Politics, Policy, and Mortality Decline in Costa Rica

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"Politics, Policy, and Mortality Decline in East Asia and Latin America"

James W. McGuire
Department of Government
Wesleyan University
Middletown, CT, 06459-0019
USA
Tel: (860) 685-2487
Fax: (860) 685-2781
email: jmcguire@wesleyan.edu

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Summary: This chapter explores the politics and policies that led to rapid infant mortality decline in late twentieth-century Costa Rica. It assesses the quality of mortality data and describes the evolution of mortality levels during the twentieth century, especially from 1960 to 1995, and then explores the impact on infant mortality rates of (a) economic factors, including GDP per capita, income inequality, and income poverty; (b) government policies in education, family planning, and the provision of safe water and adequate sanitation; and (c) health care, especially primary care and nutritional intevention. The chapter concludes by assessing the impact of democracy, presidential leadership, bureaucratic initiative, interest-group pressure, cultural values, and international influence in explaining the expansion of basic health services in the 1970s and 1990s. Its main conclusions are that government primary health care programs contributed decisively to infant mortality decline in Costa Rica from 1960 to the early 2000s, and that democracy, particularly via electoral competition and community empowerment, contributed to the effective implementation of such programs.

Chapter 3
Costa Rica

The extension of basic health services to the poor made a decisive contribution to infant mortality decline in Costa Rica from 1960 to the early 2000s. When governments introduced community-based health and nutrition programs in poor rural and urban areas in the 1970s, infant mortality plummeted. When primary care delivered by Comprehensive Basic Health Care Teams (EBAIS) became the gateway to the entire health system in the mid-1990s, infant mortality decline sped up after fifteen years of slow progress. This chapter explores the politics and policies that led to rapid infant mortality decline in late twentieth-century Costa Rica. After assessing the quality of mortality data and describing the evolution of mortality levels during the period analyzed, the chapter explores the impact on mortality rates of (a) economic factors, including GDP per capita, income inequality, and income poverty; (b) government policies in education, family planning, and the provision of safe water and adequate sanitation; and (c) health care, especially primary care and nutritional intevention. The chapter concludes by assessing the impact of democracy, presidential leadership, bureaucratic initiative, interest-group pressure, cultural values, and international influence in explaining the expansion of basic health services in the 1970s and 1990s.

3.1. Costa Rica: Quality of Mortality Data and Evolution of Mortality Rates

Costa Rica is one of eleven developing countries whose vital registration statistics in 1995 are characterized by Hill et al. as both complete (recording at least 90 percent of births and deaths) and accurate (producing mortality estimates similar to those based on census and survey data).[1] Before 1970, however, infant deaths were underreported. In 1960, according to vital registration statistics, infant mortality was 74 per 1000, whereas survivorship questions asked in censuses and surveys yielded an estimate of 87 per 1000.[2] In 1964, after a study found that 16 percent of under-two deaths in hospitals had been omitted from the vital registries, the government took action to improve the registration process.[3] Estimated infant death underregistration fell from 15 percent in 1964 to 5 percent in 1968.[4] By 1970 the vital registration-based infant mortality rate of 62 per 1000 had converged with census and survey estimates, and by 1995 the vital registration rate was higher than a census and survey based estimate (13 vs. 12 per 1000).[5] The Hill et al. census and survey-based infant mortality estimates

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[1] Hill et al. 1999. Argentina and Chile were other countries with reasonably complete and accurate vital registration. In the other five cases covered in this book, infant mortality rates must be estimated from census and survey data.

[2] Vital registration and census and survey figures from United Nations 1992: 95-98; estimate based on census and survey data from Hill et al. 1999: 66.

[3] Rosero-Bixby 2000b.

[4] Behm 1976: 3.

[5] Hill et al. 1999. A large country-specific literature confirms that Costa Rica's vital registries have been more complete and accurate than those of most other developing countries (Alvarez 1968: 12, 38; Porras 1976: 2; Haines and Avery 1982: 35). Underregistration of total deaths fell from 12-14 percent in the 1960s and 1970s to 8 percent in the early 1980s. These figures were well below the Latin American average throughout this period (Jaspers-Faijer and Orellana 1996: 46). The Pan American Health Organization estimated that 5 percent of total deaths were unreported in 1990 (PAHO 1994: 433), that death reporting was

are taken here as definitive for 1960 and 1965 (Table 3.1). After 1970, the vital registration and Hill et al. statistics coincide closely.

[Insert Table 3.1 About Here]

In 1995, Costa Rica had the longest life expectancy and the lowest level of adult (15-60) mortality among the eight cases studied in this book. It ranked only fourth on lowness of infant and under-5 mortality, but the top four cases were clustered tightly together (Table 1.3). Compared to all countries for which data are available, Costa Rica in the mid-1990s ranked 42nd of 173 on lowness of infant mortality; 37th of 150 on lowness of under-5 mortality; 20th of 182 on lowness of adult mortality; and 27th of 189 on life expectancy at birth.[6] By 2003, Costa Rica's life expectancy at birth exceeded that of the United States (78.2 vs. 77.4 years), and its infant mortality rate was only slightly higher than the US rate (8 vs. 7 per 1000).[7] As for progress, Costa Rica did comparatively well from 1900 to 1960 as well as from 1960 to 1995. In the earlier period, life expectancy at birth nearly doubled from 32 to 62 years (the third greatest gain among twelve Latin American countries for which data are available), while infant mortality fell from 208 to 87 per 1000 (the fourth greatest gain among eight Latin American countries with available data).[8] In the later period from 1960 to 1995, Costa Rica ranked second on life expectancy gain and fourth among infant mortality decline among the eight cases treated in this book (Table 1.3), and second on both life expectancy gain and infant mortality decline among 20 Latin American countries.[9] Among all countries for which data are available, Costa Rica from 1960 to 1995 ranked 24th of 173 on percent decline of infant mortality; 19th of 173 on percent decline of under-5 mortality; 23rd of 146 on percent decline of adult mortality; and 11th of 164 on percent rise in life expectancy.[10]

Vital registration statistics may be used with reasonable confidence to measure infant mortality trends from 1970, when they began to coincide closely with census and survey estimates, to 1995. From 1973, when the Rural Health Plan was introduced, to 1980, when a recession reduced incomes and forced cuts in the primary health care budget, infant mortality fell from 45 to 22 per 1000. For the 1970s as a whole, infant mortality fell from 62 to 22 per 1000, a decline that has been called a world record for a single decade.[11] The percent decline of infant mortality in the first five years of Costa Rica's Rural Health Plan (1973-78) was greater than the

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complete in 1993 and 1996 (PAHO 1998b: 455; PAHO 1999), and that 7 percent of total deaths were unreported in 2000-2005 (PAHO 2005).

[6] Infant mortality data are for 1996 (UNICEF 1998); under-5 mortality data are for 1995 (UNICEF 1997); adult mortality data are for 1997 (World Bank 2002); and life expectancy at birth data are for 1995 (World Bank 2002).

[7] UNDP 2005: 219 (life expectancy), 250 (infant mortality).

[8] Life expectancy data from Astorga and Fitzgerald 1998: 32; infant mortality data from Collver 1965 (for 1900-04) and Hill et al. 1999 (for 1960). Data aggregated in McGuire and Frankel 2005: 86.

[9] Among the 20 Latin American countries, only Chile raised life expectancy and reduced infant mortality faster than Costa Rica from 1960 to 1995 (McGuire and Frankel 2005: 85). Infant mortality data from Hill et al. 1999; life expectancy data from World Bank 2002.

[10] Infant and under-5 mortality data, for 1960-1996, are from UNICEF 1998; adult mortality data, for 1960-1997, and life expectancy data, for 1960-1995, are from World Bank 2001.

[11] Drèze and Sen 1989: 244; Garnier et al. 1997: 367.

percent decline in the five-year period that followed the introduction of any of ten other nationwide community-based nutrition and health policies reviewed in this book (Table 13.4). Infant mortality continued to fall during the 1980s and 1990s, but at a slower pace than during the 1970s (Table 3.1).[12] It took Costa Rica 15 years (1980 to 1995) to reduce its infant mortality rate from 22 to 12 per 1000 (Table 3.1); it took Chile only 10 years (1985 to 1995) to reduce its rate from 22 to 11 per 1000 (Table 4.1).

What needs to be explained, then, is why Costa Rica's infant mortality rate was so low in 1995 ("level"); why it fell so fast from 1960 to 1995 ("progress"), and why it fell faster during some intervals than others within this period ("tempo"). The extension of basic health services to the poor, it is argued here, is an important part of the explanation for why Costa Rica managed to do so well at reducing infant mortality despite its slow economic growth, high income inequality, and disappointing progress at reducing income poverty.

3.2. Costa Rica: Affluence, Inequality, Poverty, and Mortality

Costa Rica's GDP per capita grew slowly but steadily from 1960 to 1980 (Table 3.2), aided by the growth of traditional agricultural exports (mostly coffee and bananas) and, after it joined the Central American Common Market in 1963, of small-scale industry. Political stability, which by the late 1970s distinguished Costa Rica from most of its Central American neighbors, also aided growth.[13] Like many Latin American countries, Costa Rica borrowed heavily abroad during the 1970s, due partly to misguided forays into state-led industrial investment and partly to burgeoning social spending.[14] By 1980, Costa Rica's fiscal deficit was 7.4 percent of GDP, and the country had one of the highest per capita foreign debts in the world. The rise of interest rates at the end of the 1970s, together with falling coffee prices, soaring oil prices, and the evaporation of foreign loans, precipitated an economic crisis. The government of president Rodrigo Carazo (1978-82) of the Partido de Unidad Socialcristiana (PUSC, Social Christian Unity Party, one of the country's two major political parties at the time) responded to these economic challenges by tightening the money supply, raising taxes and interest rates, cutting public spending, and devaluing the currency.[15] These measures, along with the recessionary effects of the crisis itself, led to a sharp rise in unemployment and a 40 percent drop in real wages.[16] The worst of the recession ended in 1983, but sustained economic growth did not resume until 1990. From 1981 to 1990 GDP per capita fell 6 percent, the third-highest drop in Latin America after Argentina and Venezuela.[17]

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[12] Recall that percent decline (unlike absolute decline) is not subject to a "baseline" effect as the infant mortality rate approaches its asymptote of 0 per 1000. Using the percent decline indicator, a drop from 10 to 9 per 1000 gets exactly as much credit as a drop from 100 to 90 per 1000 (10 percent in each case).

[13] Clark 2001: 34-40.

[14] On industrial investment see Clark 2001: 40-42; on health and education spending see Wilson 1998: 102. The primary health care programs of the 1970s accounted for only a tiny fraction of health care spending (Section 3.5).

[15] The colón fell from 8.6 to 37.4 to the US dollar between 1980 and 1982. Mesa-Lago 2000a: 508.

[16] Fields 1988: 1499-1505.

[17] Mesa-Lago 2000b: 314.

[Insert Table 3.2 About Here]

President Monge (1982-86), although from the rival Partido Liberación Nacional (PLN, National Liberation Party), maintained the orthodox economic policies initiated by Carazo. With the help of a ten-fold increase in foreign aid from the Reagan administration in the United States, which made ample use of Costa Rican territory in its effort to overthrow the Sandinistas in Nicaragua,[18] Monge during his term in office reduced inflation from 90 to 12 percent. He also enacted import-duty rebates and other policies to stimulate exports of textiles, seafood, pineapple, flowers, and houseplants.[19] Monge's successors maintained these export-promotion policies through the early 1990s, leading to a resumption of steady economic growth. The governments of José Figueres Olsen (PLN, 1994-1998) and Miguel Angel Rodríguez (PUSC, 1998-2002) engineered a boom in manufactured exports, first by wooing foreign-owned clothing plants and then by attracting two large semiconductor factories.[20] From 1995 to 1999, manufactures rose from 25 to 68 percent of Costa Rican exports (Table 11.3).[21] By 2000, Costa Rica's economic model had changed from commodity-financed import substitution to manufactured export promotion, some thirty-five years after South Korea and Taiwan and a decade after Indonesia and Thailand.

