

Results From Colombia's 2014 Report Card on Physical Activity for Children and Youth

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Background: Physical activity (PA) is central to the global agenda for the prevention of noncommunicable diseases (NCDs). Although 80% of NCDs occur in low-to-middle-income countries, the evidence on PA comes mainly from high-income countries. In this context, the report card for Colombia is an advocacy tool to help in the translation of evidence into concrete actions. The aims of this paper were two-fold: to present the methodology used to develop the first Report Card on Physical Activity in Colombian Children and Youth and to summarize the results. **Methods:** Twelve indicators of PA were graded using numerical grades (5, highest, to 1, lowest) based on data from national surveys and policy documents. **Results:** National policy and obesity indicators were graded "4," while departmental policy and overweight indicators were graded "3." Overall PA levels, sports participation, sedentary behaviors and nongovernment initiatives were graded "2," and school influence was graded "1." Active transportation, active play, low cardiorespiratory fitness, and family and community influence received an incomplete. **Conclusion:** PA levels are low and sedentary behaviors are high in Colombian children and youth. Although the prevalence of obesity in Colombia is lower compared with other Latin American countries, it is increasing. A rich legal framework and availability of institutional arrangements provide unique opportunities to bridge the gap between knowledge and practice that need to be evaluated.

Keywords: policy, advocacy, health promotion

Noncommunicable diseases (NCDs) are the leading cause of death in the world, but almost 80% of NCDs deaths occur in low-to-middle-income countries (LMIC) which account for 84% of the world population.¹ Physical activity (PA) is central to the global agenda to prevent NCD, 90% of the evidence regarding PA comes from high income countries.² In a LMIC such as Colombia, 74% of adolescents (13–17 years) do not meet World Health Organization (WHO) guidelines for PA.^{3,4} The Colombian government recognizes NCDs as a public health priority and in this context establishes PA promotion as a key factor for NCD prevention beginning in childhood.⁵

Within the last 10 years, 15 report cards have been developed worldwide with the purpose of assessing how countries compare in the promotion of PA for children and youth. Of these report cards, only 1 is from a Latin American country, the Mexican Report Card for 2013.⁶ Therefore, the development of a Report Card on Physical Activity in Colombia (Figure 1) is an important addition for Latin

America. The report card provides potentially important information on PA indicators, policies and programs for the Colombian community and stakeholders, and for the Latin American region in general. The report card is a unique communication tool that can improve the effectiveness of advocacy for PA promotion.⁷

The present article summarizes the methodology used to produce the first Report Card on Physical Activity in Colombian Children and Youth, and summarizes results based on national data spanning 2005–2013.

Methods

The Epidemiology Group at Universidad de Los Andes (Epiandes⁸) developed and produced the 2014 Report Card with the collaboration of a Research Work Group (RWG) consisting of 9 PA experts from institutions in the private and public sectors: the National Sports, Recreation, Physical Activity and Leisure Time Administrative Department (Coldeportes), the District Institute for Recreation and Sports (Instituto Distrital de Recreación y Deporte [IDRD]), and 5 universities (Universidad de los Andes, Universidad del Rosario, Universidad Industrial de Santander, Universidad de Santander and Universidad Santo Tomás). Epiandes was responsible for conducting the review of the literature underlying the assignment of grades and preparing the final version of the Report Card. The RWG reviewed the content of the report card, provided complementary data and assigned the grades for each indicator.

Epiandes based the structure of the Report Card on the design of previous report cards from Canada,⁹ South Africa,^{10,11} Scotland¹² and Kenya.¹³ The first step in developing the report card included the design of each indicator. A comprehensive review of published and unpublished data, and current policies in the country was undertaken. Evidence was summarized for 12 indicators classified

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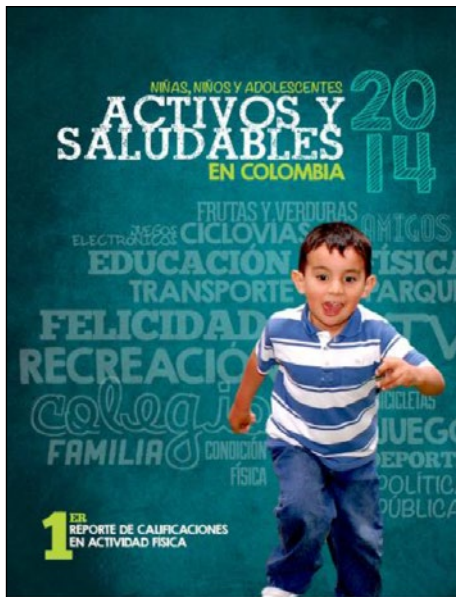


Figure 1 — Front cover of the 2014 Colombian Physical Activity Report Card.

into 3 categories according to relationships with overall levels of PA. The first category comprised behaviors contributing to PA levels: 1) PA (relative to PA guidelines), 2) active transportation, 3) organized sport participation, and 4) active play. The second category included factors associated with elevated cardiometabolic risk: 1) time spent in sedentary behaviors (screen time), 2) overweight (BMI-for-Age > 1 SD and ≤ 2 SD¹⁴), 3) obesity (BMI-for-age > 2 SD¹⁴) and 4) low cardiorespiratory fitness. The third category comprised factors that influence PA: 1) family, 2) school, 3) community and built environment, and 4) policy. The policy indicator was subdivided into 3 categories of initiatives: 1) national, 2) departmental, and 3) nongovernment.

