

Backsliding on a Key Health Investment in Latin America and the Caribbean: The Case of Breastfeeding Promotion

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Breastfeeding is one of the best values among investments in child survival, recognized for both the magnitude of its effect on mortality^{1,2} and the effectiveness of interventions to promote it.^{3,4} Early initiation of breastfeeding reduces neonatal mortality^{5,6} (an increasingly important component of infant mortality⁷) and has many other short- and long-term benefits for maternal and child health and child development.^{8,9} Failure to promote breastfeeding, coupled with inadequate attention to the safety of replacement formulas, can have serious health consequences.^{10,11}

International concern about declining rates of breastfeeding in the 1970s¹² led national and international health authorities to make a concerted effort to promote breastfeeding.¹³ Many breastfeeding interventions focused on improving health worker training and support for breastfeeding in hospitals because of the perception that these services were not providing skilled support for and environments conducive to breastfeeding. Few evaluations of the impact of these interventions are available, although in Latin America the duration of breastfeeding increased from the 1980s to the 1990s, coinciding with breastfeeding promotion efforts.¹⁴

Disentangling the impact of national promotion programs is challenging because traditional epidemiological models do not lend themselves to the analysis of such a relationship. The extent to which public health interventions have the potential to improve behaviors measurable at the national level depends on coverage as well as quality.^{15a} Both are difficult to measure systematically, and neither has been documented in national programs. However, given the importance of breastfeeding for achieving the Millennium Development Goal related to child survival (goal 4),^{15b} a better understanding of the relationship between promotion of breastfeeding and changes in breastfeeding is important.

We examined trends in breastfeeding promotion investments, trends in breastfeeding

Objectives. We examined trends in breastfeeding promotion investments, breastfeeding promotion activities, and breastfeeding duration in Latin America and the Caribbean from the 1980s to the 2000s.

Methods. We obtained financial data from the United States Agency for International Development and the International Code Documentation Center, and we obtained breastfeeding promotion data from surveys of breastfeeding coordinators with ministries of health and with the International Baby Food Action Network. We obtained breastfeeding data from nationally representative surveys conducted between 1986 and 2008.

Results. Investment in breastfeeding promotion declined in the 2000s relative to earlier years. For all countries, breastfeeding duration increased between the first and last survey. Of the 12 countries represented in the interval when investment in breastfeeding promotion was high, breastfeeding duration decreased in 1 country. Of the 12 countries represented in the interval when investment was low, breastfeeding duration decreased in 3 countries. Nonetheless, the average annual change in breastfeeding duration for the 2 intervals was positive and similar (0.16 months and 0.21 months).

Conclusions. Breastfeeding promotion likely resulted in large improvements in breastfeeding. Investments in breastfeeding promotion have declined, but this does not appear to have adversely affected breastfeeding duration. (*Am J Public Health*. 2011;101:2130–2136. doi:10.2105/AJPH.2011.300244)

promotion activities, and changes in breastfeeding from the 1980s to the 2000s in 19 Latin American and Caribbean nations. We sought to answer 3 questions: (1) What is the evidence that policies and programs in support of breastfeeding were implemented? (2) How have investments in breastfeeding promotion changed over time? (3) How have exclusive breastfeeding and breastfeeding duration changed over the same period?

METHODS

To assess evidence that policies and programs in support of breastfeeding were implemented, we summarized national-level data by using the following outcome measures: adoption of the International Code of Marketing of Breast-Milk Substitutes (i.e., the “Code”), proportion of hospitals certified in the World Health Organization/UNICEF Baby Friendly

Hospital Initiative (BFHI), and length of maternity leave. The Code, adopted by the World Health Assembly in 1981,¹² provides guidelines for the marketing of breastmilk substitutes, bottles, and teats. To examine how investments in breastfeeding promotion changed over time, we tracked total and proportional expenditures on breastfeeding promotion compared with other nutrition interventions, funding to implement and monitor the Code, and qualitative data on funding, BFHI certifications, training in breastfeeding management and counseling, monitoring of the Code, and development and dissemination of breastfeeding materials.

