich inequalities in most LAC countries, particularly Guatemala (SII=34.6 and CIX=9.1), Panama (SII=33.1 and

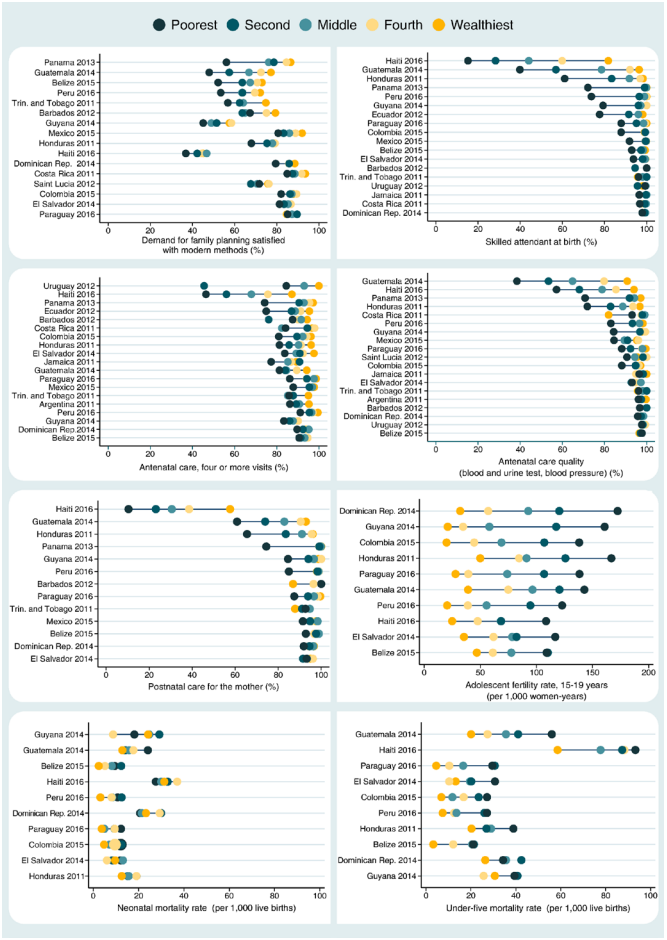

Figure 1 Equiplots showing indicator coverage by wealth quintiles for countries with available data.

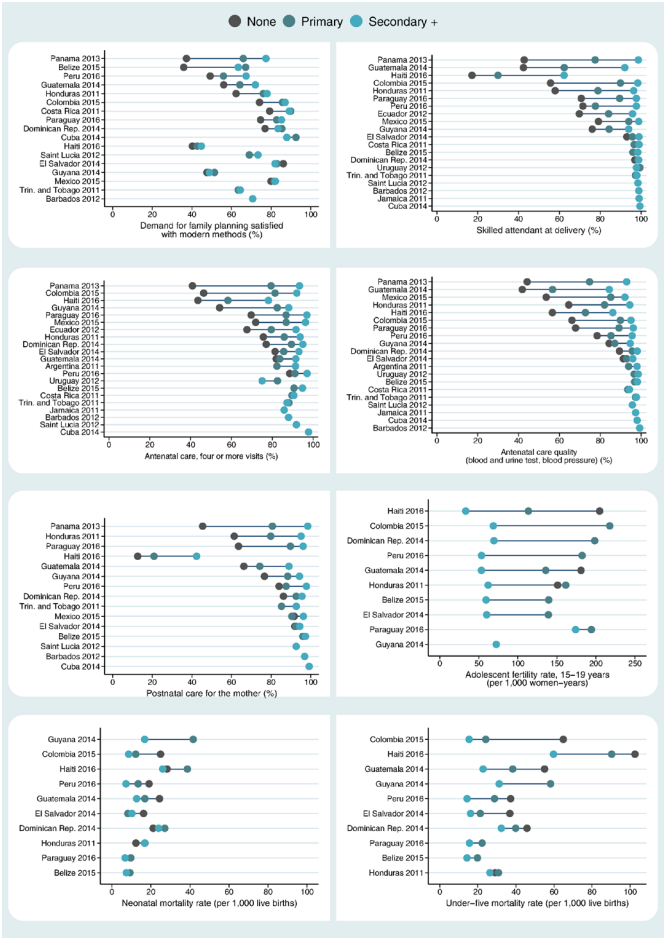

Figure 2 Equiplots showing indicator coverage by woman education for countries with available data.