Primary sources of national data were the National Nutrition Surveys (Encuesta Nacional de la Situación Nutricional en Colombia [ENSIN]) from 2005³ and 2010¹⁵) and current policy documents. Data from regional studies conducted in Colombia were also included to highlight local efforts. At the regional level, the Global School-Based Health Survey (GSHS) of 2007^{16,17} was used; it was conducted in 5 cities (Bogotá, Bucaramanga, Cali, Manizales and Valledupar). Data from Bogota also included the International Study of Childhood Obesity, Lifestyle and Environment (ISCOLE) in 2012,¹⁸ and the Biennial Survey of Culture for 2013.¹⁹ Data from Bucaramanga and its metropolitan area also included the Study of Active and Sedentary Behaviors in Children from preschool to 4th grade (Caracterización de los Comportamientos Activos y Sedentarios en Niños desde Preescolar hasta 4º de la Ciudad de Bucaramanga y su Área Metropolitana),^{20,21} and a study of the relationships of cardiorespiratory fitness, strength and body composition with metabolic risk factors in school children (Asociación entre la Capacidad Cardiorrespiratoria, la Fuerza Muscular y la Composición Corporal con Factores de Riesgo Metabólicos en Niños Escolares de Bucaramanga, Colombia [ACFIES]²²). Data for Cali also included a survey of risk factors for adult NCDs in the school-age population (Identificación de Factores de Riesgo de Enfermedades Crónicas No Transmisibles del Adulto en la Población Escolarizada de 6 a 18 años en el municipio de Cali, Colombia [IFRECNEC]²³).

The second step included a review of the grading scale and criteria used in Report Cards from other countries. The numerical grade scale (5, highest, to 1, lowest) was equivalent to the academic grading system used in most Colombian schools (Table 1). Grades were based on criteria set by the Scientific Advisory Panel of South African Report Cards for 2007¹⁰ and 2010.¹¹ The criteria defined benchmarks, and also considered behaviors, environments, practices and policies for each indicator in terms of potential reach, adoption and impact. The benchmark for the Colombian grading scale used the model of Saskatchewan (2009),²⁴ Ontario (2011),²⁵ and Scotland (2013)¹² because they allow comparisons against an ideal scenario while identifying trends for moderate improvements.^{26,27}

The third step included meetings with the RWG that considered different perspectives on how the country is doing in the promotion of PA. The research group of Epiandes held 5 meetings (one per institution) with members of the RWG. The experts in the RWG assessed the available evidence for each indicator, considering the quality of evidence, trends over time, disparities in PA and risk factors, and international comparisons. Finally, an average was calculated as an overall grade for each indicator. Comments and/or recommendations of the experts were also included with the indicators and in explanatory notes.

Results and Discussion

Table 2 summarizes the grades assigned by the RWG for each indicator and the sources of the data.

Overall PA Levels

The grade of “2” for overall PA levels in children and youth (5–17 years) was based on 5 criteria: the national prevalence of adolescents meeting WHO guidelines for PA (26%);³ a disparity in PA between genders—females (24.2%) were less likely than males (27.6%) to meet WHO guidelines for PA³ ($P < .001$); a lack of national data on PA for children 1–12 years of age; a lack of procedures to monitor and evaluate the effectiveness of current policies and programs for the promotion of PA; and comparisons with global PA data—the prevalence of Colombian adolescents meeting WHO guidelines for PA, though low, was higher than the overall global prevalence, 26% vs. 19.7%.²⁸

Active Transportation

An incomplete (INC) grade was assigned for active transportation among children and youth because national data are lacking. In addition, the experts noted an absence of initiatives to promote active transportation to and from school which should be considered for future programs.

Organized Sport Participation

The grade of “2” assigned to organized sports participation was based on 3 criteria: the prevalence of participation in “Supérate” interschool athletic competitions (34.3%) among youth 12–17 years;²⁹ limited information dealing with regular participation in organized sports by children and youth; and a lack of evaluation of the effectiveness of sports programs.

Active Play

A grade of incomplete was assigned due to a lack of national data on active play among children and youth.