We obtained global financial data from the United States Agency for International Development (USAID) and the International Code Documentation Center. We obtained qualitative survey data from questionnaires sent to breastfeeding coordinators for ministries of health and for the International Baby Food Action Network (IBFAN) in 17 Latin

American countries between December 2008 and March 2009. The questionnaire included 5 questions related to perceived changes from the 1990s to the current decade. We requested information on perceived changes because of the difficulty of obtaining quantitative data. To assess changes in breastfeeding, we obtained data from 55 nationally representative surveys from 13 countries in Latin America between 1986 and 2008. Our outcome measures were changes in the prevalence of exclusive breastfeeding among infants aged younger than 6 months and changes in the mean duration of breastfeeding. All surveys used a similar methodology to

assess breastfeeding practices and current-status data for their estimations.¹⁶

For each country, we examined changes in mean breastfeeding duration in 2 ways: (1) we compared the overall change between the first and the last survey, and (2) we compared surveys for 2 time intervals, the first corresponding to an 11-year average interval from the mid-1980s to the late 1990s, and the second corresponding to a 6-year average interval from the late 1990s to the mid-2000s. For the first interval we used the first survey available and another survey closest to the year 2000. For the second interval we used the survey closest to the year 2000 and the last

survey available. We selected these intervals a priori because the first corresponds to a period of time when interest in breastfeeding was high on the international health agenda, and the second corresponds to a period of time when there was less apparent interest.

RESULTS

Beginning in 1981 and continuing through the 1990s, a number of breastfeeding policies and programs were implemented around the world, including the Code, which was created out of concern that marketing practices for infant formula were undermining

TABLE 1—Certified Baby-Friendly Hospitals, Implementation of the International Code of Marketing of Breastmilk Substitutes, and Length of Maternity Leave: Latin America and the Caribbean, 2008–2009

Country	Code Implementation (Year Implemented) ^a	Certified Baby-Friendly Hospitals, ^b No. (%)	Weeks of Maternity Leave, ^c No.
Argentina	Many provisions in law (2007)	26 (2)	13
Bolivia	Many provisions in law (2006)	2 (1)	11
Brazil	Law (1992, 2002, 2007)	325 (8)	17
Chile	Voluntary code or policy (1982, 1992)	35 (NA)	18
Colombia	Many provisions in law (1992)	53 (NA)	12
Costa Rica	Law (1994, 1995)	10 (34)	17
Cuba	Few provisions in law (no date)	57 (NA)	18
Dominican Republic	Law (1996)	8 (6)	12
Ecuador	Voluntary code or policy (1993)	104 (38)	12
El Salvador	Measure drafted, awaiting approval (1993)	23 (52)	12
Guatemala	Law (1983)	6 (15)	12
Honduras	Voluntary code or policy (2005)	11 (23)	12
Mexico	Many provisions in law (1996)	692 (NA)	12
Nicaragua	Many provisions in law (1999)	12 (NA)	12
Panama	Law (1995)	5 (16)	14
Paraguay	Few provisions in law (1993)	18 (10)	12
Peru	Law (1982)	91 (36)	13
Uruguay	Many provisions in law (1994)	11 (NA)	12
Venezuela	Law (1982)	9 (NA)	18

Note. NA = not available.

^aInternational Code Document Centre, Penang, Malaysia. Key to categories:

Law: These countries have enacted legislation or adopted regulations, decrees, or other legally binding measures encompassing all or nearly all provisions of the Code and subsequent World Health Assembly (WHA) resolutions on breastfeeding. Countries with older measures that have not incorporated subsequent WHA resolutions have been downgraded to a lower category; likewise, laws with narrow scopes have also been downgraded.

Many provisions in law: These countries have enacted legislation or adopted regulations, decrees, or other legally binding measures encompassing many provisions of the Code and subsequent WHA resolutions. Laws that cover only infant formula have been downgraded to a lower category.

Few provisions in law: These countries have enacted legislation or adopted regulations, decrees, or other legally binding measures encompassing few of the provisions of the Code or subsequent WHA resolutions.

Voluntary code or policy: In these countries the government has adopted all or most of the provisions of the Code and subsequent WHA resolutions through a voluntary code, a government policy, or another nonbinding measure. However, there are no enforcement mechanisms.

Measure drafted, awaiting approval: In these countries, a draft law or other draft measure exists to implement all or most of the provisions of the Code and subsequent WHA resolutions, and the draft is pending approval/adoption as law.

^bUNICEF. Available at: www.unicef.org/nutrition/files/nutrition_statusbfhi.pdf. Updated with information from Bolivia, Brazil, Costa Rica, Guatemala, and Paraguay from 2009 Pan-American Health Organization survey. Number of hospitals abstracted from *Health in the Americas* (Washington, DC: Pan American Health Organization, 2007).