Before the speedup of economic growth in the 1990s, however, Costa Rica grew slowly. Among the eight cases studied in this book, Costa Rica from 1960 to 1995 ranked seventh on GDP per capita growth, with an average annual rate of 1.3 percent, barely above Argentina's 1.1 percent (Table 1.4). Among eighteen Latin American countries, Costa Rica ranked tenth on GDP per capita growth during this period.[22] In a broader cross-national perspective, Costa Rica from 1960 to 1995 ranked 68th of 110 at GDP per capita growth (and only 57th of 69 countries outside sub-Saharan Africa).[23] Regression analysis shows, moreover, that among 105 developing countries, Costa Rica's infant mortality rate in the early 1990s was extremely low for its level of GDP per capita.[24] The "wealthier is healthier" interpretation is thus inconsistent both with Costa Rica's overall progress at reducing infant mortality from 1960 to 1995, and with its level of infant mortality in 1995.

The tempo of infant mortality decline within the period from 1960 to 1995 seems more consistent with the "wealthier is healthier" claim. The fastest economic growth took place from 1970 to 1980, which was also the period of fastest infant mortality decline. From 1980 to 1985, when economic growth was negative, infant mortality decline slowed nearly to a halt (Table 3.2).

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[18] Booth 1998: 162, 216.

[19] Wilson 1998: 116, 123.

[20] On clothing exports see Mesa-Lago 2000a: 471-72; on semiconductor exports see Clark 2001: 59-60, 108.

[21] Coffee, bananas, sugar, and beef fell from 90 percent of total exports in 1950 to 14 percent in 2001 (Rodríguez Clare, Sáenz, and Trejos 2002: 6).

[22] Infant mortality data from Hill et al. 1999; GDP per capita data from Heston, Summers, and Aten 2002.

[23] GDP per capita growth calculated using the RGDPH variable in Heston, Summers, and Aten 2002.

[24] Regressing the natural log of infant mortality in 1990 on the natural log of GDP per capita in 1990 across 105 developing countries (including Taiwan) for which data are available, Costa Rica's residual was -0.66, 8th lowest among the 105 cases, indicating a much lower rate of infant mortality than predicted by GDP per capita.

On closer observation, however, the picture is muddier. First, income inequality rose from 1970 to 1980, offsetting some of the gains of GDP per capita growth, and fell from 1980 to 1985, offsetting some of the costs of GDP per capita decline. Second, US foreign aid in the early 1980s "lessened the health-related impacts of the economic crisis for all social classes."[25] Third, although GDP per capita growth resumed after 1985, infant mortality declined no faster, and life expectancy rose more slowly, from 1985 to 1990 than from 1980 to 1985 (Table 3.1). Fourth, GDP per capita growth during the 1970s was slower in Costa Rica than in most of the other cases studied in this book, but Costa Rica outpaced them all at infant mortality decline during the decade.

Costa Rica has a well-known ethos of egalitarianism. Even the president is expected to live frugally and to be accessible to ordinary people.[26] In a Latin American perspective, Costa Rican income inequality from 1960 to 1995 was low. At the end of this period, the Gini index was 46.5 (Table 3.2), fourth lowest among sixteen Latin American countries for which data are available.[27] In a global perspective, however, Costa Rican income inequality was high. According to a comparison based on about 700 "high quality" Gini estimates in 106 countries from 1947 to 1990, Costa Rica's Gini index (averaging nine observations between 1961 and 1989) was 46.0, compared to a 106-country mean of 41.7.[28] One reason for this high income inequality was high land inequality. Smallholders dominated coffee and food production, but large landholdings prevailed in the cattle, banana, and oil palm sectors. Costa Rica's Gini index of land inequality was estimated to be 67.0 in the 1970s and 1980s, above the median for 18 Latin American countries and 11th highest among 61 countries with available data.[29] Costa Rica in 1995 thus achieved low infant mortality despite high income inequality as well as low GDP per capita. Its rapid decline of infant mortality from 1960 to 1995 was not inconsistent with its modest 3.5-point drop in the Gini index over the 35-year period, but from 1970 to 1995, when most of the infant mortality decline took place, income inequality rose. The Gini dropped sharply during the 1960s, when infant mortality decline was comparatively slow; and then rose in the 1970s, when infant mortality plummeted (Tables 3.1 and 3.2).

Turning to income poverty, the share of households recieving less than about US $100 per month plunged from 65 percent in the early 1960s to 30 percent in the early 1970s, but this sharp decline in poverty coincided with only a modest fall in the infant mortality rate.[30] Two studies suggest that the poverty headcount measured using Costa Rican colones fell sharply from

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[25] Morgan 1987: 101.

[26] In the late 1960s, the presidential residence was a cramped, noisy apartment in an industrial zone next to a foul-smelling rum distillery (Denton 1971: 104). Luis Alberto Monge had his pocket picked in San José while president from 1982 to 1986 (Biesanz, Biesanz, and Biesanz 1999: 77).

[27] Data from Londoño and Székely 1997, except Argentina (from Altimir and Beccaría 2001: 590), Uruguay (from IADB 2000a: 6), and El Salvador, Nicaragua, and Paraguay (World Bank 2000: 282-83). Data organized in McGuire 2001c: 44.

[28] Deininger and Squire 1996: 574-77.

[29] Jazairy, Alamgir, and Panuccio 1992: 416-417.

[30] Poverty figures from González Vega and Cespedes 1993: 45. If the poverty line is placed at about US $50 per month, then the poverty headcount fell from about 20 to 10 percent from the early 1960s to the early 1970s.

1971 to 1977, rose sharply from 1977 to 1983, and fell sharply again from 1983 to 1986.[31] This pattern coincides roughly with the pace of infant mortality decline, but another study using a colon-denominated poverty line finds that poverty headcount was steady from 1970 to 1985 (Table 3.2), which is inconsistent with the pace of infant mortality decline (fast in the 1970s, slow in the 1980s). If poverty is measured in US dollars, moreover, its evolution is dramatically different than that of the infant mortality rate: the dollar-denominated poverty headcount soared during the 1970s, a period of rapid infant mortality decline, and then fell during the 1980s, a period of slower infant mortality decline (Tables 3.1 and 3.2). Hence, if "wealthier" is measured by income poverty decline, the Costa Rican case provides at best weak suppport for the "wealthier is healthier" view. It seems reasonable, then, to explore the possibility that social service provision, rather than overall affluence or private income (even among the poor), best explains why Costa Rica attained a low level of infant mortality in 1995; made rapid progress at reducing infant mortality from 1960 to 1995; and achieved faster declines in some periods than in others during that time span.

3.3. Costa Rica: Education, Family Planning, Safe Water, and Adequate Sanitation

In 1995, public social spending per capita was $536 in Costa Rica, compared to $597 in Chile, $932 in Brazil, and $1,532 in Argentina.[32] This $536 represented about 13 percent of GDP. Of this $536, 36 percent went to health care, 27 percent to education, 25 percent to pensions, and 5 percent to housing.[33] Costa Rican public social spending achieved a formidable "bang for the buck," as measured by mortality indicators, in part because it was allocated more progressively than in many other countries. From 1980 to 2000, the poorest fifth of the Costa Rican population received 21-23 percent of total public social spending, including 25-29 percent of public health care spending.[34] In 2000, the most progressive subsectors were, in order of progressivity, nutrition programs, non-contributory pensions, income transfers to vulnerable groups, primary health care, and school lunch programs. Of these sectors, only income transfers to vulnerable groups and primary health care made up more than 2 percent of total social spending. The most regressive subsectors were contributory pensions, where the richest quintile of the income distribution received 56 percent of benefits and the poorest quintile 5 percent, and post-secondary education, where the richest quintile received 45 percent and the poorest quintile 3 percent.[35]

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[31] Figures from studies by PREALC and Sauma and Trejos summarized in Mesa-Lago 2000a: 525.

[32] In 1997 US dollars (CEPAL 2002: 269).

[33] Other programs totalled 1 percent. Durán-Valverde 2002: 5. 80 percent of "social security" spending went to old age, disability, and other pensions; another 20 percent went to "social assistance" programs. Another study (CEPAL 2002: 269, 271) put total public social spending at 16 percent of GDP in 1995, 4.7 percent of GDP going to health care and 4.1 percent to education.

[34] Garnier et al. 1997: 374-77, who record that on the financing side, 48 percent of social spending in 1992 came from payroll, income, and property taxes, most of which are paid by the richest 80 percent of the population. The remaining 52 percent came from value-added, sales, and foreign trade taxes.

[35] Trejos 2002.

Costa Ricans during the nineteenth century are said to have developed a "virtual love affair" with education, making teaching and learning a "virtual civil religion."[36] The 1892 census showed that 42 percent of Costa Ricans were literate, a level not reached in Mexico or elsewhere in Central America until half a century later. Anti-female bias in education was remarkably low, with positive implications for the infant mortality rate.[37] Compared to the seven other cases treated in this book, however, neither Costa Rica's level of educational attainment in 1960, nor its progress at improving education from 1960 to 1995, were exceptional (Table 11.2). Gains were especially slow from 1975 to 1995 (Table 3.3), when public education spending declined as a share of both the budget and GDP.[38] Moreover, high fertility through the mid-1960s (Table 3.3) strained educational resources in the 1970s and 1980s. The situation was especially bad during the recession of the 1980s, when school buildings crumbled, teacher hiring slowed, the school day and year shrank, and dropout rates rose.[39] The resources that remained available, moreover, were not well allocated. Administration absorbed an excessive share of the public education budget, and the system subsidized the rich through the public university system. By the late 1990s, "virtually free access to public higher education ha[d] placed a great and growing burden on the state and created a vast and easily mobilized constituency of university students and faculty."[40] Not least because of the political clout of students, professors, and university employees, 36 percent of public education spending in Costa Rica went to higher education in the late 1980s. Among the other seven cases treated in this book, only Argentina in the late 1980s allocated more than 20 percent of public education spending to universities.[41] One result of the high level of university spending, however, was a steady stream of medical and public health graduates on the front lines of the battle against infant mortality.

[Insert Table 3.3 About Here]

From 1960 to 1995, the total fertility rate in Costa Rica fell from 7.3 to 2.8 expected births per woman (Table 3.3). In Latin America during this period only Cuba experienced a faster percent decline in fertility. Taiwan, South Korea, and Thailand all achieved faster fertility declines than Costa Rica from 1960 to 1995, but this is tough competition: among 165 countries with data for both years, Costa Rica ranked 16th.[42] During the 1960s, modernization rather than family planning was the main force behind fertility decline.[43] Private groups began to dispense contraceptives in 1962, but the share of women aged 15-49 who reported using them did not exceed one percent until 1967, when the government approved a national family planning

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[36] Booth 1998: 93-94. These reported attitudes call to mind the "zeal for education" that is reported to exist in South Korea (Seth 2002).

[37] In 1963, among the elderly population aged 65 years and older, median years of education were 3.4 years for males and 3.3 years for females (Stycos 1982: 16). In the 1990s, there were no appreciable gender differences in literacy or in the enrollment ratio at any level of education (Mesa-Lago 2000b: 287).

[38] Garnier et al. 1997: 372; Durán-Valverde 2002: 5-6.

[39] Mesa-Lago 2000a: 498; Booth 1998: 95.

[40] Booth 1998: 94-95.

[41] UNDP 1993: 164. Argentina's 47 percent was the highest share in the world; South Korea's 7 percent was one of the lowest. By 2000, the Costa Rican share had fallen to 21 percent (Trejos 2002: 4).

[42] Fertility figures from World Bank 2001, except Taiwan, from Table 7.3.

