Report from Venezuela

BARRIO ADENTRO AND THE REDUCTION OF HEALTH INEQUALITIES IN VENEZUELA: AN APPRAISAL OF THE FIRST YEARS

Francisco Armada, Carles Muntaner, Haejoo Chung, Leslie Williams-Brennan, and Joan Benach

This article presents an update on the characteristics and performance of Venezuela's Bolivarian health care system, Barrio Adentro (Inside the Neighborhood). During its first five years of existence, Barrio Adentro has improved access and utilization of health services by reaching approximately 17 million impoverished and middle-class citizens all over Venezuela. This was achieved in approximately two years and provides an example of an immense "South-South" cooperation and participatory democracy in health care. Popular participation was achieved with the Comités de Salud (health committees) and more recently with the Consejos Comunales (community councils), while mostly Cuban physicians provided medical care. Examination of a few epidemiological indicators for the years 2004 and 2005 of Barrio Adentro reveals the positive impact of this health care program, in particular its primary care component, Barrio Adentro I. Continued political commitment and realistic evaluations are needed to sustain and improve Barrio Adentro, especially its primary care services.

During the 1990s, most Latin American countries, except Cuba, undertook reforms in their health systems. In general, they followed a pattern similar to that adopted in other parts of the world pursuing a neoliberal agenda, such as promoting changes to achieve greater participation of the private sector in the funding and delivery of health services, to the detriment of the role played by the state as manager of a variety of public health services. Despite the different modes of reform, all strengthened the view of health as a consumer item and favored abandonment of the concept of health care as a right guaranteed by the

International Journal of Health Services, Volume 39, Number 1, Pages 161–187, 2009

doi: 10.2190/HS.39.1.h
http://baywood.com

state. Most of the implemented changes corresponded to the so-called policies of structural adjustment, in accordance with the neoliberal paradigm recommended by international financial institutions with the aim of guaranteeing payments of the external debt (1–4). After several years of application, the adverse effects of neoliberal health policies are evident, given their inability to improve coverage or access to health services. These negative consequences coincide with the general failure of neoliberalism to improve people's quality of life; thus, Latin America remains the region of the world with the greatest inequalities between social classes.

These persistent inequalities have motivated a variety of political responses in Latin America, one being advocacy by liberal left-wing sectors in various countries of the region of proposals openly contrary to neoliberalism, promoting policies to reverse the privatization of health care and tackling it as a right guaranteed by the state. The amendments to the Venezuelan health system are one of the earliest examples of this change of direction, implemented in the area of health, as an alternative to neoliberal models. From 1999 onward, after a decade of implementing neoliberal policies, a marked adjustment in the health system was initiated that was aimed at guaranteeing health as a fundamental right by the state in a context of broad participation of organized communities and international ("South-South") cooperation.

This article describes the primary health care reform program in Venezuela, formalized as Misión Barrio Adentro from 2003 onward. First, we analyze the neoliberal model existing in Venezuela at the time the changes in health policy were initiated, then we describe the appearance of Barrio Adentro in its historical, political, and social context, pointing out the central role played by popular resistance to neoliberalism. We continue with a description of the program's operation and consolidation, an analysis of the first indicators of its impact on health, and a discussion of the main challenges to guaranteeing sustainability. Finally, we suggest that Barrio Adentro not only provides a model for health care reform in other countries in the region, but also offers important lessons for other countries in the world, including those with the most powerful economies.

In conducting this study, a variety of political actors were interviewed who had been involved in the development of the health system in both Venezuela and Cuba, including patients, officials from the Venezuelan Ministry of Health, health workers, and members of health committees. A review of the Venezuelan press, legislation passed by the National Executive, gray literature mainly from the Ministry of Health, and official epidemiological registries was also performed. Finally, one of the authors also participated in the implementation of Barrio Adentro.