Table 1 Colombian Report Card Grading Scale

Grade ^a	Benchmark	Criteria ^b
5	80–100%	Reflects behaviors, environments, and policies that place children and youth at lowest risk for future noncommunicable diseases. Denotes the best practice to promote health and prevent chronic disease and/or in multiple settings with excellent potential for reach, impact, and/or adoption.
4	60–79%	Reflects behaviors, environments, and policies that place children and youth at relative lower risk for future noncommunicable diseases. Denotes the best practice to promote health and prevent disease and/or in multiple settings with moderate potential for reach, impact, and/or adoption
3	40–59%	Reflects behaviors, environments, and policies that place children and youth at moderate risk for future noncommunicable diseases. Denotes good practice to promote health and prevent chronic disease and/or in multiple settings with limited potential for reach, impact, and/or adoption
2	20–39%	Reflects behaviors, environments, and policies that place children and youth at higher risk for future disease. Denotes insufficient practices to adequately promote health and prevent chronic diseases, which may be due, in part, to lack of reach or adoption and impact.
1	<20%	Reflects behaviors, environments and policies that place children and youth at greatest risk for future disease. Either where no interventions, infrastructure or practices exist OR where these have been shown to be ineffective.
INC		Categories of behaviors, environments and policies for which there are no data or where evidence is insufficient to interpret. OR promising initiatives but for which there is no evaluation.

^a Numerical grading in Colombian report card is equivalent to the academic grading system used in most of the schools in Colombia. Their equivalents in letters are: 5 = A, 4 = B, 3 = C, 2 = D, 1 = F.

^b Based on criteria set by South Africa Scientific Advisory Panel for 2007 and 2010 Report Cards.

Time Spent in Sedentary Behaviors

The grade of “2” assigned to time spent in sedentary behaviors in children and youth was based on 5 criteria: the national prevalence of spending ≥ 2 hours in sedentary behaviors (ie, screen time) in children aged 5–12 years (57.9%)¹⁵ and adolescents aged 13–17 years (67%);¹⁵ time trends for sedentary behaviors among children 5–12 years, 56.3% in 2005³ and 57.9% in 2010;¹⁵ disparities in time spent in sedentary behaviors between males and females—males 5–12 years were more likely to spend ≥ 2 hours in sedentary behaviors than females of the same age (59.4% vs. 56.3%; $P < .001$)¹⁵ while females 13–17 years were more likely to spend ≥ 2 hours in sedentary behaviors than males of the same age (68.2% vs. 65.9%; $P < .001$);¹⁵ comparisons with global data indicate an above average prevalence of screen time in Colombian adolescents 13–17 years;¹⁵ and a lack of initiatives aimed at reducing the time children and youth spend in sedentary behaviors.

Overweight

The grade of “3” assigned to the overweight indicator was based on 4 criteria: national prevalence of overweight among children 5–12 years and youth 13–17 years, 13.7% and 13.2%, respectively,¹⁵ though among the lowest in Latin America³⁰ are increasing; disparity in the prevalence of overweight by gender—females are more likely to be overweight than males, 14.7% vs. 12.2%¹⁵ ($P < .001$); as part of the nutritional transition, the distribution of overweight and obesity (see below) by socioeconomic status (SES) indicates that children from higher SES are more likely to be overweight than children from lower SES, 16.6% vs. 11.4%¹⁵ ($P < .001$); and the availability of multisector policies focused on the prevention of overweight and obesity in Colombia.³¹

Obesity

The grade of “4” assigned to the obesity indicator was based on 3 criteria: relatively low national prevalence of obesity in children 5–12 years and in youth 13–17 years, 5.2% and 3.4%, respectively,¹⁵ which are among the lowest in Latin America;³⁰ suggestive evidence that males were more likely to be obese than females, 4.7% vs. 3.4% ($P < .001$); and the presence of a substantial number of policies aimed at preventing and reducing overweight and obesity in Colombia, such as the Obesity Law.³¹

Low Cardiorespiratory Fitness

A recommended “healthy fitness zone” for cardiorespiratory fitness, below which the risk of several chronic diseases is elevated,³² was used to assess the limited Colombian data. However, due to the limited data and a lack of national data on the cardiorespiratory fitness of children and youth, a grade of incomplete was assigned.

Family Influence

According to the RWG, national data for family influence on PA are insufficient; thus, a grade of incomplete was assigned.