[43] Reynolds 1973, Stycos 1982.

program with the "tacit consent of the Church."[44] The government placed the first family planning clinics in poor regions of the country, and from 1970 to 1974 the share of 15-49 year-old women accepting a contraceptive method through the program rose from 17 to 54 percent. By 1981, two-thirds of contraceptive users and almost 90 percent of users dependent for income on agricultural labor received family planning services from the state. In 1972, panels of experts ranked Costa Rica 7th among 94 developing countries in family planning effort.[45] By 1970, family planning had displaced modernization as the main force behind fertility decline.[46] A cross-canton analysis relating fertility to family planning utilization and socioeconomic factors shows a strong effect for family planning from 1968 to 1974.[47] Family planning weakened with the election in 1978 of president Rodrigo Carazo of the socially conservative Partido de Unidad Socialcristiana (PUSC).[48] Between 1972 and 1982 Costa Rica's family planning effort score fell from 70 to 33 (Table 3.3). Only Iran registered a sharper drop during the interval.[49] The score rose again to 55, however, under the Partido Liberación Nacional (PLN) governments of Luis Alberto Monge (1982-1986) and Oscar Arias (1986-1990). Neglect of family planning under the PUSC in the late 1970s coincided with slower fertility decline; its rebound under the PLN in the 1980s concided with faster fertility decline (Table 3.3).

In 1960, 59 percent of Costa Ricans had access to safe water and 69 percent had access to improved sanitation (Table 3.3). These shares were far higher than in the other cases treated in this book. Despite starting from this already high level, Costa Rica made steady progress over the next few decades. By 1995, 92 percent of Costa Ricans had access to safe water, and 92 percent had access to improved sanitation (Table 3.3). Encouraging this progress was the creation in 1961 of the Institute of Aqueducts and Sewers, which helped to raise access to safe water and sanitation in rural areas, especially in the late 1960s and early 1970s. From 1970 to 1972, the share of rural households connected to a water supply rose from 39 to 56 percent. The growth in the share of the population with access to safe water and sanitation coincided with a sharp decline in the prevalence of intestinal parasites and in the death rate from diarrhea, parasitic infections, and "other infectious diseases," particularly from about 1965 to 1980.[50]

Costa Rica by the 1990s thus had an inclusive social security system, progressive financing and allocation of social services, a moderately effective educational system that was not manifestly biased against females, a strong family planning program, and a large share of the population with access to safe water and adequate sanitation. Making these achievements even

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[44] Contraceptive use from Reynolds 1973: 314-15 ; quotation from Ameringer 1978: 235. The program began to provide services in 1968 (Nelson 1983: 82-83).

[45] Contraceptive acceptance from Stycos 1982: 25; use of state family planning from Rosero-Bixby 1986: 60; expert ratings from Ross and Mauldin 1996: 146.

[46] Reynolds 1973, Stycos 1982.

[47] Stycos 1982: 27-28. As of 2000, Costa Rica's seven provinces were subdivided into 81 cantons.

[48] Gendell 1989: 17-18.

[49] Ross and Mauldin 1996: 146.

[50] Surveys showed a 10-fold decline in the prevalence of intestinal parasites from 1966 to 1982 (Mata 1985: 69-70). Between 1965 and 1980, deaths from diarrheal diseases fell from 130 to 10 per 100,000, and deaths from parasitic and "other infectious diseases" fell from 73 to 10 per 100,000 (Rosero-Bixby 1985a: 364).

more impressive, 44 percent of the Costa Rican population lived in rural areas in 1995, a much higher proportion than in the three other rapid infant mortality reducers treated in this book.[51] All else equal, it is harder to deliver social services in rural than in urban areas. Costa Rica's strong record on social service provision stands in sharp contrast to its sluggish economic growth, high income inequality, and slow poverty decline. Analysis of the health care system furnishes additional evidence that social service provision, especially in the form of community-based health and nutrition programs in the 1970s, rather than economic factors or overall modernization, provides the most compelling explanation for Costa Rica's rapid infant mortality decline from 1960 to 1995, for the tempo of infant mortality decline within that period, and for the low level of infant mortality achieved in 1995.

3.4. Costa Rica: Health Care and Nutrition

In 1995, total spending on health in Costa Rica was 6.2 percent of GDP, or $428 per capita. Three-quarters of this spending came from the public sector (Table 3.4), which in 2000 employed 90 percent of Costa Rican doctors (one-third of whom also had private practices) and ran all but six small hospitals.[52] The public sector in Costa Rica thus dominated health care financing, risk pooling, and service delivery to a degree not found in any of the other cases studied in this book.

[Insert Table 3.4 About Here]

Gauged by mortality indicators, Costa Rican health spending was efficient. In 1995, total health spending per capita in Costa Rica was only 0.2 standard deviations above the mean for 20 Latin American countries, but life expectancy was 1.2 standard deviations above the mean and infant mortality was 1.0 standard deviations below the mean.[53] Costa Rica had a more progressive distribution of public health expenditure than existed in most other Latin American countries for which data are available.[54] In the 1990s, 38 percent of public primary care and 27 percent of public curative care spending benefited the poorest fifth of the population. Public health expenditure was even more progressive in Chile, where 56 percent of public health care spending benefited the poorest fifth of the population.[55] Chile's expenditure was more progressive than Costa Rica's in part because many wealthy and middle-class Chileans made little use of the public sector (Section 4.4). In Costa Rica, by contrast, better-off citizens faced a

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[51] The rural share of the population was 22 percent in South Korea, 16 percent in Chile, and 6 percent in Taiwan (Table 11.1). It should be noted, however, that rural population density in Costa Rica is relatively high; many agriculturalists live in the Central Valley, near the capital city of San José.

[52] Clark 2004: 192.

[53] Total health spending per capita figures from PAHO 1998a: V. I, 315; life expectancy at birth figures from UNDP 1999; infant mortality figures from Hill et al. 1999. Life expectancy and infant mortality figures are organized in McGuire 2001c: Tables 3 and 4.

[54] Suárez-Berenguela 2000: 42. This source indicates that in Chile, 31 percent of public health care spending went to the poorest fifth and 8 percent to the richest fifth of the population. The share of public health spending going to the poorest fifth of the population in the other countries in the 1990s was 31 percent in Argentina, 27 percent in Colombia, 25 percent in Jamaica, 20 percent in Peru, 13 percent in Ecuador, and 13 percent in Guatemala (no figure is given for Costa Rica).

[55] Costa Rican figure from Trejos 2002: 4, 15; Chilean figure from Chile. MIDEPLAN 2003b.

situation in which almost all inpatient facilities were in the public sector and in which private health insurance companies were forbidden to sell health insurance directly to the public.[56] Hence, it stands to reason that middle and upper-class people would absorb a greater share of public health spending in Costa Rica than in Chile.

Costa Rican nutrition programs began in 1951, when the Ministry of Public Health, in collaboration with UNICEF, began to distribute milk free of charge to infants, school children, pregnant women, and new mothers. By the end of the 1960s the Ministry had set up clinics in the capital city, San José, to rehabilitate seriously malnourished children from around the country, and had opened in the capitals of provinces and cantons 124 Nutrition Centers, which provided a mid-morning snack to children aged 2 to 6, gave nutritional aid to pregnant and breast-feeding women, and distributed free food every two weeks to families with undernourished children. As late as 1966, however, only 10 percent of young children and only 3 percent of expectant mothers were receiving free food at Nutrition Centers, and a survey indicated that 57 percent of children "showed some degree of malnutrition according to the weight for age classification."[57]

After 1970, state-sponsored nutrition programs improved dramatically. In 1971, the Figueres Ferrer government created the Instituto Mixto de Ayuda Social (IMAS), which launched targeted nutrition interventions around the country.[58] From 1968 to 1978 the number of Nutrition Centers rose from 124 to 471. The share of children and pregnant women who received food from a Nutrition Center did not rise rapidly during the 1970s, but the food distributed improved in quality and was targeted more effectively to the poor, and the proportion of schools serving free breakfasts and lunches rose from 44 percent in 1975 to 95 percent in 1981.[59] These nutritional interventions helped to reduce the share of under-5 children with moderate or severe malnutrition from 13.5 percent in 1965 to 8.6 percent in 1978.[60] Rural calorie and protein intake rose very little during this period, however, underscoring "the need to relate nourishment and health not to food entitlements as such but to a broader notion of entitlements including command over non-food items" such as health care.[61] Additional progress occurred from 1975 to 1982, when the share of under-5 children with "malnutrition due to insufficient calorie and protein intake" fell from 53 to 34 percent, and when cases of severe malnutrition declined by almost ninety percent.[62] Progress continued during the 1980s and 1990s; the share of Costa Rican 6-8 year-olds who suffered from stunting (measuring more than two standard deviations

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[56] Herrero and Durán 2001: 32. A small number of private insurance policies, accounting for less than one percent of total health spending, are sold by the state through the Instituto Nacional de Seguros (Clark 2005: 4).

[57] Vargas 1995: 97.

[58] Mesa-Lago 2000b: 290. The IMAS also administered housing subsidies and cash transfers to the poor.

[59] Vargas 1995: 98, 105. Over the next decade, however, some government nutrition programs lost momentum. In 1994, school children, who during the 1970s had received two free meals a day at public schools, "got only one small sandwich a day -- if local raffles and fairs generated enough income" (Biesanz, Biesanz, and Biesanz 1999: 151).

[60] Costa Rica. Ministerio de Salud 1980: 28-30. The proportion of under-5 children below 90 percent of the expected height for age fell from 17 percent in 1965 to 7 percent in 1978. Infant deaths attributable to malnutrition reportedly fell 70 percent between 1970 and 1976, largely because of "a government program that offered two free daily meals to schoolchildren, their mothers, and their preschool siblings" (Biesanz, Biesanz, and Biesanz 1999: 150).

[61] Drèze and Sen 1989: 284.

[62] Mesa-Lago 2000a: 459. Cases of severe malutrition fell from 1,234 in 1972 to 142 in 1980 (Mohs 1983: 28).

below the normal height for age) fell from 20 percent in 1979 to 13 percent in 1983 to 10 percent in 1989 and to 7 percent in 1997.[63]

Public health interventions in Costa Rica date back to 1805, when traditional healers were mobilized to vaccinate the population against smallpox. Vaccination of children by "town doctors" began in the 1840s, and by the late 1890s vaccination had become "systematic and effective," aided by "the successful extension of public primary education into many rural communities by the 1880s."[64] The first public assistance hospital opened in 1845, but as of 1900 fewer than 50 doctors practiced in the country.[65] In the first decade of the 20th century, the United Fruit Company built a hospital in the Atlantic port of Limón and began a program to fight malaria.[66] The company's health activities were profit-oriented, racist, and non-participatory, but they improved sanitary and health conditions, and even a critic acknowledges that "without United Fruit's sanitation programs, Costa Rica's only Atlantic port [Limón] would have remained the disease-ridden, uninhabitable region it had been since the Spanish conquest."[67] A general strike by communist-led banana workers in 1934, many of whom were English-speakers of West Indian descent, led to improvement in the quantity and quality of the housing, water and sanitation, and medical care delivered by the United Fruit Company. In 1973, a survey of about 500 low-income agriculturalists found that banana workers had better flooring, sanitation, and cooking facilities than non-plantation agricultural workers. Asked "which would you rather be?," respondents preferred "steady plantation laborer" to renter, steady non-plantation laborer, sharecropper, day laborer, squatter, or migrant laborer.[68]

The government began a nationwide antihookworm campaign in 1910 and expanded it after 1915 with the aid of the Rockefeller Foundation. In addition to reducing hookworm incidence, the campaign encouraged participation in hygiene activities and contributed to the understanding and acceptance of the germ theory of disease. In 1922 the government's anti-hookworm agency became the Department of Public Health, which in 1927 became the Ministry of Public Health.[69] Malaria control involving DDT spraying began on banana plantations in 1946 and spread throughout the country in the 1950s.[70] In 1940 about 22 percent of Costa Ricans had malaria and the malaria death rate was 157 per 100,000; by 1960 malaria prevalence was below 2 percent and the malaria death rate was 2 per 100,000.[71] A new round of malaria control efforts in the late 1960s and early 1970s led to more progress. In 1967, Costa Rica had 278 cases of malaria per 100,000 inhabitants; by 1973 it had 9 per 100,000. No malaria deaths were recorded

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[63] FAO 1999: 17-18.