CIX=7.6) and Belize (SII=22.1 and CIX=5.5); see figure 3. Online supplemental table S2 shows SII and CIX with their 95% CIs for all indicators. mDFPS was consistently higher for women in the highest education category, with marked gaps for Panama and Belize (figure 2). In most countries, coverage was higher in urban than in rural areas, particularly in Guatemala (72.6% vs 59.7%) and Peru (67.0% vs 56.1%). Gaps among subnational regions varied by country, with Panama showing the widest gap (75 percent points between the highest and lowest coverages). In all countries except Peru, mDFPS was lower among adolescent girls than among adult women.

Data for ANC4 + and ANCQ were available for 21 and 20 countries, respectively. The median ANC4 + coverage was 90%, ranging from 64% in Haiti to 98% in Cuba. Median ANCQ coverage was 95% ranging from 63% in Guatemala to 99% in Barbados (table 1). Pro-rich inequalities were present in most countries for ANC4+, particularly in Haiti (SII=46.9 and CIX=13.0) and Panama (SII=31.0 and CIX=6.2), while no country showed pro-poor inequalities (figure 3). Women with secondary education or more had much higher coverage of ANC4 + and ANCQ, with gaps of over 40 percent points in some countries (figure 2 and online supplemental table S3). In most countries, the ANC4 + coverage was higher in urban than in rural areas. The widest gaps for ANC4 + among subnational regions were observed in Panama (39 percent points) and Ecuador (30 percent points). Although adolescents tended to have lower ANC4 + coverage than adult women, differences were small in most countries, except for Uruguay where difference was more than 40 percent points (online supplemental figure S2).

Pro-rich inequalities were present in most countries for ANCQ, particularly in Guatemala (SII=61.1 and CIX=17.3), Haiti (SII=45.0 and CIX=10.0) and Panama (SII=34.4 and CIX=6.8) (figure 3). In nearly all countries, ANCQ coverage was higher in urban than rural areas, particularly in the same countries that presented wide wealth-related inequalities. Guyana and Panama showed the widest gaps among subnational regions with 58 and 49 percent points, respectively. ANCQ coverage was similar for adolescents and adult women or higher in adolescents, except in Haiti and Panama where it was higher for adult women.

Data on SAB were available for 20 countries. The median coverage level was 97%, ranging from 42% in Haiti to 99% in Cuba. Pro-rich inequalities were present in most countries, particularly in Haiti (SII=69.9 and CIX=31.3) and Guatemala (SII=70.2 and CIX=18.8), although high-coverage countries tended to show

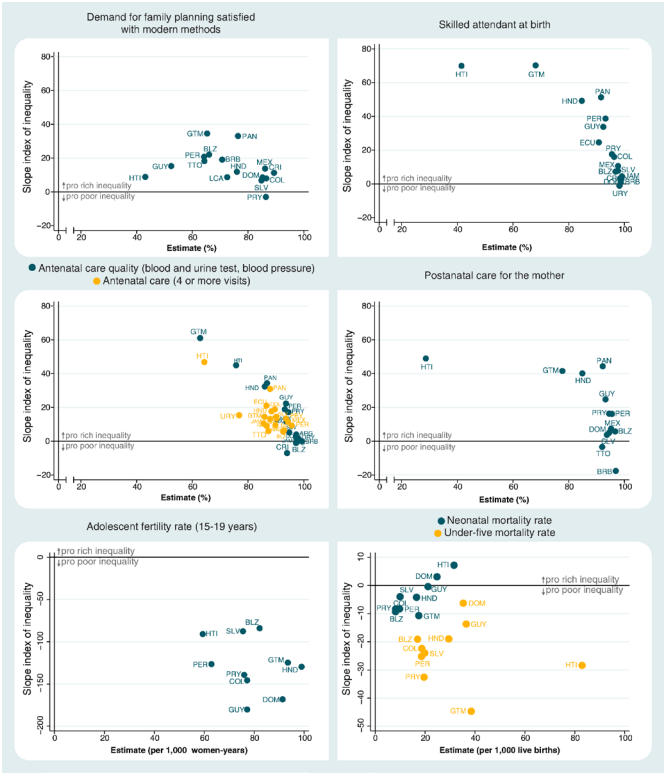

Figure 3 Scatterplots of indicator coverage versus absolute inequality (slope index of inequality) for the study indicators.

narrower inequalities; for instance, in Barbados, Dominican Republic and Jamaica, the national coverage of SAB was over 98%, and SII values were below 5 and CIX values were below 1 percent point (figure 3). Universal coverage was observed in the wealthiest quintile in virtually all countries; see figure 1. Conversely, countries with the largest gap between the poorest and the richest had the lowest coverage at the national level: Haiti 41% and Guatemala 68%; see figure 3. Again, gaps in education favoured the most educated women, again with large gaps especially for Panama and Guatemala (figure 2). In most countries, coverage was higher in urban than rural areas (online supplemental figure S1), particularly in Guatemala and Haiti, where the difference was 27 and 31 percent points difference, respectively. Large subnational gaps (>40 percent points) were present in Guatemala, Guyana and Panama. Besides, coverage of SAB was similar among adolescent mothers and older women. Estimates for all indicators by the stratifiers area of residence, sex of the child, subnational region, wealth index quintile, woman's age and woman's education are presented in the online supplemental table S4.