Without doubt, the political, economic, and cultural context in the different Latin American countries has influenced the recent development of their social

policies. This would explain why the development of social security systems, including health care, from the end of World War II until the early 1980s, is related to the struggle and gradual organization of urban industrial workers (5, 6). It also helps in understanding the impact of the various crises of global capitalism on the social policies of the continent, from the crisis generated by the breaking of the Bretton Woods agreement, to the mandates of structural adjustment policies imposed by multilateral financial organizations (principally the World Bank, the International Monetary Fund, and the Inter-American Development Bank) (5).

The structural adjustment programs, despite having no scientific support (7), were fundamental to determining the changes carried out in health systems in the region during the 1990s. Financial organizations promoting structural adjustment programs attempted to rectify the perceived failure of the state as guarantor of social protection through substitution by the free market as the best mechanism to achieve economic and social prosperity (3). Reductions in state expenditures on health and the subsequent deterioration of health services during the 1980s were drastic (1, 8), which justified the presentation in the 1990s of privately managed and delivered services as the only viable option for health systems. In this context, in 1993 the World Bank published the *World Development Report: Investing in Health* (9) in which it defines the two main strategies for improving health in countries with medium and low incomes: (*a*) limit state investment in health in order to reduce costs and attack poverty, and (*b*) promote competition and diversity in the funding and delivery of health services by facilitating increased incorporation of the private sector. This World Bank publication constitutes much more than an academic exercise, given the enormous political and financial influence of the Bank in formulating public policies in the countries of the region and its role in directly funding health reforms (4).

The reforms introduced a variety of mechanisms for administration and funding of health services and other areas of social protection, particularly pensions and attention to occupational risks. Furthermore, decentralization was promoted as a mechanism for weakening national governments and to facilitate privatization. Numerous private entities arose to administer resources for health, and there was an enormous increase in participation of private delivery of health care services. The negative effects of these neoliberal health reforms have been widely reported (8, 10–13), as well as the fact that the only beneficiaries have been transnational corporations based in Europe and North America in alliance with the local elites involved in administration and delivery of health services and other areas of social security (2, 3, 14).

Although following different modalities, the neoliberal reforms in health were implemented in the majority of Latin American countries (4). Venezuela was no exception, as described in detail in the following section.

STRUCTURAL ADJUSTMENT AND NEOLIBERALIZATION OF HEALTH IN VENEZUELA

Venezuela joined the neoliberal movement in Latin America relatively late, which some authors attribute to the strength of the oil economy dominant in the country (15). In any case, apart from oil (or thanks to it), Venezuela followed a pattern of deepening external debt between the end of the 1970s and the mid-1980s. The failure of policies intended to promote an equitable distribution of oil-generated earnings, the increase in the national debt, and a fall in oil revenue during the 1980s contributed to the socioeconomic crisis, which reduced 54 percent of the population to living in situations of extreme or critical poverty by the end of 1989. That year, the social democrat Carlos Andrés Pérez was elected president for the second time following a campaign in which he promised the return of the economic explosion experienced in the 1960s, during his first presidency (15, 16).

Following the dictates of the dominant neoliberal ideology and using the justification of combating the growing poverty, Peréz embarked on the execution of a plan in agreement with recommendations prescribed in the region by the World Bank and the International Monetary Fund. The plan, nicknamed El Paquete, involved a profound reduction in public expenditure, privatization of public enterprises, increased opportunity for oil exploitation by foreign parties, liberalization of commerce, and a poverty diminution program (16, 17). The initial enthusiasm for the implementation of these reforms soon faded, and the policy quickly faced extensive popular opposition; subsequently, Pérez was removed from power in 1993 following a trial for corruption (18). In terms of health, this period saw the decentralization of a broad network of existing public services, with control passing from the national government to some regional governments. This accentuated the existing fragmentation of providers and public funders of health services and aggravated their deterioration.

After a transition government lasting approximately one year, Rafael Caldera, a Christian democrat, won the 1993 presidential elections promising not to continue the neoliberal policies. In practice, however, the opposite happened, with the focus on a plan known as Agenda Venezuela, which followed the neoliberal recipe. In health, the Venezuelan government obtained two substantial loans for reforms, one from the World Bank and the other from the Inter-American Development Bank (19, 20), with both aimed at facilitating a restructuring of health sector funding, preferably giving an increased role to private funding.