School Influence

The grade of “1” assigned to the school influence indicator was based on the observation that only 6.1% of school-aged children received physical education classes from a professional instructor.³³

Table 2 Grades According to Physical Activity Indicators in the 2014 Colombia Report Card on Physical Activity for Children and Youth

Category	Indicator	Grade ^a	Data for the grading	Sample	Age group	Source ^b	Complimentary data from local studies	Sample	Age group	Source ^b
Behaviors that contribute to physical activity levels	Overall Physical Activity Levels	2	26% of Colombian adolescents aged 13–17 years old met WHO guidelines for PA.	7489	13–17 yrs	ENSIN 2005 ³	15, 1% of adolescents aged 13–15 years old met WHO guidelines for PA	6833	13–15 yrs	GSHS 2007 ¹⁶
			Compared with males, female adolescents were less likely to meet PA guidelines (24.2% vs. 27.6%; $P < .001$)							
			Lack of national data				49.7% of adolescents aged 13–15 years, from 5 capital cities, referred have walked or ridden a bike to go to school in the last week.	6833	13–15 yrs	GSHS 2007 ¹⁶
Active Transportation	Active Transportation	INC					66.3% of children aged 11–18 years from Montería, referred have walked or ridden a bike to go to school in the last week.	546	11–18 yrs	Walking or Bicycling to School and BMI study 2008 ¹⁷
							18.4% of children aged 9–11 years old in Bogotá reported using active transportation on the main part of their trip to school for time periods longer than 15 minutes.	919	9–11 yrs	ISCOLE 2012
Organized Sport Participation	Organized Sport Participation	2	34.4% of adolescents aged 12–17 years involved in Supérate interschool athletic competitions in the last year (2013)	1.8 million	12–17 yrs	Supérate Program ²⁹	In Bucaramanga, 32.2% of parents reported their pre-school and school children (3–12 years old) engaged in organized sports in a typical day, with an average duration of 2 hours/day	710	3–12 yrs	Study of active and sedentary behaviors in children from preschool to fourth grade in Bucaramanga city and its metropolitan area ²⁰
							In Bogotá, 69.8% of children aged 9–11 years old reported participating in organized physical activities or sports during the last year	919	9–11 yrs	ISCOLE 2012 ¹⁸

(continued)

Table 2 (continued)

Category	Indicator	Grade ^a	Data for the grading	Sample	Age group	Source ^b	Complimentary data from local studies	Sample	Age group	Source ^b
Behaviors that contribute to physical activity levels (continued)	Active Play	INC	Lack of national data	NA	NA	NA	In Bogota, 62% of adolescents aged 13–17 years old reported involvement in organized sports	2067	13–17 yrs	Biennial Survey of Culture 2013 ¹⁹
							In Bucaramanga, 58.8% of parents reported that their children aged 3–12 years old play indoors in a typical day, and 78.6% play outdoors	710	3–12 yrs	Study of active and sedentary behaviors in children from preschool to fourth grade in Bucaramanga and its metropolitan area ²⁰
Factors associated with elevated cardio-metabolic risk	Time spent in sedentary behaviors	2	In 2005, 56.3% of parents reported their children aged 5–12 years old spent ≥ 2 hours in sedentary behaviors (screen time), during the last 7 days	13,090	5–12 yrs	ENSIN 2005 ³	In Bucaramanga, Giron and Piedecuesta, 38.7% of parents reported their 3–12 years old children spend ≥ 2 hours in sedentary behaviors a typical week day; and 58.8% spend ≥ 2 hours in sedentary behaviors a typical weekend day	710	3–12 yrs	Associated factors to availability and use of electronic media in children from preschool to fourth grade ²¹
			In 2010, 57.9% of parents reported their children aged 5–12 years old spent ≥ 2 hours in sedentary behaviors (screen time), during the last 7 days	18,527	5–12 yrs	ENSIN 2010 ¹⁵				
			In 2010, 67% of adolescents aged 13–17 years old reported spending ≥ 2 hours in sedentary behaviors (screen time), during the last 7 days	18,357	13–17 yrs					
			Parents reported that their 5–12 years old children spent 2.4 hours per day in sedentary behaviors during the last 7 days	18,527	5–12 yrs					
			Adolescents reported spending 2.8 hours per day in sedentary behaviors during the last 7 days	18,357	13–17 yrs					

(continued)

Table 2 (continued)

Category	Indicator	Grade ^a	Data for the grading	Sample	Age group	Source ^b	Complimentary data from local studies	Sample	Age group	Source ^b
Factors associated with elevated cardio-metabolic risk (continued)	Overweight	3	Compared with males, female adolescents were more likely to spend ≥ 2 hours in sedentary behaviors (screen time) (68.2% vs. 65.9 $P < .001$)	18,357	13–17 yrs	ENSIN 2010 ^{1,5}				
			In 2005, 14.3% of children aged 5–9 years old were overweight or obese.	14,591	5–9 yrs	ENSIN 2005 ³				
			In 2010, 18.9% of children aged 5–9 years old were overweight or obese.	19,369	5–9 yrs	ENSIN 2010 ^{1,5}				
			In 2005, 13.7% of adolescents 10–17 years old were overweight or obese	22,828	10–17yrs	ENSIN 2005 ³				
			In 2010, 16.7% of adolescents 10–17 years old were overweight or obese	30,508	10–17yrs	ENSIN 2010 ^{1,5}				
			Compared with males, females were more likely to be overweight (14.7% vs. 12.2%; $P < .001$)	49,877	5–17 yrs					
			Children and adolescents from high SES were more likely to be overweight, compared with low SES children and adolescents (16.6% vs 11.4%; $P < .001$)							
			In 2010, 5.2% of children aged 5–9 years old and 3.4%adolescents aged 10–17 years old were obese	19,369	5–9 yrs	ENSIN 2010 ^{1,5}				
			Compared with females, males were more likely to be obese (4.7% vs. 3.4%; $P < .001$)	30,508	10–17 yrs					
				49,877	5–17 yrs					
Obesity		4								
Below health fitness zone	INC		Lack of national data					658	8–14 yrs	ACFIES ²²
							In school children in Bucaramanga. 72.8% of girls and 72.9% of boys did not achieve number of 20 M shuttles in pacer test required to meet standards for health fitness zone.			