[64] Palmer 2003: 37, 60, 71, 106, 111-112 (quotations). See also Mohs (1983: 38) on the town doctors.

[65] Rosenberg 1983: 26; Casas and Vargas 1980: 264.

[66] Palmer 2003: 108-09, 116.

[67] Morgan 1990: 213.

[68] Seligson 1979: 93-99 (responses in order of preference). Landowner with title and landowner without title were preferred to steady plantation laborer.

[69] Palmer 2003: 155-182, 222-24.

[70] PAHO 2000b: 12.

[71] Deaths from tuberculosis and from vaccine-preventible diseases also fell sharply during the 1940s and 1950s (Rosero-Bixby 1990: 36).

from 1975 to 1995, but two occurred in 1996, and prevalence rose in the late 1980s, particularly among undocumented immigrants.[72]

The Costa Rican welfare state took shape mainly during the presidency of Rafael Angel Calderón Guardia (1940-44). In 1941 the legislature passed a social insurance law and created the Caja Costarricense de Seguro Social (CCSS, Costa Rican Social Security Fund) to administer the program.[73] From this point onward, a single fund controlled contributory health insurance in Costa Rica and relied almost exclusively on its own facilities and personnel to deliver care.[74] Contributory health insurance in Argentina and Brazil, by contrast, paid mostly for services from private providers, some of whom would later pose an obstacle to pro-poor reforms (Sections 5.5 and 6.5).

Insurance coverage in Costa Rica was initially restricted by a 1943 regulation that limited maternity and medical insurance to workers in six major cities, and required only low-income wage-earners to contribute. This regulation put a ceiling on the resources available to fund the system. Hence, in 1944, only about four percent of population was covered by social insurance.[75] The welfare state thus initially targeted urban formal-sector workers with relatively low wages, excluding both wealthier people and poorer people who did not receive paychecks. At the end of the 1940s some rural residents of the Central Valley were brought into the contributory regime, and insurance was extended to contributors' dependents. By the late 1950s about 27 percent of the labor force, and about 18 percent of the total population, was covered by health and maternity insurance.[76] In 1961, the legislature passed a constitutional amendment requiring health insurance coverage to become universal by 1971, and passed a law that raised from 400 to 1000 colones per month the wage below which CCSS contributions were withheld automatically from paychecks. The goal of universal coverage by 1971 was not met, but health insurance coverage rose to 45 percent of the population by 1970. The maximum wage limit was lifted in 1971, and self-employed workers were incorporated into the CCSS in 1974, when employers also became responsible for a higher share of contributions. By putting the system on a stronger financial footing, the reforms of the 1970s allowed coverage to expand to 76 percent in 1980, to 85 percent in the late 1980s, and to 89 percent in 2000.[77] Cross-canton analysis suggests that the expansion of health insurance coverage during the 1970s contributed little to infant mortality

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[72] Information on 1967-1973 from Mesa-Lago 2000b: 284; information on later years from PAHO 1998b: 198.

[73] On social legislation introduced before 1940, see Palmer 1996: 242-246.

[74] Casas and Vargas 1980: 266-269. The CCSS began by purchasing medical services and drugs from the country's largest hospital, San Juan de Dios, which had evolved from a charity institution to a semi-private, semi-public entity, but switched to its own providers after receiving what its administrators considered to be outlandishly high bills (Jara Vargas 2002: 20). Still, private contracting predominated until the 1960s, when the CCSS began to build its own hospitals and to hire the graduates of the country's first medical school, which opened in 1961 (Clark 2005: 15). The CCSS signed contracts with clinics operated by non-profit health cooperatives in 1988, 1990, and 1992; the three clinics together served a total of about 150,000 people. Resistance to "privatization," however, mainly from CCSS officials, limited further contracting of this sort (Martínez Franzoni 1999: 161, 171). In 2000, the CCSS for the first time signed contracts with for-profit private clinics (Gauri, Cercone, and Briceño 2004: 294).

[75] Rosenberg 1979: 124; Rosenberg 1981: 287; Yashar 1997: 76-77, 107, 252.

[76] Mohs 1983: 46.

[77] Information on 1960-80 from Mesa-Lago 2000a: 290-291; Rosenberg 1979: 123-128; and Miranda Gutiérrez 1995: 48-54. Late 1980s figure from Sauma and Trejos 1999: 38; 2000 figure from Clark 2005: 4.

decline during the decade.[78] More important were the primary health care initiatives implemented after 1973 by the Ministry of Health, which gave the poor access to basic health care regardless of whether they had insurance.[79]

The role of the CCSS in public health care provision expanded after the mid-1970s, while that of the Health Ministry shrank. From 1973 to 1978, the CCSS took charge of almost all medical facilities in the country, and by the mid-1980s it was responsible for immunizations and for almost all curative medicine (including for indigents and low-income pensioners, for which it received a subsidy from general revenues). The Ministry retained responsibility for disease control, food and drug regulation, environmental sanitation, and (until the mid-1990s) child nutrition and primary care for the poor.[80] Moreover, congress during the 1970s passed laws reserving for the CCSS revenues from the national lottery and from cigarette sales, reducing the share of the institution's revenues derived from payroll taxes from 95 percent in 1970 to less than 50 percent in 1978. In 1995, as part of a fundamental reform of the entire health system, the government transferred all primary health care centers from the Health Ministry to the CCSS, and over the next three years some 1600 health professionals made the switch as well.[81] The CCSS took control of the maternal and infant health and nutrition programs that had previously been run by the Health Ministry and, through the Comprehensive Basic Health Care Teams (EBAIS), integrated them into a strategy of using primary care as a gateway into the entire health system. Owing partly to these changes, the share of public health spending channeled through the CCSS rose from 51 percent in 1976 to 80 percent in 1999.[82] By 2000, the CCSS budget was about 25 percent as large as that of the central government, and the Health Ministry remained responsible only for policy formulation, regulation, food and water monitoring, coordination of disease control programs, and public health campaigns.[83]

As the CCSS took on new responsibilities, it ran into financial problems. On the spending side, population aging forced the CCSS to devote more resources to chronic and degenerative diseases, and as new (often high-cost) medical technology became available, the agency bought it. On the funding side, employers and state agencies evaded payments to the CCSS, which invested the funds it did receive in low-paying government bonds.[84] The economic crisis of the early 1980s brought these problems to a head. From 1980 to 1988 public health spending fell almost by half both in per capita terms and as a percent of GDP.[85] In 1989, moreover, the government made a formal commitment to provide health and other services to undocumented immigrants, who were estimated to comprise 5 to 8 percent of the population. Foreign aid

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78 Dow and Schmeer 2003. Rosero-Bixby (2004b: 99), in a time-series cross-sectional analysis of determinants of infant mortality changes from 1985 to 2001, similarly found no association between the share of a district's population covered by health insurance and degree of infant mortality decline.

79 Rosero-Bixby 1986.

80 Mesa-Lago 1985: 14.

81 Rodríguez Herrera 2006: 12, 32.

82 Clark 2004: 201.

83 Clark 2005: 4-5.

84 Mesa-Lago 1985: 16; Clark 2004: 19????.

85 Calculated from Ramírez Rodríguez 1992: 222.

lessened the burden of such provision, but the commitment was still expensive.[86] In the early 1990s, the PUSC government of Rafael Calderón Fournier attempted to cope with these financial problems by inviting World Bank representatives to Costa Rica to discuss ways to reform the health care system. In 1993, the World Bank provided a US $22 million loan for health sector reform. In return, the Calderón government agreet to take measures to separate payment from provision of public health care services, to give hospitals and clinics greater management responsibility while making them more accountable to clients through performance incentives and sanctions, and to streamline procedures for collecting insurance contributions from workers and employers. Meanwhile, the government devised new ways of monitoring the quality of health care delivery and of surveying user satisfaction with the services provided.[87] The government's most far-reaching reforms, however, were in the area of primary care, where services had deteriorated during the economic crisis of the 1980s. A review of the history of primary health care in Costa Rica will set the stage for a discussion of these reforms.

The first rural health post in Costa Rica was built in 1928 on the model of the County Health Units developed by the Rockefeller Foundation in the rural United States. Staffed by a doctor, a nurse, a midwife, and other personnel, the health posts provided curative and preventive services, vaccinations, sanitary inspection, and health education.[88] Another wave of primary health care expansion came in the early 1960s, when mobile medical units were introduced with funding from the Alliance for Progress. These mobile units, which numbered ten by the end of the decade, comprised a general practicioner, a nurse's aide, a sanitary inspector, and a driver. They provided medical consultations, engaged in health education, vaccinated children, gave advice on cultivating vegetable gardens, distributed powdered milk, and assisted with latrine construction and water supply improvement. Their main constraints were limited coverage (130 of 3000 communities with fewer than 2000 inhabitants), overwork (sometimes more than 80 consultations per day), and poor road conditions. As a result, there is no evidence that the mobile units significantly reduced infant mortality rates, even in the communities where they operated.[89] At the end of the 1960s, access to basic health services was still quite limited for many rural Costa Ricans.

The Rural Health Program launched in 1973 by the PLN government of José Figueres Ferrer was a landmark in primary health care delivery. The program was modeled partly on the successful malaria eradication campaign of the late 1960s, and in some areas it began by employing personnel from the anti-malaria program to implement a new set of health-related objectives. The educational level of many of the malaria workers proved to be inadequate for this

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[86] Wiley 1995: 434. Estimates of the number of undocumented immigrants living in Costa Rica in 1990 ranged from 150,000 to 225,000 (Wiley 1995: 427, 436). The 2000 census recorded 226,374 immigrants living in Costa Rica, three-quarters of them from Nicaragua. This figure presumably excludes the great majority of undocumented immigrants (Sáenz Pacheco 2005: 2). By 1999 a total of about 350,000 Nicaraguans were estimated to be living in Costa Rica, a number equivalent to about 10 percent of the Costa Rican population (Clark 2004: 196n)

[87] Clark 2004.

[88] Palmer 2003: 222-224. Only four rural health posts were built between 1936 and 1944, but their numbers grew rapidly in subsequent years.

[89] Vargas 1995: 64-65; Miranda Gutiérrez 1988: 139-140.

purpose, however, so persons with at least nine years of schooling were invited to apply to become rural health assistants (which required a four-month training course) or nurse's aides (which required an eleven-month training course). The rural health assistants were usually male, and the nurse's aides were usually female. Applications for the training program were accepted only from those between the ages of 18 and 35, and graduates were required to work for the program for at least three years.[90] Between 1973 and 1980, the number of rural health posts rose from 50 to 293, and the share of the rural population covered by the Rural Health Program rose from 11 to 60 percent. In 1980, the 717,500 people served by the program lived in 4,018 rural communities.[91]

In clinics and through home visits, the health center staffs vaccinated children, treated malaria and intestinal parasites; provided family planning and maternal and child health education; dispensed contraceptives; monitored the health and nutritional status of pregnant women, infants, and new mothers; distributed milk; and helped to build sanitation facilities.[92] After 1976, the Community Medicine Program launched similar programs in impoverished urban areas.[93] In 1987, the two programs were combined and placed under the Ministry of Health's Division of Primary Health Care.[94] As a result of these initiatives, between 1974 and 1977, the number of children under surveillance rose from 900 to 125,000, and use by expectant mothers of prenatal clinics rose from 350 to 10,000. Meanwhile, between 1970 and 1980, annual measles deaths fell from 242 to 7, annual tetanus deaths dropped from 217 to 9, and the proportion of births attended by skilled health personnel rose from 74 to 92 percent.[95] In 1973 and 1974, infant and child mortality plunged in two rural cantons in which the program was introduced, but stayed the same or rose in two rural cantons that had not received the program.[96] An analysis of infant mortality changes in all 79 cantons from 1972 to 1980 found that government health care initiatives accounted for 73 percent of the cross-canton variance; fertility decline accounted for 5 percent and socioeconomic development (a weighted composite of income, urbanization, education, and other variables) accounted for 22 percent.[97] A study of 52 Costa Rican cantons from 1962 to 1977 revealed that "the Rural Health Program, working on a relatively low budget, has done much more to lower infant mortality and malnutrition than the CCSS clinics and regional hospitals."[98]

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[90] Vargas 1995: 69-85.