^cWorld Alliance for Breastfeeding Action. Available at: <http://www.waba.org.my/whatwedo/womenandwork/pdf/MaternityProtectionChartAug2008.pdf>.

breastfeeding and resulting in increased infant morbidity and mortality.¹⁷ All countries in Latin America have adopted parts or all of the provisions of the Code (Table 1). However, most countries lack monitoring mechanisms, and numerous examples of violations exist.^{18,19}

A second major international policy initiative was the 1990 Innocenti Declaration, endorsed by the 45th World Health Assembly, which set 4 operational targets for governments to achieve by 1995.²⁰ These included appointment of a national breastfeeding coordinator, establishment of a multisectoral national breastfeeding committee, and an effort to ensure that all maternity services practice the “10 Steps to Successful Breastfeeding,” which provided the basis for the BFHI. As of March 2002, the number of hospitals certified as Baby Friendly in Latin America ranged from 3 to 692 per country; however, these numbers provide no information on overall coverage, given the vastly different number of hospitals in each country (Table 1). Data on the number of hospitals or health centers offering maternity services are available for some countries, showing that the proportion of Baby Friendly hospitals ranges from 1% to 52%. Only a few countries have a formal process of recertification; thus, it is unknown whether the practices required for certification are still in place.

To support the BFHI and build capacity in the region, a comprehensive program to train health professionals in lactation management, breastfeeding counseling, and developing national breastfeeding programs was supported by the World Health Organization, UNICEF, and USAID, among other agencies.²¹ Between 1983 and 1998, USAID funded a comprehensive lactation management education program that trained teams from developing countries. In Latin America, 218 health workers were trained from 15 countries (Audrey Naylor, MD, personal communication, 2003). This program was structured as a “training of trainers,” and participants were intended to replicate the courses upon their return to their home countries. Although many did, there are no systematic records of the number of national courses taught by trained trainers.

A third major operational target of the Innocenti Declaration was to “enact imaginative legislation to protect the rights of working women.” We found that most countries

provided 12 weeks of paid maternity leave, and several provided 18 weeks (Table 1). However, wages during leave were primarily paid by the country’s social security system, so women working in the informal sector were unlikely to be covered. Such women are usually the poorest and are likely to take only short breaks after giving birth because of the need for income. Brazil had legislation that worksites with at least 30 employees need to provide on-site day care, but enforcement was uneven.

Investment in Breastfeeding Promotion

The data on investment show a decline in investment in breastfeeding promotion in the 2000s relative to earlier years. USAID, recognized as the largest donor in the world for breastfeeding promotion, supported 10 major global projects with a significant breastfeeding component between 1979 and 2006. Global USAID spending on child nutrition, of which breastfeeding promotion was an important component, increased from \$8.3 million in 1989 to \$16.6 million in 1999 before declining

to approximately \$13.3 million in 2003.²² Between 1999 and 2005, investment in the breastfeeding portion of the flagship USAID-funded maternal and child nutrition project (including money spent on promoting the lactation amenorrhea method) declined from approximately \$4.9 million to \$2.3 million, while total project expenditures for the other 3 nutrition areas (prevention of mother-to-child transmission of HIV, complementary feeding, and maternal nutrition) increased from \$1.8 million to \$5.3 million, the vast majority of which went to prevent transmission of HIV (Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>). Funding for the International Code Documentation Center remained consistent from 1992 to 2006, with an average investment of \$180 000 per year; but that funding has since ceased (Annelies Allain, MA, personal communication, March 2009). The *BFHI Newsletter*, begun by UNICEF in 1991, stopped publication in 2003.

Questionnaires completed by ministry of health and IBFAN coordinators show that perceived investment in breastfeeding promotion

TABLE 2—Changes in Breastfeeding Promotion Investment and Breastfeeding Promotion Activities from 1990s–2000s, as Perceived by Ministry of Health and IBFAN Breastfeeding Coordinators: Latin America and the Caribbean, 2009

Breastfeeding Promotion Investment or Activity	Perceived an Increase, %	Perceived No Change, %	Perceived a Decrease, %
Ministry of Health breastfeeding coordinators			
Funding ^a	14	7	79
Certification of Baby-Friendly Hospitals ^a	50	7	43
Training	47	0	53
Code monitoring ^a	33	27	40
Material development and dissemination	47	0	53
IBFAN breastfeeding coordinators			
Funding ^a	0	9	92
Certification of Baby-Friendly Hospitals ^a	46	23	31
Training	23	15	62
Code monitoring	39	23	39
Material development and dissemination	31	8	62