(continued)

Table 2 (continued)

Category	Indicator	Grade ^a	Data for the grading	Sample	Age group	Source ^b	Complimentary data from local studies	Sample	Age group	Source ^b
Factors associated with elevated cardio-metabolic risk (continued)							In school children in Cali 60% of girls and 52% of boys did not have sufficient peak oxygen consumption to be meets standards for health fitness zone (> 90th centile by physical working capacity at 170 beat-min-1 PWC-170).	1773	10–15 yrs	IFREC/TEC ²³
	Levels of influence	Family	INC	In 2010, 34.6% of Colombian adults were overweight and 16.5% were obese.	89,164	18–64 yrs	ENSIN 2010 ¹⁵	919	9–11 yrs	ISCOLE 2012 ¹⁸
				In 2010, 53.5% of Colombian adults met the guideline of 150 minutes of moderate physical activity per week.	14,465	18–64 yrs				
	School	1	In 2005, only 6.1% of Colombian preschool and school-aged children (3–12 years old) received physical education classes from a professional	5.9 million	3–12 yrs	Visión 2019 ³³	70% of schools in Bogotá offer intramural and inter-school sports	20	NA	ISCOLE 2012 ¹⁸
							Around 50% of school principals reported that students don't have access to indoor and outdoor facilities outside school hours	Schools from Bogotá		
							73,68% of schools administrators reported that students have regular access to a large room suitable for physical activity during school hours			
							86,3% of parents reported that students don't have access to school grounds outside of school hours			
							95% of schools reported having written policies or practices concerning physical activity and healthy eating			

(continued)

Table 2 (continued)

Category	Indicator	Grade ^a	Data for the grading	Sample	Age group	Source ^b	Complimentary data from local studies	Sample	Age group	Source ^b
Levels of influence (continued)							75% of schools reported having a committee to oversee development of policies and practices concerning physical activity or healthy eating			
	Community and built environment	INC	Lack of national data				31.7% of parents reported their children participate in Ciclovía at least once a year	919	9–11 yrs	ISCOLE 2012 ¹⁸
							86.4% of parents reported their children use public facilities for physical activity at least once a week			
Policy							94.2% of parents agreed their neighborhood is not safe for their children			
							60.2% of parents agreed their neighborhood have a high crime rate			
							72.2% of parents agreed that most drivers go faster than the posted speed limits in the neighborhood			
							98.9% of parents reported local availability of public facilities for physical activity			

Policy

National Policy

4

Colombia's National Constitution of 1991 recognizes physical activity, recreation and sports as a right of all citizens and establishes their promotion and funding as a state responsibility.

NA

NA

Colombia's National Constitution of 1991³⁴

The National Development Plan 2010–2014 recognizes physical activity promotion as a priority within the component of equality of opportunity for social prosperity and encourages multisectoral strategies for physical activity and healthy lifestyles promotion through policies like:

NA

NA

National Development Plan 2010–2014⁵

(continued)

Table 2 (continued)

Category	Indicator	Grade ^a	Data for the grading	Sample	Age group	Source ^b	Complimentary data from local studies	Sample	Age group	Source ^b
Levels of influence (continued)			The Ten-Year Plan for Sports, Recreation, Physical Education and Physical Activity 2009-2019							
			The Obesity Law (Law 1355/2009)							
			The Ten-Year Plan of Public Health 2012-2021							
			National Plan of Food and Nutrition Security 2012-2019							
			In 2014 0.2% of the general budget of the nation will be invested in Sports and Recreation Sector (174 million USD)	NA	NA	General Budget of the Nation 2014 ³⁷				
			Colombia has 3 main programs for physical activity promotion at a national level, implemented in all of the 32 departments of Colombia:	NA	NA	HEVS Cold-eportes ³⁸				
			1) The Healthy Habits and Lifestyle Program,							
			2) Ciclovías-Recreativas Program, 3) Supérate” interschool athletic competitions							
			Laws 115/1994 and 934/2004 establish that physical education is mandatory at schools for all grades.	NA	NA	Law 115/1994 ³⁵ and Law 934/2004 ³⁶				