The decentralization of highly demanded health services, combined with the austere fiscal measures of the early 1990s, left the responsibility for the management of poorly equipped health facilities to regional governments. These indirectly favored the privatization of many services through a variety of mechanisms, principally that known as "cost recovery"—in other words, users pay for services rendered (21–23). In fact, in 1997, 73 percent of health expenditure in Venezuela was private (21). A clear deterioration of public health services was

presented as an irrefutable rationale for proposing a radical reform of the health system toward the end of that presidential period. The plan copied the Chilean and Colombian models of separating the funding and delivery of services, tackling individual health care and population-based health care and promotion separately, which stimulated private investment in health care by promoting capitalist competition between different providers of lucrative services. The proposal was transformed into legislation, which additionally included a pensions reform that imitated the Chilean "miracle" in administration of pension funds (24).

It was in this context of neoliberal social policies, with two-thirds of the population living in poverty or extreme poverty, coupled with a dramatic fall in oil prices, that Hugo Chávez was elected president of Venezuela in December 1998. This victory was interpreted by some authors as the political conclusion of two decades of increasing popular mobilization against corrupt Venezuelan regimes and the growing neoliberal political agenda (25). The newly elected government began to revolutionize policies, as outlined by the president in his anti-neoliberal speeches during the electoral campaign.

EARLY PHASES OF BARRIO ADENTRO

Chávez undertook profound changes in public policies, which in the case of health constituted the preparatory steps to the creation of a new system. First on the agenda was the suspension of the so-called Caldera Laws, which had regulated the conversion of the existing system to one of private administration and delivery of medical services. This action by the new government disrupted the privatization process of the Venezuelan Social Security Institute, charged with management of the health system and (formal economy) workers' pensions, an extensive public health system second only to the national system, managed by the former Ministerio de Sanidad y Asistencia Social in coordination with some regional governments. Next, the new government implemented a variety of strategies to eliminate barriers to health care, which entailed: (*a*) a decree to immediately suspend the charging of patients by emergency departments of public institutions; (*b*) implementation of a new Model of Integral Health Care, which changed the organization of primary care by age groups, procedures, and medical specialties favorable to service providers, to a new arrangement oriented around the needs of patients; and (*c*) better equipping of primary health care centers through a special plan involving equipment and infrastructure improvements. Next on the new government's agenda was the reinforcement of a preventive approach to health, transferring the emphasis from curative care to health promotion and disease prevention, something that permitted more effective actions against dengue and malaria, for example, as well as extension of the coverage provided by immunization programs. This first stage corresponded to the period 1998–2000 and included the important political definitions of health established in the Bolivarian Constitution.

In terms of definition of health policy, the most notable aspect is the constitutional process, culminating with establishment of various constitutional principles regulating health policies. The most substantial change from the previous Constitution was recognition of health as a fundamental right, and the duty of the state to guarantee it.

Three articles in the Constitution contain the main definitions for the country's health sector. Article 83 defines health as a constitutional right linked to the right to life. Article 84 stipulates as a duty of the state the creation and administration of an integrated, universal public health system that provides free services and prioritizes disease prevention and health promotion. Furthermore, it explicitly prohibits the privatization of public services. Finally, the public character of funding is established in Article 85, which specifies the fiscal resources and workers' social security premiums.

The Ministry of Health subsequently published the Social Strategic Plan, which details the conceptual framework for the practical implementation of constitutional precepts, with the emphasis on equality, universality, and social territoriality, and tackles questions of gender, ethnicity, social class, and community participation (26). Following this conception, different health legislation projects have tried to outline the principles and organization of the system, although by the end of 2006 there was still no health legislation meeting the precepts of the 1999 Constitution.