Note. IBFAN = International Baby Food Action Network. The questionnaire was sent to breastfeeding coordinators at ministries of health in 17 countries (the 16 Spanish-speaking countries of Latin America and the Caribbean, and the Portuguese-speaking country of Brazil) and to the IBFAN breastfeeding coordinators who could be located in 14 of the same countries. The response rate for ministry of health breastfeeding coordinators was 88% (n = 15). The response rate for IBFAN breastfeeding coordinators was 93% (n = 13).

^aOne respondent reported “don’t know” to this question, so we excluded it from both the numerator and the denominator of calculation

has declined (Table 2). The most dramatic decline was in funding. Almost all the IBFAN coordinators reported declines in funding, with 1 reporting that after a long period of little to no funding, the funding levels had just recently been restored to 1990s levels. Eleven out of 14 (79%) ministry of health breastfeeding coordinators also reported declines in funding. Despite these limitations in funding, most breastfeeding coordinators for ministries of health or IBFAN were able to maintain some breastfeeding promotion activities, although at least half reported a decrease in training and a decrease in the number of materials disseminated.

Trends in Breastfeeding

Breastfeeding duration increased between the first survey and the last survey in all 13 countries represented in the breastfeeding trend analysis (Figure 1; Table A, available as a supplement to the online version of this article at <http://www.ajph.org>). The increases were large over the 4 to 20 years captured. In Bolivia and Colombia, breastfeeding duration increased by more than 5 months; in Brazil, El Salvador, Honduras, Nicaragua, and Peru, breastfeeding increased by more than 3 months; and in the Dominican Republic, Ecuador, and Haiti, breastfeeding increased by

more than 1.5 months. Although fewer data are available on exclusive breastfeeding among infants younger than 6 months, breastfeeding in this category also appeared to increase in many countries. In some countries, such as Brazil, Colombia, Haiti, and Peru, the increase was large; in others, such as the Dominican Republic, prevalence had decreased and was very low. In all countries, the prevalence of exclusive breastfeeding at the last survey was far below the recommended 100% of infants breastfeeding exclusively for the first 6 months.

When we examined changes in breastfeeding between the 2 intervals, a similar picture emerged (Table 3). Of the 12 countries represented in the first interval, breastfeeding duration increased in 9 countries (with increases ranging from 0.9 months to 6.2 months), decreased in 1 country (decrease of 0.6 months), and did not change in 1 country. The average annual increase in breastfeeding duration was 0.16 months per year. Of the 12 countries represented in the second interval, breastfeeding duration increased in 9 countries (with increases ranging from 0.3 months to 3.9 months) and decreased in 3 countries (ranging from 0.1 months to 2.1 months). The average annual increase in breastfeeding duration was 0.21 months per year. During this period, the

3.9-month increase in Nicaragua occurred entirely between the first 2 surveys (1997–1998 and 2001), and no further increase occurred between the second 2 surveys (2001 and 2006–2007). For the 11 countries with data for both time periods, 6 countries had larger positive changes in the first period, and 5 countries had larger positive changes in the second period (Table 3).

DISCUSSION

Our results show that in low-income and middle-income countries experiencing rapid socioeconomic and demographic changes, large improvements in exclusive breastfeeding and breastfeeding duration have occurred over the past 20 years. Although our analysis cannot establish a causal link between national breastfeeding programs and increases in breastfeeding duration, evaluations from Honduras and São Paulo, Brazil, along with numerous randomized, controlled trials, suggest that breastfeeding promotion does result in improved breastfeeding practices.

After a national breastfeeding program in Honduras, health provider knowledge increased, and nationally representative surveys