Regarding PNM, data were available for 15 countries with median coverage level of 94%; the smallest coverage was present in Haiti (29%) and the largest in Cuba (99%) (table 1). Pro-rich inequalities were present in most countries, particularly in Haiti (SII=49.0 and CIX=30.1), Guatemala (SII=41.6 and CIX=9.1) and Panama (SII=44.4 and CIX=6.6). Only Barbados (SII=−17.6 and CIX=−2.3) and Trinidad and Tobago (SII=−3.4 and CIX=−0.7) presented pro-poor inequalities (figure 3). In most countries, coverage was higher in urban than rural areas, particularly in Haiti (40.3% and 22.9%) and Panama (99.5% and 80.4%). Differences among subnational regions varied by country, being wider in Guyana (34 percent points) and Panama (50 percent points); see online supplemental table S4.

Information on AFR was available for 10 countries. The median was 77 per 1000 women-year, ranging from 59 in Haiti to 99 in Honduras. As a reference, the global rate of AFR in 2020 was 41 per 1000 women aged 15–19 years, and the regional average for LAC was 60.7 per 1000 women aged 15–19 years.[23] Within countries, AFRs were lowest among wealthiest quintiles than among the poorest quintiles, with wide gaps in all countries (figure 1), for instance, a ratio of around 6–8-fold between the extreme quintiles in Colombia, Guyana and Peru. Gaps in education were also wide, but not as much as for wealth (figure 2). Fertility rate was higher in rural than in urban areas in all countries (online supplemental figure S1). There were also substantial differences between subnational regions in all countries.

Child mortality indicators in the sustainable development agenda

Data on NMR and U5MR were available for 10 countries. The median NMR was 13 per 1000 live births, ranging from 8 per 1000 live births in Belize to 32 in Haiti. The median U5MR was 25 per 1000 live births with minimum and maximum values of 17 and 82 per 1000 live births in Belize and Haiti, respectively.

Due to small number of neonatal deaths, especially among the richest, the expected wealth gradients in NMR were not evident in some countries such as Haiti and Dominican Republic (figure 1). Haiti showed the widest gap among geographical regions (35 per 1000 live births), followed by Dominican Republic (18 per 1000 live births), Guyana (22 per 1000 live births) and Honduras (19 per 1000 live births); see online supplemental table S3. NMRs were higher among boys than girls, in all countries, except Honduras, with a slightly higher estimate for girls.

Clear wealth gradients in U5MR were observed in all countries, as subgroup estimates are more precise than for NMR given the higher number of under-five deaths. Inequalities were particularly wide in Guatemala (SII=−44.7 and CIX=−18.0) and Paraguay (SII=−32.6 and CIX=−27.7) (figure 3). No country showed lower U5MR among the poor. Women with secondary education or more presented the lowest U5MR in every country with data (figure 2). There were large differences in U5MR among subnational regions, particularly in Haiti (57 per 1000 live births) and Honduras (46 per 1000 live births). Boys had higher mortality rates than girls in all countries, except for Honduras where there was no sex-related differential (online supplemental figure S3).

DISCUSSION

Based on publicly available data from national surveys on women's, children's and adolescent's health, it was

possible to provide a landscape view of the status and magnitude of socioeconomic inequalities in selected SDG3 WCA health indicators in 21 LAC countries. With a median year of 2014 for the surveys included in the analyses, our findings provide a baseline for monitoring progress during the SDG period (2015–2030) as new surveys become available. Our results will also help policymakers prioritise which interventions and population subgroups require special attention in their countries, in order to achieve the SDG vision of leaving no one behind. Our findings will also be important for monitoring the impact of the COVID-19 pandemic on levels and inequalities in health status and intervention coverage among women and children.

Although the regional median levels of the indicators are mostly satisfactory when compared with the 2030 SDG global targets, there are several challenges to be faced. First, median regional levels hide important cross-country inequalities. While the region might be on track to meet SDG3 targets for indicators like SAB and NMR and U5MR, two countries in particular, Haiti and Guatemala, perform poorly in terms of these and other core indicators. Renewed actions by national and international stakeholders are particularly needed in these two countries to reach the SDGs regionally. Second, even if the national level of an indicator is satisfactory, large subnational inequalities are evident across socioeconomic gradients, disproportionately affecting the most disadvantage subgroups of women, children and adolescents. Using U5MR as an example, 5 of the 10 countries with data had mortality rates below the target of 25 per 1000 live births. Out of these, four have rates above 25 among the poorest wealth quintile, and all of them have at least one geographical region with mortality above the target.