Constitutional precepts reflect popular political demands in several areas, aspiring to understand health as a right. Steps taken between 1998 and 2002 managed to check the advance of neoliberal policies and eliminate barriers to access, but they were still far from satisfying the popular demand for improved health services. There was a need to continue the search for alternatives. Responses were facilitated in two ways. First, similar needs in the area of achieving universal literacy had led to the development of a *sui generis* organizational strategy, later known as a "mission." A "mission" was aimed at concentrating the efforts of different sectors and public organizations in order to rapidly satisfy urgent social needs, increase community participation, get around certain bureaucratic obstacles, and employ the organizational and logistic capabilities of the Armed Forces in the development of civil social actions. Second, a natural catastrophe in the state of Vargas required immediate responses to meet the health needs of the affected population and demonstrated the support of the Cuban government, which provided medical and paramedical personnel.

The need of the population for better access to health services became exceedingly evident in Caracas during 2002 through demands made by organized community groups, and was corroborated by social studies conducted by the city council of the municipality of Libertador. To meet these requirements, the city council designed a plan to provide basic health care through Casas por la Salud y la Vida in certain metropolitan areas ("marginal neighborhoods") lacking any type of public services, and in January 2003, the council invited physicians to

participate in the new program. The response was minimal, and the justifications given included concerns about personal safety and the lack of infrastructure to practice medicine. Based on humanitarian support provided by Cuba during the Vargas tragedy, Caracas mayor Freddy Bernal, with the support of President Chávez, agreed on a pilot project with the Cuban government. In April 2003, 58 Cuban physicians specialized in integral general medicine (a form of family medicine) were established in several peripheral neighborhoods (*barrios*) of Caracas to provide primary health care. The various health team personnel live in the same *barrio* (27), and an assistant known as a Defensor de la Salud (Defender of Health), who is chosen from the community and trained by the Ministry of Health, undertakes basic support to the physicians. This way of providing health care was initially supported by extensive participation of organized community groups, mainly the urban land committees, which together with the team from Libertador city council and the Cuban Medical Mission proceeded to elaborate preliminary work plans for the physicians and conduct a survey of the community's living conditions. Initially, physicians were housed in dwellings voluntarily provided by community members. Their presence in the communities, their availability to see primary care patients at any time of the day or night, and their close coordination with community organizations were key in the program's high level of acceptance.

In September 2003, after the pilot program had been evaluated and considered a success, President Chávez named the program Misión Barrio Adentro, and converted it into a national plan. It is defined as an initiative aimed at satisfying the constitutional requirement of health as a social right through a public health system. Moreover, it is supported by the principles of equality, universality, accessibility, solidarity, multisectoral administration, cultural sensitivity, and social participation and justice. Participation of the community is recognized as fundamental to the creation and development of the plan (27).

To facilitate development of the program, in December 2003 (officially inaugurated in January 2004) a multisectoral presidential committee, Misión Barrio Adentro, was established. The committee, administered by the Oro Negro Civil Association, was responsible for the implementation and coordination of the Primary Health Care Program, with participation of the ministries of Health, Labor, Energy, Defense, the presidents of Petróleos de Venezuela, S.A., and Frente Francisco de Miranda (organization of defenders of social rights), and the mayors of two Caracas municipalities, Sucre and Libertador (28).

The expansion of Barrio Adentro to the national level was undertaken in 2004. In the first stages geographic coverage was expanded in Caracas, and finally to the rest of the country. During this initial phase, efforts were concentrated on creating medical centers and providing housing for physicians, conducting a census of the communities corresponding to each center, characterizing the living conditions of each community, and reorganizing community participation through the formation of health committees. The number of new

medical centers increased from 13 at the end of 2003 to 2,708 by mid-2007. The number of cooperating physicians rose rapidly from the initial group of 54, such that there were 1,628 physicians in 1998, and 19,571 by mid-2007. Meanwhile, the number of health committees grew from 2,124 in 2003 to 8,951 in 2006. This initial implementation and exploratory phase allowed for the progressive development of a particular model of care, strongly influenced by positive aspects of the Cuban health care system (see Figures 1, 2, and 3).