[91] Miranda Gutiérrez 1988: 147.

[92] These activities are described in Caldwell 1986, Drèze and Sen 1989; Garnier et al. 1997; Mata 1985, Rosero-Bixby 1985a, Rosero-Bixby 1986, and Vargas González 1977.

[93] Trejos 1995: 189.

[94] Morgan 1993: 93.

[95] Births attended from Table 3.4; all other figures from Mata 1985: 70-71.

[96] Vargas González 1977: 360-364.

[97] Rosero-Bixby 1986: 63; Rosero-Bixby 1990: 41. "Socioeconomic development" is defined in Rosero-Bixby 1996: 171.

[98] Casas and Vargas 1980: 276, citing a study by Casas that eventually became his master's thesis at the Metropolitan University of Mexico ("Evolución de la mortalidad infantil en 52 cantones rurales de Costa Rica, 1962-1977," MS thesis, Departamento de Medicina Social, Universidad Autónoma Metropolitana - Xochimilco, Mexico, DF; cited in September 2006 at http://cbs.xoc.uam.mx/posgrados/mms/tt.php

As noteworthy as the overall decline in infant mortality during the 1970s was the rapid reduction of infant mortality differentials across demographic groups. At the beginning of the 1970s, the risk of infant death in Costa Rica was much lower in rich than in poor cantons, in urban than in rural areas, in the capital city of San José than in the rest of the country, and for well-educated than for poorly-educated mothers. By 1980 such differentials had dwindled dramatically, particularly by region.[99] The Rural Health Program was targeted precisely at the cantons with the worst health status indicators, and one study showed "that cantons in which rural and community health coverage was 75 percent or greater experienced a fall in IMR [the infant mortality rate] from 80 to 17 per 1,000 in the 1970s, while cantons in which coverage was practically null showed a smaller decline, from 49 to 21 per 1,000 in the same period."[100] In just ten years from 1970 to 1980, thanks mainly to the Rural Health Program, not only had the level of infant mortality fallen from 62 to 22 per 1000 in Costa Rica as a whole (Table 3.2), but some of the unhealthiest cantons in the country had become some of the healthiest. Health equity, so measured, continued to improve from 1980 to 2001. If Costa Rica's 81 cantons are ranked by level of human development in 1999 and then partitioned into five quintiles, average infant mortality from 1980 to 2001 fell in the top quintile from 18 to 11 per 1000 and in the bottom quintile from 23 to 12 per 1000.[101]

Like the health care system in general, community-based health and nutrition programs fell victim to the economic crisis of the early 1980s, which was precipitated by a run-up in the country's foreign debt. Cuts in public health spending, which were larger for preventive than for curative care, reduced the share of rural and high-risk urban residents served by the government's primary health care programs from 60 percent in 1980 to 40 percent in 1990. Evidence suggests that the quality of publicly-provided health services also fell.[102] As the health care budget was cut, rural health posts closed, others lost staff, and funds for training new health workers dried up. It was not until the Monge administration (1982-86) that funds were obtained from international agencies and new rural health care workers began to be trained.[103] The infant mortality rate continued to fall during the 1980s, but at a much slower pace than in the 1970s. Some cantons reported rises in premature births, low birthweight babies, and infant deaths.[104] The economic crisis of the early 1980s thus affected the pace of infant mortality decline not only via the reduction of private incomes, but also via disproportionate cuts in programs that accounted for a small share of the public health budget but were highly effective at reducing the risk of early death among infants and children.

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[99] Rosero-Bixby 1985a: 349-53. The canton of Talamanca in the Atlantic province of Limón still suffered infant mortality rates of more than twice the national average at the beginning of the 1980s (Hill 1994: 366), but such cases were exceptional. By 1978, the number of medical consultations per inhabitant also varied little by social group or by urban vs. rural location (Casas and Vargas 1980: 273).

[100] Rosero-Bixby 1986: 64

[101] Bortman 2002: 21.

[102] Budget cuts in preventive vs. curative care from Mesa-Lago 2000b: 315; program coverage and quality from Muñoz Retana and Valverde 1995.

[103] Morgan 1987: 98; Morgan 1993: 109, 114.

[104] Morgan 1989: 214-15.

The Rural Health and Community Health programs were partly financed by foreign loans, and high social spending contributed to economic imbalances that led to foreign borrowing. These primary care initiatives cannot be held responsible, however, for anything more than a tiny fraction of the soaring debt. In the mid to late 1970s the Rural Health Care program served about 500,000 people at a cost of US $3.50 each.[105] In 1977, the Rural Health Care and Community Health Care programs together absorbed only 2.5 percent of public health spending, perhaps US $8 per capita in then-current dollars.[106] In 1982, when the CCSS paid out health insurance benefits worth an average of 2,180 colones per beneficiary, the cost of the Health Ministry's primary health care programs totalled 65 colones per beneficiary. Dr. Juan Jaramillo Antillón, the Health Minister during the Monge administration (1982-1986), lamented public health spending on "ultramodern, high-technology equipment whose costs are astronomical and [which] benefit only a small number of patients."[107] In this respect, the public health system in Costa Rica differed little from that in Argentina or Brazil. The significant difference was that Costa Rica, like Chile, also spent a minute share of its public health care budget on community-based health and nutrition programs that caused a precipitous decline in infant mortality, whereas Argentina (except in a few sparsely-populated provinces) and Brazil (until the Family Health Program was launched in 1994) did not.

By the early 1990s Costa Ricans were complaining about long waits for appointments and shortages of drugs in public health facilities. A measles outbreak in the early 1990s added to a perception that the primary care system was ripe for change.[108] Efforts to combine the primary care facilities of the Health Ministry and CCSS had achieved only limited success in the late 1980s,[109] and it was widely recognized that a better-integrated model of primary health care was needed. In this context Dr. Fernando Marín, who headed a private cooperative clinic that had signed a contract with the CCSS in the 1980s, proposed that the existing model of basic health care provision be scrapped in favor of Basic Integrated Health Care Teams (Equipos Básicos de Atención Integral de Salud, or EBAIS). Initially, each EBAIS included a doctor, a nurse, and a public health worker, supported where feasible by a social worker, phramacist, dentist, nutritionist, laboratory technician, and medical records specialist. Each team served an average of 3,500-4,000 people with separate protocols relating to the health needs of people in different age groups. In remote places, the teams were expected to travel around the area to which they were assigned. The World Bank resisted the EBAIS proposal, calling it too expensive, but Marín and his allies persevered and the proposal was approved in 1993.[110] As the EBAIS program

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[105] Coverage figure pertains to 1976; cost estimate in then-current US dollars (Vargas González 1977: 356, 365). Mata (1990a) found that from 1977 to 1983, the Rural Health Program cost about US $3 per beneficiary per year. Vargas González (1977: 365) estimated the cost at US $3.50 per beneficiary per year in then-current US dollars. Mason et al. (2006: 1062, 1069) estimated that the Rural Health Program cost US $1.70 per child per year, apparently in dollars from the 1990s or 2000s. Bossert (1983: 424, 440 n. 17) estimates the cost of primary care in 1978 at US $28.24 in then-current dollars, citing his own analysis of Ministry of Finance statistics. It is unclear why this estimate is so much higher than alternative estimates.

[106] Vargas 1995: 85.

[107] Mesa-Lago 1985: 20.

[108] Clark 2004: 197.

[109] Muñoz Retana and Valverde 1995.

[110] Clark 2004: 198-201; IADB 2003: 4; Weyland 2006a: 224-25.

expanded, the share of the public health budget devoted to primary care rose from 19 percent in 1997 to 24 percent in 2004.[111]

The first team began work in February 1995 in one of the poorest districts of the province of Puntarenas. As with the Family Health Teams in Brazil, the poorest areas of the country were served first. By mid-1998 some 400 teams had been formed, about half the number planned.[112] By December 2001 the number of teams had risen to 730, of which 80 percent had the personnel and equipment needed to operate effectively. Together, these teams provided medical services to 81 percent of the population, excluding only a few cantons in the Central Valley.[113] By mid-2006 there were 897 EBAIS, and almost the entire population had access to their services.[114] The EBAIS by this time had acquired additional personnel and functions (dentistry, mental health, social work), and many now worked out of custom-built health centers rather than existing facilities. Like the family health teams in Brazil, the EBAIS were designed as a gateway to the entire health care system.

The EBAIS raised geographical access to outpatient care, particularly among Costa Ricans who had previously lacked such access.[115] The introduction of the health teams also coincided with a sharp rise in prenatal care.[116] Evidence suggests that the EBAIS also helped to reduce premature mortality. A study published in 2004 related age-specific mortality levels in each of Costa Rica's 420 districts in each year from 1985 to 2001 to the presence or absence of EBAIS and to the length of time that EBAIS had operated in the district, controlling for fertility, education, health insurance coverage, asset ownership, and other variables likely to affect mortality rates. The study found that districts into which EBAIS had been introduced tended to reduce mortality (1) faster than before the EBAIS appeared; (2) faster than similar districts in which the EBAIS were not (yet) present; and (3) faster according to the length of time that the EBAIS had been operating. The presence of EBAIS in a district, controlling for other relevant factors, was associated with 8 percent lower mortality among children and 2 percent lower mortality among adults, which implied the survival in 2001 of 120 children and 350 adults who would otherwise have died in that year. Having EBAIS in a district was associated with a 14 percent decline in deaths by communicable diseases, compared to 2 percent and 0 percent respectively for chronic diseases and other causes.[117]

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111 Rodríguez Herrera 2006: 33. After the introduction of the family health teams in Brazil, the proportion of federal health spending devoted to primary care rose from 17 percent in 1994 to 25 percent in 2000 (Serra 2002a: 25).

112 Clark 2004: 202. In the districts that received EBAIS in 1995 or 1996, only 34 percent of adults had secondary education, and only 64 percent lived within 4 kilometers of a public health facility. The proportion in districts receiving EBAIS from 1997 to 2000 was 49 percent for secondary education and 86 percent for proximity to a public health facility, and the proportion in districts receiving EBAIS after 2001 (or which had not recieved an EBAIS by the time of the assessment) was 55 percent for secondary education and 86 percent for proximity to a public health facility (Rosero-Bixby 2004b: 98, 101).

113 Costa Rica. Ministerio de Salud 2002: 18, 31.

114 Marín Camacho 2006.

115 Rosero-Bixby 2004a.

116 The share of births in CCSS hospitals in which the mother reported at least one prenatal visit rose from 63 percent in 1997 to 92 percent in 2003. Births in CCSS hospitals comprised 94-96 percent of all births from 1992 to 2004 (Costa Rica. CCSS 2004: Table 72).

117 Rosero-Bixby 2004b. The 420 districts (sub-units of cantons) were those into which the 1984 census had divided the country.

Evidence thus suggests that the rapid decline of infant mortality in Costa Rica from 1960 to 1995 was due in large measure to the design, adoption, and effective implementation of community-based health and nutrition programs, particularly during the 1970s. There is also good evidence that restructuring the entire health care system around primary care delivered by the EBAIS helped greatly to reduce infant mortality in the decade after 1995. Hence, it is well worth exploring the reasons why these programs were designed and implemented in the first place.