For most indicators, important pro-rich and pro-urban advantages were identified, which reflects the marked socio-economic stratification that characterises the LAC region. Important subnational inequality is observed for nearly all indicators, in most countries. As shown in figure 3, in high-coverage countries, inequality tends to be lower as most population subgroups also tend to have high coverage.

Analyses of subnational regions within each country are very revealing. In most countries, even those with high levels of coverage, some subnational regions are lagging well behind the national average. Guyana and Panama are noteworthy examples of geographical inequalities among regions for several indicators. In order to monitor the closing of inequality gaps at the national and subnational level, it is an important priority that countries establish quantitative targets for reducing subnational gaps.

Analysis of selected indicators by woman's age shows that coverage for adolescent girls and older women is similar for antenatal and delivery care in virtually all countries. Family planning, however, shows markedly lower coverage among adolescents in most countries; this is consistent with recent evidence that shows that coverage of family planning indicators is markedly lower among adolescent girls in union than among all women of reproductive age.[24]

In terms of adolescent fertility, adolescents from the poorest quintile and those living in rural areas have remarkably higher fertility than wealthier or urban adolescents (online supplemental table S3).

There are marked differences between countries in terms of coverage of family planning satisfied with modern methods but also in the magnitude of inequalities. For instance, in Colombia, El Salvador and Paraguay, the difference in coverage between the poorest and the richest was very small. In contrast, in countries such as Guatemala and Panama, coverage among the richest is more than 30 percent points higher than in the poorest quintile.

Based on our survey analyses (2011–2016), the median regional NMR was close to the SGD global target (12 deaths per 1000 live births by 2030), and the region had already reached the U5MR SDG global target of 25 deaths per 1000 live births. Estimates for 2019 from the UN Inter-Agency Group for Child Mortality Estimation were 8 and 16 per 1000, respectively.[25] Yet, these aggregated regional figures hide important differences among countries, as well as within countries. Of the 10 countries with data, five were above both SDG targets nationally, and only in Belize that the poorest quintile was below both targets. Pro-rich and pro-urban inequalities are present in most countries, and clear inequalities are also observed among subnational regions; similar results were obtained for inequalities in NMR and U5MR based on administrative data among the departments of Paraguay in 2017.[26]

There are several limitations that need to be considered when interpreting the results presented in this study. First, the surveys were carried out from 2011 onwards, with a median date of 2014. This means that for some countries, the data are not very recent, but this is as far as we can go with nationally representative data. In addition, information on indicators such as antenatal or delivery care was asked for births that took place during the 5 years prior to the survey for DHS or 2 years for MICS prior to the survey, thus contributing to the time lag since these interventions actually took place. Second, a related issue refers to the precision of maternal recall about events that took place several years before the interview. This may affect variables such as antenatal, delivery and postnatal care. Third, sample sizes in some surveys were small, particularly when stratified by wealth quintiles. Fourth, surveys were available for 21 countries, but some of the largest countries in the region were not included due to lack of data from standardised surveys. Fifth, asset indices reflect relative, rather than absolute measures of socioeconomic position. For example, the level of wealth of a given quintile in Guatemala may be quite different from the same quintile in Argentina, for example. However, relative poverty is arguably as important as absolute poverty in predicting deprivation and health status.[27 28] And lastly, it should be noted that absolute inequalities tend to be widest when coverage levels are close to 50%,[29] as was

the case for several indicators in Haiti and Guatemala, for example; when coverage is nearly universal, absolute inequalities are, by definition, narrow.

It is imperative that countries invest in collecting disaggregated data on the health and well-being of women, children and adolescents, to allow for evidence-based planning, including monitoring of trends and identification of inequalities among subgroups that are being left behind. Indeed, disaggregation of data by income, residence, gender and age is Goal 17.18 of the SDGs. Such data and their analyses are pivotal for intersectoral programming, policymaking and public health investment. The analyses based on national surveys may be complemented with analyses derived from administrative data sources, which in many LAC countries show high coverage and quality, towards producing a comprehensive evidence basis for accountability of the SDG era. Additionally, analysis of drivers and mechanisms for the inequalities observed is warranted. For instance, explore what makes inequalities in demand for family planning satisfied smaller than several other interventions while coverage is lower. Such deep-dive explorations will complement descriptive equity analyses and help understand drivers and mechanisms.

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