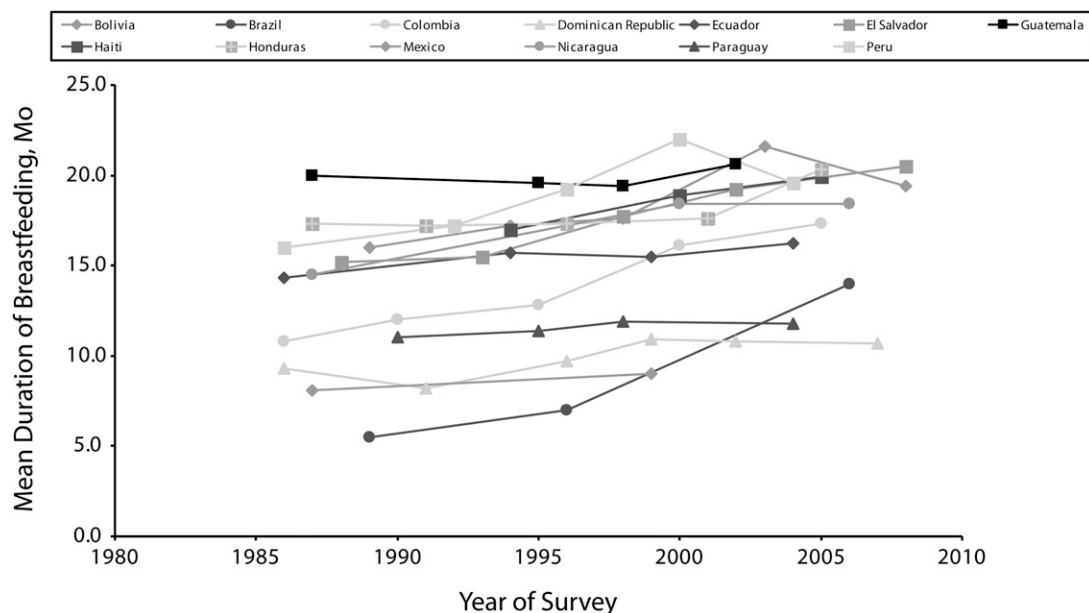


FIGURE 1—Changes in mean breastfeeding duration, by country: Latin America and the Caribbean, 1987–2008.

TABLE 3—Changes in Mean Duration of Breastfeeding from the 1980s–1990s to the 1990–2000s, by Country and Year of Survey: Latin America and the Caribbean, 1984–2008

Country	Survey Year 1	Survey Year 2	Mean Breastfeeding Duration		Difference, Mo	Annual Change, Mo
			Survey Year 1, Mo	Survey Year 2, Mo		
1980s–1990s (11-year average interval)						
Bolivia	1989	1998	16.0	17.6	1.6	0.18
Brazil	1986	1996	5.8	7.0	2.2	0.17
Colombia	1986	2000	10.8	16.1	5.3	0.38
Dominican Republic	1986	1999	9.3	10.9	1.6	0.12
Ecuador	1986	1999	14.3	15.5	1.2	0.09
El Salvador	1988	1998	15.2	17.7	2.5	0.25
Guatemala	1987	1998–1999	20.0	19.4	-0.6	-0.05
Haiti	1984	2000	17.0	19.9	2.9	0.18
Honduras	1987	1996	17.3	17.3	0	0
Mexico	1987	1999	8.1	9.0	0.9	0.08
Paraguay	1990	1998	11.0	11.9	0.9	0.11
Peru	1986	2000	16.0	22.2	6.2	0.44
Average across countries			13.4	15.4	2.0	0.16
1990s–2000s (6-year average interval)						
Bolivia	1998	2008	17.6	19.4	1.8	0.18
Brazil	1996	2006	7.0	14.0	3.0	0.70
Colombia	2000	2005	16.1	17.3	1.2	0.24
Dominican Republic	1999	2006–2007	10.9	10.7	-0.2	-0.03
Ecuador	1999	2004	15.5	16.2	0.7	0.14
El Salvador	1998	2008	17.7	20.5	2.8	0.28
Guatemala	1998–1999	2002	19.4	20.6	1.2	0.40
Haiti	2000	2005	18.9	19.9	1.0	0.20
Honduras	1996	2005	17.6	20.3	2.7	0.68
Nicaragua	1997	2006	14.5	18.4	3.9	0.43
Paraguay	1998	2004	11.9	11.8	-0.1	-0.02
Peru	2000	2004	22.2	19.6	-2.6	-0.65
Average across countries			15.8	17.4	1.6	0.21

before and after the program showed that the median duration of breastfeeding increased 2.5 months between 1981 and 1984 and 1.7 months between 1984 and 1987.²³ In Brazil, a national program included presenting information to health workers, research and scientific meetings, implementation of the Code, enforcement of maternity protection, and a mass-media campaign. A representative survey in São Paulo before and after the program found that the median duration of breastfeeding increased from 89 days to 128 days, and the median duration of exclusive breastfeeding increased from 43 days to 67 days.²⁴ Multiple randomized trials have consistently shown that breastfeeding can be increased through counseling provided early in

the postpartum period.^{25–29} Other studies have shown that changes in practices in maternity and health services also have significant effects.³⁰ Therefore, it is plausible that national breastfeeding promotion efforts contributed to the observed increases in breastfeeding.