3.5. Costa Rica: Political Regime and Other Determinants of Health Policy

Costa Ricans participated in competitive elections from the late 1800s through the early 2000s. If one were to define the "democratic method," with Schumpeter, as a "competitive struggle for the people's vote," Costa Rica would register a long history of democracy.[118] In the Polity IV dataset, which uses a Schumpeterian definition of democracy, Costa Rica received in every year from 1900 to 1999 the highest possible score of "10" on democracy, the same score as the United States in each year during this period.[119] Under a more demanding definition, however, Costa Rica might not qualify as a democracy until 1975, when the National Assembly amended the constitution to permit the electoral participation of Marxist parties, which had been effectively banned since 1949.[120] The farther back one goes in the twentieth century, the farther Costa Rica strays from a more demanding definition of democracy. Until 1949, women were not allowed to vote, fraud was widespread (although not egregious enough to change the outcomes of presidential elections), and inhabitants of West Indian descent faced various types of legal discrimination.[121] Despite these flaws in its political regime, however, Costa Rica even before 1975 was one of the least authoritarian developing countries in the world. From 1880 to 2000 it experienced only two years of military rule (1917-1919), and its 1949 constitution prohibited a standing army. Among the eight countries analyzed in this book, Costa Rica during the second half of the twentieth century was the most fully and consistently democratic (Table 13.6).

Scholars differ as to democracy's role in the introduction of contributory social insurance in the 1940s and in its expansion thereafter. According to one interpretation, "the decisive leadership in social security was undertaken as if in an authoritarian system, with little mass participation."[122] In this interpretation, neither vote-seeking nor interest group pressure contributed significantly to the introduction of contributory pension and health insurance. Rather, autonomous social security officals, authorized by progressive politicans and inspired and

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[118] Schumpeter 1975 [1942]: 269.

[119] Marshall and Jaggers 2000b. Costa Rica even received the same scores as the United States (10 on democracy, 0 on autocracy) during the 1917-1919 dictatorship of General José Tinoco Granados.

[120] Martz 1967: 894; Oconitrillo 1981: 210-211; Hernández Valle 2006: 367-368. Under a more demanding definition, the United States might not qualify as a democracy until 1965, when the Voting Rights Act ended the disenfanchisement of Blacks in parts of many states.

[121] On electoral fraud see Molina and Lehoucq 1999: 227-28; on the West Indian population see Harpelle 1993.

[122] Rosenberg 1983: 184.

advised by experts from the International Labour Office, led the policy-making process.[123] Other scholars, however, have cited Calderón's need to retain the backing of the Communist Party, together with his quest for worker support, as motives for his welfare-state policies.[124] Indeed, even scholars associated with the bureaucratic initiative interpretation recognize that "democratic electoral political arrangements and the growing population pressure ma[d]e some measure of elite responsibility mandatory."[125]

Social insurance benefits mostly the not-so-poor, who have a relatively low risk of early death. Programs to expand primary care and nutritional aid, by contrast, benefit mainly the very poor, who are at much greater risk of premature mortality. In the Costa Rican case, once other mortality determinants are controlled for, the expansion of health insurance coverage had no relation to the pace of mortality decline across cantons in the 1970s, and the level of health insurance coverage had no relation to a canton's infant mortality rate in the 1990s.[126] More important than health insurance coverage as a determinant of infant mortality, the Costa Rican case suggests, is the extension of primary health care and nutritional aid to vulnerable mothers and infants, which took place mainly in the 1970s and 1990s, rather than in the 1940s.

One interpretation of the political origins of the community-based health and nutrition programs of the 1970s recalls the "bureaucratic initiative" interpretation of the political origins of social insurance. According to this interpretation, the policies that precipitated Costa Rica's infant mortality "breakthrough" in the 1970s were "essentially a bureaucratic achievement. There was no popular crusade."[127] José Figueres Ferrer, one scholar argues, began his third presidential term in 1970 "with ambitious plans to revamp the health system."[128] Dr. Edgar Mohs, Figueres's vice-minister of health from March 1970 until December 1971, contends that the president wanted to leave a legacy of social achievement as he neared the end of his political career.[129] Dr. Guido Miranda, a top official in the CCSS from 1970 to 1974, reports that Figueres gave strong backing to the first National Health Plan, which required the transfer of the country's hospitals to the CCSS, the universalization of social insurance, and the extension of primary care to the poor. In particular, Figueres insisted that the Health Ministry and CCSS work collaboratively to improve health.[130] Figueres mentioned health care only in passing in the book he wrote while president, but devoted several paragraphs to malnutrition, which Dr. Mohs, his vice-minister of health, attributed mainly to disease.[131] Moreover, Figueres made an important distinction

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123 Rosenberg 1979: 126-129; Rosenberg 1983: 151-52, 173-74. Similar arguments have been made by Malloy (1979) for Brazil in the 1940s and by Joo (1999) and Kwon (1999a) for South Korea in the 1970s.

124 Bell 1971: 27; Yashar 1995: 73, 83.

125 Rosenberg 1979: 130.

126 On the 1970s see Dow and Schmeer 2003; on the 1990s see Rosero-Bixby 2004b: 99.

127 Caldwell 1986: 200.

128 Morgan 1993: 96.

129 Mohs 1995.

130 Miranda Gutiérrez 2003: 262.

131 Food and nutrition are discussed in Figueres Ferrer 1973: 83-84. Dr. Mohs held disease principally responsible for the malnourishment of many of the children he had treated in the 1960s, noting that their parents often appeared to be well-nourished (Mohs 2002: 70).

between the pobres activos and desvalidos (the formal-sector poor and the very poor), in the context of underscoring that the IMAS anti-poverty program, launched in 1971, was designed to serve the very poor.[132]

Most health and nutrition programs that have a significant impact on infant mortality, like Costa Rica's Rural Health Plan and Community Health Plan, recognize this crucial distinction, and are carefully designed to include the very poor (although not necessarily to exclude other sectors of the population). Figueres's role was mainly to underscore this distinction, to draw attention to the the plight of the desvalidos, and to encourage his appointees in the health ministry and social security fund to design and implement policies that seemed likely to benefit Costa Rica's poorest citizens.[133] Dr. Mohs, who helped to design the Rural Health Plan (and whom PAHO in 2006 named one of eleven "Public Health Heroes of the Americas"), argues that "the President's thoughts were truly reformist, with a social democratic ideology adapted to the environment. The group heading the Health Sector, imbued with the President's reformist ideas, knew that it had the President's total trust and support. Thus, it approached child health problems seriously and rapidly."[134] Francisco Morales, a deputy who worked with Figueres to design the IMAS anti-poverty program, asserted that Figueres "may not have won many battles personally in the war against poverty, but he made people aware of it and of the need to act."[135]

The leadership of Figueres and his health care team was exercised, however, in a political context marked both by factional conflict within the PLN and by electoral competition between the PLN and other parties. In 1968 PLN leftists, many from the Youth Branch of the party, produced a widely-circulated manifesto calling for major social reforms, including comprehensive publicly-funded and publicly-provided health care for the entire population.[136] Figueres called the document "the work of madmen," and the group that produced it largely returned to the fold over the next few months.[137] The fact that Figueres was pressured within his party more from the left than from the right, however, added impetus to the "War on Misery" that he had pledged to fight.[138] As for electoral competition, the rural poor by the mid-1960s were voting in large numbers. Compulsory voting was introduced in 1959, and although the fine for abstention was small, turnout in presdential elections rose from 65 percent in 1958 to 81 percent in 1962 and remained at roughly 80 percent through 1994.[139] Social status and voter turnout are correlated in Costa Rica, as in most countries, but compared to city dwellers, Costa Rican peasants in the early 1970s were only slightly less likely to report having voted. Moreover, they were equally likely to have joined a political campaign, and more likely to have participated

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[132] Figueres Ferrer 1973: 91-94.

[133] The role of these health ministers is discussed in Miranda Gutiérrez 1988: 142.

[134] Mohs 1995.

[135] Ameringer 1978: 257.

[136] The document was entitled "Patio de Agua," taking the name of the estate on which it was written. PLN 1968: Cap. IV, "La Salud."

[137] Rosenberg 1983: 152; quotation from English 1971: 54 n. 10.

[138] Wells 1970-71: 25.

[139] Martz 1967: 895; Seligson 2002: 161-62.

in community organizations.[140] Significantly, within the rural population, the very poor participated at least as much as the not-so-poor. A survey of Costa Rican male peasants in 1972-73 showed that political participation, including voting and contacting officials, was higher among poorer than among richer respondents.[141] Three decades later, at the beginning of the twenty-first century, class bias in political participation remained lower in Costa Rica than in Argentina, Brazil, or Chile, and lower than in most Latin American countries.[142]

As in Chile, the major political parties competed for the votes of the rural poor in Costa Rica during the 1960s. During the 1950s, the PLN enjoyed an electoral advantage among most sectors of the rural poor,[143] partly because of its "programmatic emphasis on social services and extensive assistance of various sorts to the Costa Rican masses." Over time, however, the PLN's margin in rural cantons had fallen, from 14 percent in 1958 to 7 percent in 1962 to 3 percent in 1966.[144] This decline gave the PLN an incentive to redouble its efforts in rural areas, the more so because political observers anticipated that the 1970 presidential election would be close (it wasn't). Accordingly, between early 1968 and January 1970, Figueres took his campaign to 807 towns and villages. In his September 1968 speech accepting the PLN nomination, Figueres announced that he would dedicate his administration to a "war on misery," and reiterated this pledge throughout his campaign. The election results suggested that Figueres attracted a large number of swing voters in the provinces of Limón and Puntarenas, mostly rural jurisdictions in which the PLN had historically been weak.[145]

The winner of the 1974 election was the PLN's Daniel Oduber, who was ideologically to the left of Figueres. In addition to presiding over the expansion of rural health services, Oduber in 1976 introduced the Community Health Plan in impoverished urban areas. In 1978, Rodrigo Carazo of the PUSC won the presidency. Like Figueres, he had to deal with ideological heterogeneity in his party. Even as he responded to the debt crisis of 1980 with the austere economic policies and free-market reforms favored by the right wing of the PUSC, Carazo used pro-poor social policies to placate the PUSC left. Moreover, although the economic crisis forced him to cut health services, Carazo announced plans to train another 2000 persons for health-related work in impoverished regions, set up system of committees to raise popular participation in health care, and surveyed 43 rural cantons to identify pressing health problems and to solicit proposals for resolving them. Only about 20 percent of these proposals were implemented, but the surveys, once taken, put pressure on Carazo, as well as on succeeding presidents, to resolve the problems that had been identified.[146]

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[140] Seligson 2002: 171; Booth and Seligson 1979: 42.

[141] Seligson 1978: 147-152

[142] Gaviria, Panizzia, and Wallack 2003: 17.

[143] English 1971: 107-108. Workers on foreign-owned plantations, who were relatively well-off, tended for cultural and historical reasons to support either the Communists or conservative parties that later coalesced into the PUSC.

[144] Martz 1967: 904; quotation from 906.

[145] Wells 1970-71: 18, 24-25. These provinces were dominated by foreign-owned cacao and banana plantations, whose relatively well-off employees tended to back conservative or Communist parties.

[146] Morgan 1990: 216; Morgan 1993: 98.

Carazo used the health committees to try to win popular support. The president and his supporters viewed community participation in health care provision as a way of undermining undemocratically chosen community "caciques" (often tied to the PLN) with persons chosen by the communities themselves. They also frequently contrasted their "participatory" strategy with the "intervention and paternalism" of the PLN. On hearing of Carazo's plans to form the health committees, the PLN accused him of trying to steal its issue. PLN politicians "were obliged by their own sense of partisan rivalry to oppose the community participation program, which Carazo had given top billing."[147] At least in the eyes of the PLN politicians, then, electoral competition deserves some of the credit for perpetuating the Rural Health and Community Health programs after 1978, when the presidency passed from the PLN to the PUSC and funding for health care was cut.