Table 2 (continued)

Category	Indicator	Grade ^a	Data for the grading	Sample	Age group	Source ^b	Complimentary data from local studies	Sample	Age group	Source ^b
Levels of influence (continued)	Departmental policy	3	Law 715 of 2001, which states the department's responsibilities in the promotion of PA	NA	NA	Law 715/2001 ⁴⁰				
			31 out of the 32 Departments of Colombia include physical activity in children and youth as government priorities in their Departmental Development Plans	NA	NA	Departmental Development Plans				
			Sixty municipalities, from the 32 departments have implemented Ciclovía programs, creating PA opportunities for children and youth.	NA	NA	Coldeportes				
	Nongovernment initiatives	2	Colombia has a number of programs, mainly social-focused, that use physical activity and sports as a strategy to prevent violence or risk behaviors in children and youth. These programs have a great potential to improve social conditions for children and youth at the same time that promote PA: a) Escuelas de Puertas Abiertas, b) Apuntate a jugar, c) Goles para una vida mejor, d) 11 for Health, e) Corazones Responsables	NA	NA	RWG				

^aThe grade for each indicator is based on the percentage of children and youth meeting a defined benchmark: 5 is 80%–100%; 4 is 60%–79%; 3 is 40%–59%; 2 is 20%–39%; 1 is 0%–19%. INC is Incomplete data.

^bSources definition: **ENSIN**: National Nutrition Survey; **GSHS**: Global School-based Health Survey; **ISCOLE**: International Study of Childhood Obesity, Lifestyle and the Environment; **ACFIES**: Association between cardiorespiratory fitness, muscular strength and body composition with metabolic risk factors in Colombian children study; **IFRECINTEC**: Identification of risk factors of adult NCD's in School-age Populations in the City of Cali study; **HEVS**: Healthy Habits and Lifestyle Program (In Spanish: Hábitos y Estilos de Vida Saludable); **RWG**: Research Work Group.

Community and Built Environment Influence

An incomplete grade was assigned to this indicator due to the lack of national data on the influence of community and built environment on PA.

Policy

The grade of “4” for national policies was based on 5 criteria: the substantial number of policies that promote PA at the national level;^{5,34–36} national investment in PA and sports, about 174 million USD in 2014;³⁷ the presence of PA promotion programs with national coverage, including the Healthy Habits and Lifestyle Program of Coldeportes;³⁸ the network of Ciclovías-Recreativas, a mass recreational program, available for all communities put into place over a decade ago;³⁹ a lack of evaluation of the effectiveness of current policies and programs; and the significant gap between written policies and concrete actions.

The grade of “3” for departmental policies was based on 4 criteria: the availability of laws that confer responsibilities to departmental governments for PA promotion,⁴⁰ the inclusion of PA as a priority in most Departmental Development Plans; the implementation in all departments of the country of Ciclovía programs in which streets are closed temporarily on Sundays and holidays to provide safe space for PA and recreation for children and youth;³⁹ and the substantial effort required to maintain PA initiatives given their dependence on the political will of current local governments.

The grade of “2” for nongovernment initiatives and strategies was based on 2 criteria: limited availability of initiatives with national coverage and absence of evaluation of the effectiveness of these initiatives.

Limitations

Although assigned grades were based on the best available data, there are a number of gaps in the research and process that must be addressed in future studies to provide a more comprehensive overview of the PA profile of Colombian children and youth. National surveillance data for school-aged children and youth are needed for PA levels (beginning with preschool), active transportation, regular participation in sports (both organized and informal), and participation in unstructured PA (active play) and the average amount of time spent in these activities per day. A nationally representative survey of the physical fitness of children and youth is also needed.

Studies with a multilevel approach and national representativeness should be undertaken to better understand the influence of family, school, community and built environment on PA levels of children and youth. For the family influence indicator, there is need for data on parental modeling and support the involvement on PA by their children and youth. The potential influence of schools should be extended beyond the assessment of physical education to recess time, after-school programs and the availability and accessibility of recreational facilities. Finally, the effectiveness of current policies and programs need ongoing monitoring and evaluation.

This Report Card also highlights the need for the development of an evidence base related to current efforts ranging from local programs to national policies. It is also important to evaluate the effective translation of the evidence into practice and to advocate for updated and improved initiatives for the promotion of PA among Colombian children and youth.

Conclusion

PA levels are low and sedentary behaviors are high among Colombian children and youth. The prevalence of obesity is lower in Colombian children and youth compared with other Latin American countries, but is increasing. The rich legal framework and the availability of institutional arrangements in Colombia provide a unique opportunity to bridge the gap between knowledge and practice related to PA promotion and NCD prevention in a country experiencing the nutrition transition, and to identify globally relevant effective initiatives to attain this objective. Follow up of presently available data are necessary along with new research initiatives aimed at evaluating all components of this report card but especially those identified as lacking data.