Investment in breastfeeding promotion appears to have declined in the 2000s. Activities in support of breastfeeding have also declined, but not as much as they might have, considering the decline in funding. During the period when investment in breastfeeding was declining, funding for prevention of mother-to-child-transmission of HIV was increasing, likely reflecting shifting global priorities in funding related to the HIV/AIDS

epidemic. However, there is a mismatch between burden of disease and size of investment, as demonstrated by the fact that poor breastfeeding causes an estimated 69 320 deaths among children aged younger than 5 years in Latin America annually,³¹ whereas HIV/AIDS causes an estimated 5000 deaths among children aged younger than 15 years in Latin America annually.³²

There are several possible reasons for the relatively positive breastfeeding trends that have continued despite a decrease in investment and promotion activities. For instance, there may be a lagged effect by which investments made in the 1980s and 1990s are combining with the current lower level of promotion activities to still achieve a positive effect. This argument is supported by data showing that social normative factors, including multilayered support for breastfeeding from many segments of society, are important in predicting breastfeeding.³³ Social normative theory suggests that once a practice, such as wearing a seat belt, becomes a normative behavior, the practice continues even in the absence of policies and programs supporting it. Unlike seat belts, however, there are powerful market forces encouraging the use of substitutes for breast milk³⁴; therefore, there is a need for continued policies and enforcement of those policies, along with intermittent breastfeeding promotion campaigns.

It is also possible that the limited funds available were more effectively spent during the second period studied or that economic pressure at the level of the household precluded the purchase of infant formula, thus favoring breastfeeding. What is not known is how breastfeeding may change in the future in the absence of investment in promotion, particularly as new generations of health workers enter the labor force who are less likely to have the information and skills necessary to counsel mothers and ensure a favorable environment. Also, the level of exclusive breastfeeding—the behavior most associated with increased survival—is still far below the ideal.

Our study has some weaknesses. We do not have data on the timing, coverage, or quality of national breastfeeding programs during the 1980s and 1990s, and evidence of program impact is only available in 2 countries. Our

data showing declining USAID investment are not specific to Latin America, because only global data are available. Our data on perceived changes in investment in breastfeeding promotion in Latin America cannot be linked to changes in breastfeeding duration in specific countries, although there is a large overlap in the countries with both sets of data.

Our study also has strengths. We identified 55 nationally representative surveys that show a fairly compelling picture of increases in exclusive breastfeeding and breastfeeding duration during a period when breastfeeding was well known to be high on the health agenda, with concomitant investment from a number of donors. We also documented a decline in investment in breastfeeding promotion and a reduction in activities proven to yield positive effects on breastfeeding. It is not known whether the decreases in breastfeeding duration observed in Peru, the Dominican Republic, and Paraguay, and the stagnation in Nicaragua, may also be occurring in other countries. There is a need for additional analyses as more surveys become available and for continued monitoring of investments and programs that support breastfeeding. An understanding of why breastfeeding duration continues to improve in some countries despite limited investment would also be useful.

A 1994 editorial noted,

If a new vaccine became available that could prevent 1 million or more child deaths a year, and that was moreover cheap, safe, administered orally, and required no cold chain, it would become an immediate public health imperative. Breastfeeding can do all this and more.^{35(p170)}

Our study highlights the need for renewed investment in policies and programs that promote breastfeeding, maintain the gains already achieved, and strive to improve on them. Although national efforts to promote breastfeeding likely resulted in large and measurable improvements in breastfeeding throughout Latin America and the Caribbean, it is not known if these gains and further improvement in breastfeeding will continue, because investments needed to support them have not been sustained. Perhaps it is time to put breastfeeding promotion back on top of the international health agenda, where it belongs. ■

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Contributors

C.K. Lutter conceptualized the study and wrote the first draft of the article. C.M. Chaparro contributed to the analysis and the writing of the article. L. Grummer-Strawn contributed epidemiological expertise to the analysis and interpretation of the data. C.G. Victora made substantive comments on the design of data collection and on the interpretation of the data.

Human Participant Protection

No protocol approval was required because no human research participants were involved.

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