Carazo's successor, the PLN's Luis Alberto Monge (1982-86), left the local-level health committees intact, not least because they helped to provide supplies and to pay the expenses of the local health posts. He disbanded higher-level federations of health associations, however, in part because "some members of the PLN simply wanted no part of the pet program of their opponents" in a context where "organizers from both political parties suspected their opponents of using community participation as a covert way to fortify rural political bases."[148] Electoral incentives thus played into the characteristics as well as the origins and dynamics of the Rural Health Plan. Safe water provision was also influenced by electoral incentives; one public health expert noted that "water supply has been a political weapon in most presidential campaigns."[149]

As with the Rural Health Plan of the 1970s, bureaucratic initiative combined with electoral incentives to produce and expand the EBAIS program in the mid-1990s. The reform of the primary care system was "largely the brainchild" of Dr. Fernando Marín, who developed the plan during the PUSC administration of Rafael Calderón Fournier (1990-1994). After the plan obtained the approval of the World Bank, Alvaro Salas, the Director of Technical Services of the CCSS, sought and received approval for the reform plan from academic experts in public health, health professionals' associations, and health sector labor unions. Salas also collaborated effectively with PLN leader José Figueres Olsen, the son of former president José Figueres Ferrer, who led the opposition PLN in congress. On becoming president in 1994, Figueres Olsen appointed Salas to head the CCSS and Fernando Marín to be vice-minister of health. At this time, "the administration of the CCSS decided that it would reflect most positively on the government if they constructed the primary care facilities in the poorest areas of the country first." In other words, the decision to place the first EBAIS in the poorest regions was "partly motivated by electoral considerations."[150] The PUSC government of Miguel Angel Rodríguez (1998-2002) was less committed than previous administrations to the EBAIS strategy, but by 1998 "the health teams had become popular and communities not yet covered were demanding

147 Morgan 1993: 98-108; quotation from 110.
148 Morgan 1990: 217.
149 Mata 1985: 69.
150 Clark 2004: 201-202.

theirs."[151] When the EBAIS began operating in a certain area, neighboring communities would pressure the government to set up a team in their own region.[152] Democracy thus contributed to the expansion of the EBAIS not only via electoral incentives, but also by permitting community organization, which put pressure on the Rodríguez government, despite its lower commitment to the EBAIS strategy, to keep rolling the program out.

Democracy provides a permissive environment not only for community empowerment and for the operation of electoral incentives, but also for protest and lobbying by labor unions, business groups, professional associations, and other interest groups. Sometimes interest-group pressure promotes mortality-reducing social policies; sometimes it impedes them.[153] On the whole, interest-group pressure mattered less for health care policy-making in Costa Rica than in Argentina, Brazil, or Chile. Labor unions, to begin with, were much weaker in Costa Rica than in Argentina, Brazil, or Chile (Section 11.4).[154] In Argentina, labor union leaders who managed huge health insurance funds thwarted attempts by three different governments to improve equity in health care by combining the resources of these funds with those of the public treasury into a single revenue stream to finance universal health care (Section 5.5). In Costa Rica, the CCSS, rather than union leaders, controlled from the outset all funds generated by payroll deductions. With an accordingly diminshed stake in the survival of inequities generated by the separation of the contributory and general-revenue funded health systems, union leaders in Costa Rica acted in ways that were mostly benign for the extension of health care to impoverished groups.

In 1934, a series of labor strikes by banana workers forced the United Fruit Company to improve the health services it provided for its workers.[155] The Confederación de Trabajadores de Costa Rica, the country's main labor confederation, commited itself at its founding conference in 1943 to pressure the Calderón government to enact and enforce its newly-announced Social Guarantees, which included a nation-wide health care system.[156] Labor union influence in the 1940s is also said to have contributed to a shift in development ideology in which "government intervention became a socially acccepted component of development."[157] In the late 1980s and early 1990s, a handful of non-profit health cooperatives emerged to provide comprehensive care for members, financed by the CCSS on a capitation basis (i.e., according to the number of people served). Evidence suggests that these cooperatives cut costs without reducing service quality.[158] Their expansion, however, was resisted successfully by health worker unions and by some CCSS officials, who believed that the cooperatives foreshadowed the "privatization" of service delivery.[159]

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[151] Clark 2004: 204-05.
[152] Rodríguez Herrera 2006: 33.
[153] McGuire 1999; Kaufman and Nelson 2004: 482-83.
[154] See also Huber 1996: 151.
[155] Seligson 1980: 62, 70-77; Rosenberg 1979: 119.
[156] Miller 1993: 517-18.
[157] Hytrek 1995: 84-85.
[158] Gauri, Cercone, and Briceño 2004.
[159] Clark 2005: 13; Weyland 2006a: 309.

The National Medical Union, which was founded in 1944 to counteract the perceived threat posed to doctors' professional interests by the formation of the CCSS, is the main professional association for Costa Rican physicians. In 1946, it sponsored a strike against the social security fund to prevent a planned extension of social insurance coverage, which the Union's leaders feared would harm doctors' private practices.[160] Over time, however, as the CCSS provided full-time employment and better working conditions, the Union's opposition to the CCSS dissipated.[161] By the late 1970s some 95 percent of doctors in Costa Rica worked for the social security fund.[162] Some doctors worried that the use of lay health workers in the primary care programs of the 1970s posed a threat to their professional interests, and others resisted Carazo's plan to expand community participation in health care administration, especially after it was proposed that community members should evaluate physician performance.[163] This opposition did not prevent the programs from going forward, however. The "change team" that promoted the restructuring of the entire health system around the EBAIS in the 1990s negotiated their plan with the College of Physicians and Surgeons, the organization that oversaw the medical profession. The initiative encountered some opposition from doctors who feared that they would not be able to use their technical training in the context of the new health teams, but the CCSS evaded this opposition, which came mostly from established physicians, in part by hiring new medical graduates to serve on the EBAIS.[164]

The cooperation of Costa Rican doctors with health sector reforms designed to benefit the poor contrasts markedly with the case of Brazil, where associations of doctors, hospitals, drug manufacturers, and health insurers delayed the introduction of the Unified Health System from 1988 to 1993 (Section 6.5). The difference in the social insurance systems prevailing in each country may help to account for the discrepancy. In Brazil the social security system mainly purchased medical services from private providers, whereas in Costa Rica the social security system hired its own doctors. Hence, vested interests posed a more powerful obstacle to the expansion of public health service provisioning in the 1990s in Brazil than in Costa Rica.[165]

In Costa Rica, then, the weakness of the labor movement, together with the collaboration of most doctors with pro-poor revorms designed and overseen by the CCSS, meant that organized interests, whose efficacy is typically higher in a democratic regime than in an authoritarian one, did not work against the expansion of health services to the poor. In Argentina and Brazil, where labor unions were stronger and many union members, union leaders, and physicians had vested interests in the continued predominance of the private and contributory

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[160] Rosenberg 1983: 87-103; Rosenberg 1979: 131 n. 8; Miranda Gutiérrez 2003: 25.

[161] Jara Vargas 2002: 23-27

[162] Casas and Vargas 1980: 268

[163] Morgan 1990: 217; Morgan 1993: 110.

[164] Clark 2004: 198, 202. In the late 1990s, the supply of new medical graduates had just begun to exceed demand, facilitating the task of staffing the EBAIS (Clark 2005: 12).

[165] Similarly, it has been argued that the small role played by the purely private sector in the provision of health care in pre-1959 Cuba, where many doctors worked for large mutualist associations that had evolved from ethncially-based mutual aid societies in the nineteenth century, may have made it easier for the revolutionary government to socialize the medical system in the 1960s (Danielson 1979: 121).

sectors, pro-poor health sector reforms were much harder to implement. Democracy thus affected health care policy-making in Costa Rica mostly through electoral incentives and community empowerment. Both of these mechanisms had mostly beneficial effects on the design, approval, implementation, expansion, and perpetuation of health care programs that helped the poor.

Incentives associated with democracy thus combined with presidential leadership and bureaucratic intitiative to generate public health policies that contributed to a rapid decline of infant mortality. Cultural factors may also have increased the salience and efficacy of such policies (the "demand side"). Some evidence suggests that Costa Ricans are unusually concerned with health. In the 1970s, citizens surveyed in the province of Puntarenas were more worried about their health than about their economic situation, in sharp contrast to agriculturalists surveyed in Indonesia in the 1970s (Section 10.5).[166] Doctors have high prestige in Costa Rica, and several have served as president.[167] Physicians comprised 39 percent of Costa Rica's national legislators from 1920 to 1948, an exceptional share among the Latin American countries for which data are available.[168] To the extent that the professional backgrounds of a country's politicians affect their decisions about resource allocation, it is not surprising that successive governments have emphasized health care.

International factors also played an important role in shaping health care policy in Costa Rica. The social security policies of the early 1940s were motivated in part by the desire of Calderón and his allies, at a time of profound international insecurity, to take an issue away from the communist left. Similarly, worry about contagion from the 1959 Cuban Revolution is said to have inspired some Costa Rican legislators to vote for the 1961 constitutional amendment mandating the extension of social insurance to the whole population.[169] International organizations served as another channel of influence from abroad. Although they did not play a leading role in shaping major health policy decisions until the mid-1990s, they provided important support for specific programs.[170] The Rockefeller Foundation helped to finance and administer the expansion of hookworm control after 1915 and of rural health posts after 1928; UNICEF helped to fund milk provision to mothers and infants from 1951 forward; and funds from the US Alliance for Progress helped to finance the expansion of mobile medical units in rural areas in the 1960s. UNICEF and PAHO helped to design and implement the Rural Health and Community Health plans, and the 1972 meeting in Santiago, Chile, of Ministers of Health of the Americas, which was organized by PAHO, provided impetus throughout Latin America for "comprehensive, state-sponsored rural health programs of the kind later championed by the World Health Organization and UNICEF under the banner of primary health care."[171] In the

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[166] Low 1985: 4, citing a 1971 study of Puntarenas by M. Richardson and B. Bode.

[167] Low 1985: 17-18. Rafael Angel Calderón Guardia, who introduced the social security system in the 1940s, was a physician. Abel Pacheco, president from 1998 to 2002, was a psychiatrist who had served as the director of the country's main psychiatric hospital.

[168] Palmer 2003: 216, 228-29. The census of 1950 identified only 265 doctors and surgeons in a country with a population of 800,875 (Jara Vargas 2002: 10).

[169] Rosenberg 1979: 122, 125.

[170] Martínez Franzoni 1999: 164-68; Weyland 2006a: 222.

[171] Morgan 1993: 94; see also Vargas González 1977: 355 and Vargas 1995: 65-66.

1970s, the Interamerican Deveopment Bank helped to finance the construction of CCSS outpatient facilities and the refurbishing of regional hospitals around the country.[172] During the 1970s, PAHO experts served as the "right hand" of the Costa Rican health authorities who implemented the primary care programs of the decade.[173]

The influence of international organizations on health programs conducive to rapid infant mortality decline was not always positive. The World Bank opposed the 1993 plan to restructure the health system around the EBAIS, considering it too expensive. As late as 2002, World Bank officials continued to maintain that the EBAIS would become financially unsustainable as salaries and medical costs rose.[174] The Costa Rican officials who favored the EBAIS stuck to their guns, however, and the restructuring of the health system around primary care went forward. The World Bank did, however, successfully promote a number of efficiency-oriented reforms, including more autonomy for hospital administrators and systematic assessments of the performance of individual health facilities. These reforms, which in the short run were less likely to affect infant mortality, achieved consensus among Costa Rican officials in charge of health sector restructuring.[175]

Foreign models contributed to the design of health care programs in Costa Rica. Health posts in the rural United States served as a model for those set up in Costa Rica in the 1920s and 1930s. Calderón in late 1940 sent one of his most trusted advisers to Chile to study its social security system, and the 1941 Social Insurance Law was modeled closely on Chile's 1924 Workers' Insurance Fund law.[176] Legislators who advocated the universalization of health insurance in 1961 were influenced by the examples of the British and Chilean National Health Services (inaugurated in 1948 and 1953 respectively), which provided universal coverage, and by the Universal Declaration of Human Rights, whose Article 25 stipulated that all citizens have a right to medical care.[177] The team that designed the Rural Health Plan implemented in 1973 was not "motivated to visit similar programs in other countries" because "outreach programs targeting rural communities were practically unknown at the time."[178] The Rural Health Plan was, however, partly inspired by the "Hospital Without Walls," a community medicine project inaugurated in 1970 in the Costa Rican city of San Ramón.[179] Brazil as well as Costa Rica restructured its entire health system around primary care teams in the early 1990s (Section 6.4), but when questioned about the similarity between the two reform efforts, José Serra, the

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[172] Casas and Vargas 1980: 271--72.