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References

1. World Health Organization WHO. *Global status report on noncommunicable diseases 2010*. Geneva: World Health Organization; 2011. Available at: http://www.who.int/nmh/publications/ncd_report2010/en/.
2. Pratt M, Sarmiento OL, Montes F, et al. The implications of megatrends in information and communication technology and transportation for changes in global physical activity. *Lancet*. 2012;380(9838):282–293. doi:10.1016/S0140-6736(12)60736-3. PubMed doi:10.1016/S0140-6736(12)60736-3
3. Instituto Colombiano de Bienestar Familiar ICBF. *Encuesta Nacional de la Situación Nutricional en Colombia ENSIN*. (Instituto Colombiano de Bienestar Familiar, Ed.) Bogotá; 2005.
4. World Health Organization. *Global recommendation on physical activity for health*. Geneva. 2010.
5. Departamento Nacional de Planeación. *Plan nacional de desarrollo 2010-2014: Prosperidad para todos*. Colombia; 2011.
6. Canada and Mexico Battling Childhood Obesity CAMBIO. *Mexican report card on physical activity for children and youth 2012*.; 2012.
7. Colley RC, Brownrigg M, Tremblay MS. A model of knowledge translation in health: the Active Healthy Kids Canada Report

- Card on physical activity for children and youth. *Health Promot Pract.* 2012;13(3):320–330. 10.1177/1524839911432929. [PubMed doi:10.1177/1524839911432929](#)
8. Grupo de Epidemiología de la Universidad de los Andes EpiAndes. 2014. Available at: <http://epiandes.uniandes.edu.co/>.
 9. Active Healthy Kids Canada. *Are we driving our kids to unhealthy habits? Canada's Report Card on Physical Activity for Children and Youth.* Toronto, Ontario, Canada; 2013. Available at: <http://www.activehealthykids.ca/2013ReportCard/en/>.
 10. Sport Science Institute of South Africa. *Healthy Active Kids South Africa: Report card on the physical activity, nutrition and tobacco use for South African children and youth 2007.*; 2007. Available at: <http://dvqdas9jty7g6.cloudfront.net/resources/southafricarc.pdf>.
 11. Sport Science Institute of South Africa. *Healthy Active Kids South Africa Report Card 2010.* Sandton; 2010. Available at: https://www.discovery.co.za/discovery_coza/web/linked_content/pdfs/vitality/parenting/healthy_active_kids_report_card.pdf
 12. University of Strathclyde. *Child's play 2013? Active Healthy Kids Scotland Report Card.* Glasgow, Scotland; 2013. Available at: <http://www.activehealthykidsscotland.co.uk/>.
 13. Active Healthy Kids Kenya. *Kenya's 2011 Report Card on the Physical Activity and Body Weight of Children and Youth.* Nairobi; 2011. Available at: <http://dvqdas9jty7g6.cloudfront.net/resources/Kenyan-ReportCardLongForm.pdf>.
 14. Onis M De, Onyango AW, Borghi E, Siyam A, Siekmann J. Development of a WHO growth reference for school-aged children and adolescents. *Bull World Health Organ.* 2007;043497(April):660–667. doi:10.2471/BLT.
 15. Instituto Colombiano de Bienestar Familiar ICBF. *Encuesta Nacional de la Situación Nutricional en Colombia.* (Instituto Colombiano de Bienestar Familiar ICBF, ed.). Bogotá; 2010.
 16. Piñeros M, Pardo C. Actividad física en adolescentes de cinco ciudades colombianas: resultados de la Encuesta Mundial de Salud a Escolares. *Rev Salud Publica (Bogota).* 2010;12(6):903–914. [PubMed doi:10.1590/S0124-00642010000600003](#)
 17. Arango CM, Parra DC, Eyster A, et al. Walking or bicycling to school and weight status among adolescents from Montería, Colombia. *J Phys Act Health.* 2011;8 Suppl 2(Suppl 2):S171–7. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/21918230>.
 18. Katzmarzyk PT, Barreira TV, Broyles ST, et al. The International Study of Childhood Obesity, Lifestyle and the Environment (ISCOLE): design and methods. *BMC Public Health.* 2013;13:900. 10.1186/1471-2458-13-900. [PubMed doi:10.1186/1471-2458-13-900](#)
 19. Secretaria de Cultura Recreación y Deporte. *Encuesta Bienal de Culturas 2013.* Bogotá; 2013. Available at: <http://www.culturarecreacionydeporte.gov.co/observatorio/encuestaBienal.html>.