At the primary level, the health care model of Barrio Adentro has the following characteristics:

1. Catchment areas: Each medical center provides coverage for between 250 and 400 families, for whom a family medical record is kept, as well as individual clinical records.
2. An integral care model: In general, medical consultation and curative care take place in the mornings, while afternoons are dedicated to home visits.
3. A paradigm of health promotion in all activities undertaken: These activities include, apart from those already mentioned, visits to schools and workplaces.
4. Participative model: Design and realization of all activities are controlled by decisions taken by the community, with residents of the neighborhood participating in administration and delivery of primary health care (29).

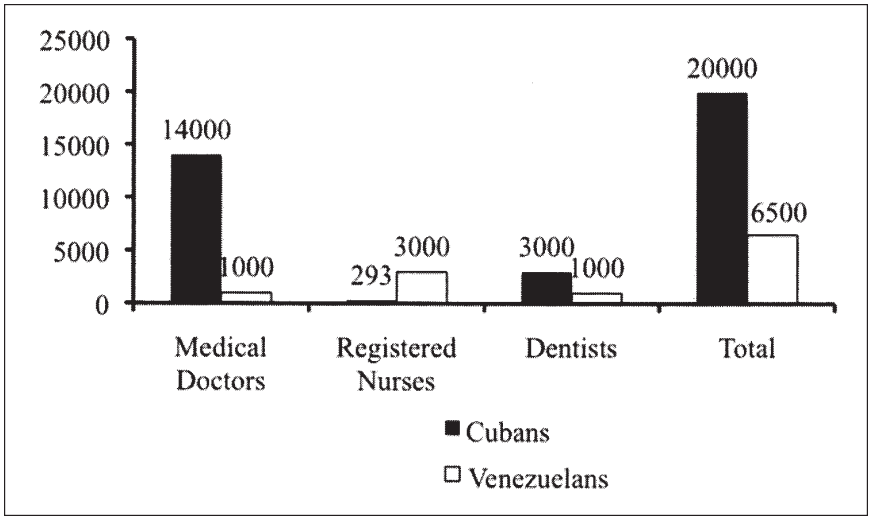

Figure 1. Number of Cuban and Venezuelan medical personnel, May 2, 2005.

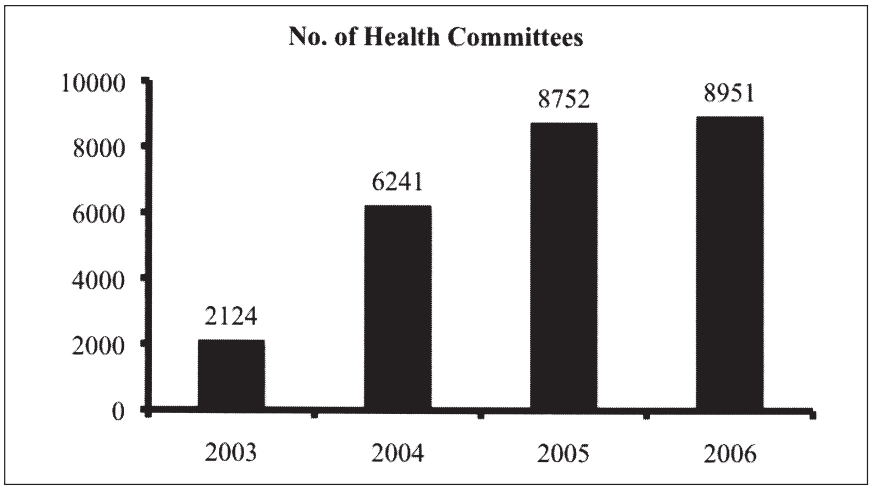

Figure 2. Number of health committees (Comités de Salud), April 2003 to May 2006.