[173] Martínez Franzoni 1999: 165.

[174] Clark 2004: 198-199; Weyland 2006a: 223-24.

[175] Martínez Franzoni 1999: 166; Weyland 2006a: 222-228.

[176] Rosenberg 1979: 122; Rosenberg 1981: 284-85.

[177] Miranda Gutiérrez 2003: 255. The Mexican system was also used as a model (Martínez Franzoni 1999: 171).

[178] Vargas 1995: 67. This perception was not quite correct. The Frei Montalva government in Chile (1964-1970) expanded maternal and infant care in underserved areas (Section 4.4); the SESP program in Brazil provided basic health care in the Northeast and Amazon regions from 1942 to 1993 (Section 5.4); important primary health care initiatives were launched in several Argentine states in or before 1970 (Section 6.4); and the Joint Committe on Rural Reconstruction initiated a major primary care program in Taiwan in the late 1940s (Section 7.4).

[179] Morgan 1993: 94

Brazilian Health Minister from 1998 to 2002, reported that he was unaware of the Costa Rican initiative.[180] Interviews with health officials in Costa Rica by researchers Mary Clark in 2001 and Kurt Weyland in 2003 similarly failed to pick up any reference to the Brazilian experience.[181] One aspect of the EBAIS that did draw on a foreign model was the mode of financing, which was capitation rather than fee-for-service. This mode of financing was based on the British National Health Service and was designed in part by a British health consultant whom the head of the CCSS had met serendipitously at a conference.[182]

International factors and cultural orientations thus worked together with presidential leadership, bureaucratic initiative, and interest group pressure to shape health care policy in Costa Rica during the twentieth century. A democratic political regime also contributed, however. At various points since 1960, Costa Rican politicians have sought to introduce or expand basic health care and water provision programs in part to court the votes of beneficiaries. Democracy has also provided a context in which communities have empowered themselves to demand increases in the quantity and quality of local health care services. A free press and the right to assemble and organize have allowed citizens to discover and debate health-related issues. Also, the sense of equality and entitlement that poor people acquire in the context of long years of democratic (or proto-democratic) experience should not be underestimated as a policy-shaping force. This factor also contributed in Chile to the expansion of basic health services to the poor.

[180] Serra 2003.

[181] Clark 2003; Weyland 2006b.

[182] Weyland 2006a: 307-08; see also Martínez Franzoni 1999: 170-71.

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Table 3.1

Costa Rica: Survival-Related Indicators, 1960-1995

	Infant (0-1) mortality	Under-5 mortality	Adult (15-60) mortality	Life expect-ancy at birth	Decline of infant mortality during previous 5-year period (%)	Decline of under-5 mortality during previous 5-year period (%)	Decline of adult mortality during previous 5-year period (%)	Rise of life expectancy at birth during previous 5-year period (%)
1960	87	123	225	61.9				
1965	75	104	169	64.6	14%	15%	25%	12%
1970	62	83	141	67.1	17%	20%	17%	12%
1975	41	52	142	69.9	34%	37%	-1%	16%
1980	22	26	130	72.7	46%	50%	8%	19%
1985	18	21	107	74.4	18%	19%	18%	14%
1990	15	17	98	75.4	17%	19%	8%	9%
1995	12	14	94	76.2	20%	18%	4%	8%

Sources, Definitions, and Notes

0-1 (infant) mortality: deaths in the first 365 days of life per 1000 live births. 0-1 mortality decline: proportion of the distance traveled, by the end of the five-year period, from the infant mortality rate at the beginning of the period toward a stipulated minimum of 0. Source: Hill et al. 1999.

Under-5 mortality: the estimated number of children born in a given year who will die before age five, expressed per 1,000 live births in that initial year. Under-5 mortality decline: proportion of the distance traveled, by the end of the five-year period, from the under-5 mortality rate at the beginning of the period toward a stipulated minimum of 0. Source: Hill et al. 1999.

15-60 mortality: probability of dying between ages 15 and 60 per 1000 persons reaching age 15 (mean of male and female figures). Adult mortality decline: proportion of the distance traveled by the end of the period from adult mortality rate at the beginning of the period toward a stipulated minimum of 0. Source: Wang et al. 1999, except "1995" (really 1997) figure, from World Bank 2001.

Life expectancy at birth. In years. Rise is the proportion of distance traveled by the end of the five-year period from the life expectancy at the beginning of the period to a stipulated maximum of 85. Source: World Bank 2001.

Table 3.2

Costa Rica: Income-Related Indicators, 1960-1995

	GDP per capita	GDP per capita, avg. annual growth in preceding 5-year period	Gini index of income inequality	Percent of house-holds below national poverty line	Percent of house-holds below national indigency line	Percent of population below internat'l poverty line of $1 per day	Percent of population below internat'l poverty line of $2 per day
1960	3,476		50.0				
1965	3,725	1.5%					
1970	4,181	2.3%	44.5	24	6	3.1	26.0
1975	4,834	3.0%	51.5			13.6	29.0
1980	5,419	2.3%	47.5	22	6	13.2	29.6
1985	4,643	-2.9%	43.8			8.9	22.7
1990	4,931	1.2%	45.9	24	10	9.4	24.7
1995	5,334	1.6%	46.5	21	8	7.4	22.1

Sources, Definitions, and Notes

GDP per capita: In 1996 purchasing power US dollars, according to a chain index. Penn World Tables 6.1 from Heston, Summers, and Aten 2002 (variable RGDPCH). Annual growth in GDP per capita was calculated with the RATE function in Microsoft Excel 4.0 for the Macintosh. Average annual growth in preceding five year period is the mean of the annual growth figures of the indicated year and the four preceding years (e.g., 1961-65).

Gini index: Data for "1960" (1961) from Deininger and Squire (1998); all other Gini estimates from Londoño and Székely 1997: 44. "1975" figure really for 1977; "1980" really 1981; "1985" really 1986. 1960-1975: household income distribution; 1980-95 personal income distribution (Deininger and Squire 1998). Londoño and Székely and Deininger and Squire both found that houshold Ginis were not systematically higher or lower than personal Ginis.

Percent of population below national poverty or indigency line. The poverty line is set at the level of income required to purchase items of basic necessity; the indigence line is set at the level required to purchase enough food to be adequately nourished. Source: Mesa-Lago 2000a: 525; original data from CEPAL. "1980" is really 1981, and "1995" is really 1994.

Percent of population below international poverty line of $1 or $2 per day: In 1985 US dollars at purchasing power parity. Londoño and Székely 1997: 44. The figure for $2 poverty includes everyone experiencing $1 poverty. The authors use a variety of original sources and do not distinguish between those based on household income and those based on individual income.

Table 3.3

Costa Rica: Education, Nutrition, Family Planning, Fertility, Water, and Sanitation Indicators, 1960-1995

	Literacy (age 15+)	Mean yrs. school (15+)	Primary school enrol. (gross)	Secndry. school enrol. (gross)	Family planning effort	Total fertility rate	% with access to safe water	% urban pop. with adequate sanitation
1960	84.0	4.03	96.0	21.0		7.3	58.9	69
1965		4.16	106.0	24.0		6.7	63.3	
1970	88.2	3.94	109.7	27.9	70	4.9	72.0	86
1975	90.1	5.14	107.0	42.6		3.9	78.1	
1980	91.7	5.19	104.9	47.5	33	3.6	81.8	94
1985	92.9	5.39	97.0	40.2		3.7	90.6	93.7
1990	93.9	5.55	100.7	41.6	55	3.2	92.1	96.9
1995	94.8	5.77	102.5	47.6	46	2.8	92.4	92.4

Sources, Definitions, and Notes

Literacy: ages 15 years and older: World Bank 2001, except 1960, from Wilkie 1978: 118.

Mean years of schooling in the population 15 years of age and older: Barro and Lee 2000.

School enrollment: World Bank 2001.

Family planning effort: Mean expert rating of family planning effort in Costa Rica, expressed as a percentage of maximum attainable score. "1970" really 1972; "1980" really 1982;"1990" really 1989; "1995" really 1994. Mean effort in the respective years for 96-104 countries: 20, 29, 46, and 48. The 1972 data are not strictly comparable to the later years, but comparisons to the mean effort score are valid for all years. Ross and Mauldin 1996: 146.

Total fertility rate: Source: World Bank 2001.

% with access to safe water: Figure for "1995" (really 1994) from WHO/UNICEF 2001. Previous figures from Mesa-Lago 2000a: 530, drawing on CEPAL and PAHO sources. "1965" figure really 1964; "1970" really 1969, "1975" really 1977; "1990" really 1989. Figures calculated from separate urban and rural estimates using data on rural population share (World Bank 2001) in the given year.

% with access to adequate sanitation: "1995" (really 1994) from WHO/UNICEF 2001; 1985 and "1990" (really 1989) from Mesa-Lago 2000a: 530, drawing on ECLAC and PAHO sources. Both sources give separate estimates for urban and rural areas; the national figure was calculated using data on proportion rural (World Bank 2001) in the corresponding year. Figures for 1960, 1970, and 1980 ("population with faeces disposal") from Rosero-Bixby 1996: 168.

Table 3.4

Costa Rica: Health Care Indicators, 1960-1995

	Health spending, public, % GDP	Health spending, total, % GDP	% under 6 with adequate nutrition	% rural pop. covered by rural health program	Doctors per 10,000 pop.	Hospital beds per 10,000 pop.	Percent of births attended by trained health personnel	Immuni-zation, DPT3	Immuni-zation, measles
1960					3.7	45			
1965					4.9	42			
1970					6.1	40	74		
1975				34	6.6	38	83		
1980			93.7	60	7.1	30	92	86	60
1985				62	10.1	26	95	75	81
1990	5.3	6.6	97.2	65	9.8	22	95	95	90
1995	4.7	6.2	97.8		10.8	25	98	85	94

Sources, Definitions, and Notes

Health spending as % GDP, public and total. World Bank 2001.

% under 6 with adeq. nutrition: Proportion of children under 6 within 2 standard deviations of the normal weight for age. "1980" is really 1982; "1995" is really 1994. Source: WHO 2002a.

% rural pop. covered by rural health program. Jaramillo Antillón 1993: 76. The proportion in 1973, the first year of the program, was 11 percent; in 1974 it was 19 percent. "1990" is really 1988.

Doctors per 10,000 population. Mesa-Lago 2000a: 527. Figure for "1980" really for 1979, "1985" really 1984; "1995" really 1994.

Hospital beds per 10,000 population. Mesa-Lago 2000a: 527. Figure for "1995" really for 1994.

Percent of births attended by trained health personnel: 1970, 1990-2000: Costa Rica. MIDEPLAN (2003): Table 5-7. 1975-1988: Ramírez Rodríguez 1992: 230.

Immunization, DPT3 and measles. % of children under 12 months. WHO 2004. "DPT3" refers to the share of infants given three doses of the antigens against diphtheria, pertussis, and tetanus.