 20. Camargo D, Orozco L. *Caracterización de los comportamientos activos y sedentarios en niños desde pre-escolar hasta 4° de la ciudad de Bucaramanga y su área metropolitana.* Unpublished Work; 2012.
 21. Camargo DM, Orozco LC. Factores asociados a la disponibilidad y uso de medios electrónicos en niños desde preescolar hasta 4° grado. *Biomédica Rev del.* 2013;33(2):175–185.
 22. Cohen DD, Gómez-Arbeláez D, Camacho P, et al. Low muscle strength is associated with elevated metabolic risk in Colombian schoolchildren: The ACFIES study. *PLoS ONE*, in press.
 23. Aguilar A, Pradilla A, Mosquera M, et al. Percentiles de condición física de niños y adolescentes de Santiago de Cali, Colombia. *Bio-medica.* 2011;31:242–249. [PubMed](#)
 24. Active Healthy Kids Canada. *2009 Active Healthy Kids Canada Report Card on Physical Activity for Children and Youth.* Saskatchewan Supplement; 2009. Available at: <http://activehealthykids.s3.amazonaws.com/resources/saskreportcardsupplement.pdf>.
 25. Active Healthy Kids Canada. *2011 Active Healthy Kids Canada Report Card on Physical Activity for Children and Youth.* Ontario Report Card Supplement.; 2011. Available at: <http://dvqdas9jty7g6.cloudfront.net/resources/OntarioReportCardFINAL7.pdf>.
 26. Weissman NW, Allison JJ, Kiefe CI, et al. Achievable benchmarks of care: the ABCs of benchmarking. *J Eval Clin Pract.* 1999;5(3):269–281. Available at <http://www.ncbi.nlm.nih.gov/pubmed/10461579>. [PubMed doi:10.1046/j.1365-2753.1999.00203.x](#)
 27. Ellis J. All inclusive benchmarking. *J Nurs Manag.* 2006;14(5):377–383. 10.1111/j.1365-2934.2006.00596.x. [PubMed doi:10.1111/j.1365-2934.2006.00596.x](#)
 28. Hallal PC, Andersen LB, Bull FC, Guthold R, Haskell W, Ekelund U. Global physical activity levels: surveillance progress, pitfalls, and prospects. *Lancet.* 2012;380(9838):247–257. 10.1016/S0140-6736(12)60646-1. [PubMed doi:10.1016/S0140-6736\(12\)60646-1](#)
 29. Lozano O. Personal Communication. 2014.
 30. Rivera JÁ, de Cossío TG, Pedraza LS, Aburto TC, Sánchez TG, Martorell R. Childhood and adolescent overweight and obesity in Latin America: a systematic review. *Lancet Diabetes Endocrinol.* 2013;8587(13):1–12. 10.1016/S2213-8587(13)70173-6. [PubMed](#)
 31. Congreso de la República de Colombia. *Ley 1355 de 2009.* Colombia; 2009. Available at: <http://web.presidencia.gov.co/leyes/2009/octubre/ley135514102009.pdf>.
 32. Meredith M, Welk G. Interpreting FITNESSGRAM results. In: Meredith M, Welk G, eds. *Fitnessgram & Activitygram Test Administration Manual-Updated.* 4th ed. Champaign, IL: Human Kinetics; 2007:59–68.
 33. Nacional de Planeación D, de Cultura M. Coldeportes. *Visión Colombia II Centenario: 2019. Forjar una cultura para la convivencia.* Bogotá; 2007. Available at: [https://www.dnp.gov.co/Portals/0/archivos/documentos/2019/Documentos/Forjar_cultura_para_convivencia\(30_10_07\).pdf](https://www.dnp.gov.co/Portals/0/archivos/documentos/2019/Documentos/Forjar_cultura_para_convivencia(30_10_07).pdf).
 34. República de Colombia. Constitución Política de Colombia. 1991:Art.44.
 35. Congreso de la República de Colombia. *Ley 115 de 1994.*; 1994.
 36. de la República de Colombia C. *Ley 934 de 2004.* Colombia; 2004. Available at: <http://web.presidencia.gov.co/leyes/2004/diciembre/Ley No. 934.pdf>.
 37. Ministerio de Hacienda y Crédito Público. *Presupuesto General de la Nación.* Colombia. 2014.
 38. Ministerio de la Protección Social. Coldeportes. *Hábitos y Estilos de Vida Saludable. Tomo 1: Documento técnico con los contenidos para el mejoramiento de la gestión territorial de los referentes departamentales, en la promoción de hábitos de vida saludable, con énfasis en alimentación y prevención del.* (Coldeportes, ed.). Bogotá; 2011.
 39. Sarmiento O, Torres A, Jacoby E, Pratt M, Schmid TL, Stierling G. The Ciclovía-Recreativa: A mass-recreational program with public health potential. *J Phys Act Health.* 2010;7 Suppl 2(Suppl 2):S163–80. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/20702905>.
 40. de la República de Colombia C. *Ley 715 de 2001.* Colombia; 2001. Available at: <http://www.mineducacion.gov.co/1621/article-86098.html>.