5. Training: Each medical center has an educational function, providing training of community health promoters and health technicians, for both undergraduates and graduates (30). Closely linked with the teaching aspect is scientific research into the population's health problems (e.g., 31–35).
6. Intersectoral model: The model of care emphasizes a holistic approach to living conditions through coordination of health actions with other social interventions.

Implementation of Barrio Adentro produced negative reactions from the political opposition, with three main objections. First, the private press repeatedly objected to the presence of Cubans in the country, presenting it as an attack on national sovereignty. Second, the traditional medical association (Federación Medica Venezolano, FMV), controlled by opponents of the government, argued that Cuban professionals, medical science, and pharmaceutical products were of low quality. They subsequently filed a lawsuit in an attempt to have it declared illegal for Cuban physicians to practice in Venezuela. Ironically, this generated a popular response in defense of Barrio Adentro and a weakening of the opposition posed by the FMV to the presence of the Cuban physicians. Finally, many patients referred by Barrio Adentro were refused admission to established public hospitals (36). This was resolved in Caracas by concentrating referrals in two hospitals, the Hospital Militar and the Hospital Universitario de Caracas, where there was extensive sympathy for the program.

Table 1 summarizes the main achievements of Barrio Adentro I.

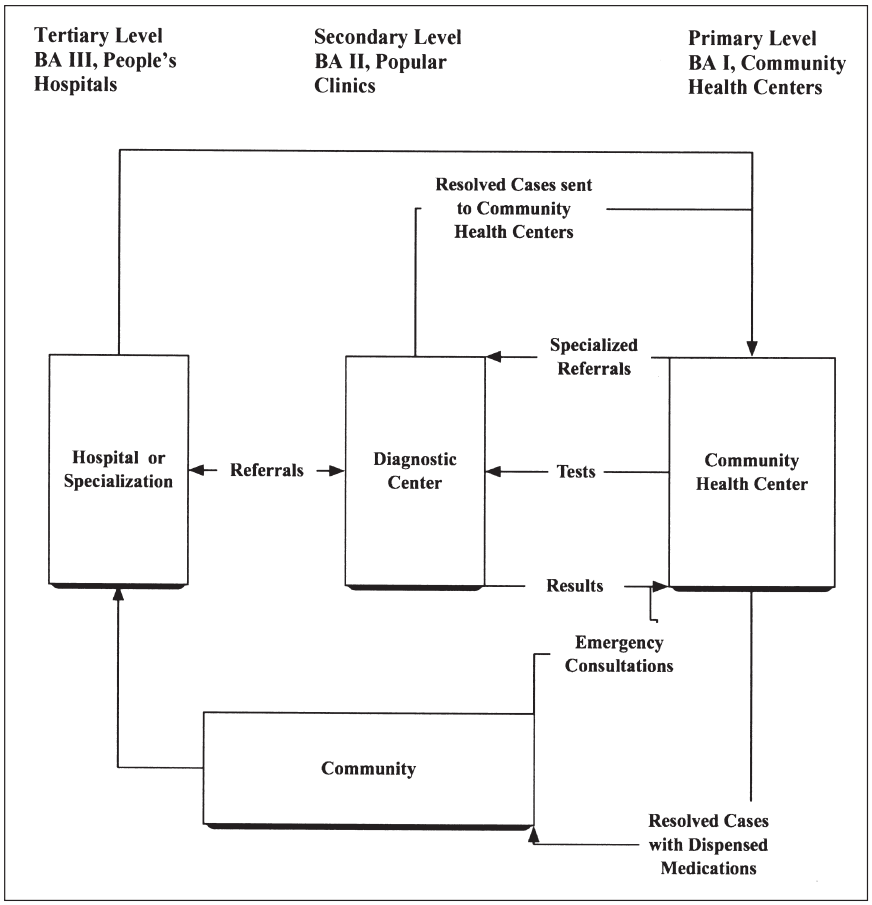

Figure 3. Flowchart of the future national public health system. BA, Barrio Adentro.

SECOND PHASE OF BARRIO ADENTRO

The success resulting from extending primary care coverage, the unmet demands for secondary-level care, the need to guarantee sustainability of the system, and even the very popularity of the system—all led to the development of an additional group of interventions after 2004, which we classify here as the second stage of Barrio Adentro. Six main objectives were tackled: (*a*) consolidation of primary-level care, (*b*) opening up of secondary-level care, (*c*) a hospital and specialized care program, (*d*) plans for rapid large-scale training of Venezuelan health personnel, (*e*) reinforcement of policies for collective health, and (*f*) institutional adaptation. These are addressed below.

Table 1

Major achievements of Barrio Adentro I, 2005

	Conventional system	Barrio Adentro system
Physicians in primary care	1,500	13,000
Coverage	3.5 million	17 million
Primary health care centers	4,400 (1,500 with physicians)	1,050 (completed)
Primary care dentists	800	4,600
Nurses or aides in primary care	4,400	8,500
Opticians	0	441
Promotion and prevention activities	Varies, in the health center	In the health center and out in the community
Medication dispensing	Varies according to supply	103 medications for the most common presenting illnesses; Popular Pharmacies

Consolidation of Primary-Level Care

To enable the consolidation of primary-level care, known as Barrio Adentro I, a plan was initiated to provide all primary medical centers with appropriate infrastructure and furniture. It aims to set up more than 6,000 centers and to erect new buildings and remodel existing ones. Given the magnitude of the task, the responsibility for new construction was assigned to 40 different organizations, both national and local (regional and local councils). As of May 2008, of the 6,574 planned community medical centers, around 3,320 had been built (29). Figures 4, 5, and 6 illustrate some developments in Barrio Adentro I.

Opening Up of Secondary-Level Care

Health care provided by Barrio Adentro guaranteed actions involving health promotion and curative care in the majority of cases; however, many patients required paraclinical diagnostic examinations or more complex procedures. Thus the opening of a second level of care was planned through a program named Barrio Adentro II. The opening of 600 secondary care establishments was planned for the whole country; these are known as Centros de Diagnostico Integral (CDI). By May 2008, a total of 417 CDIs had begun to operate. Each of these centers provides the following services: 24 hour emergency service, paraclinical laboratory tests (hepatology, feces, urine), ultrasound, endoscopy, X-ray, electrocardiography, and ophthalmology. In addition, each center has on average three

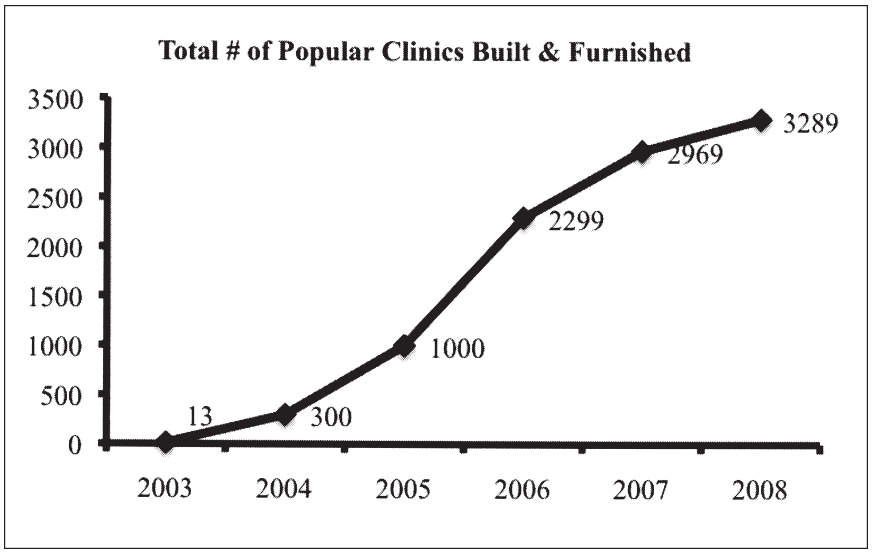

Figure 4. Construction of popular clinics, as of May 2008.

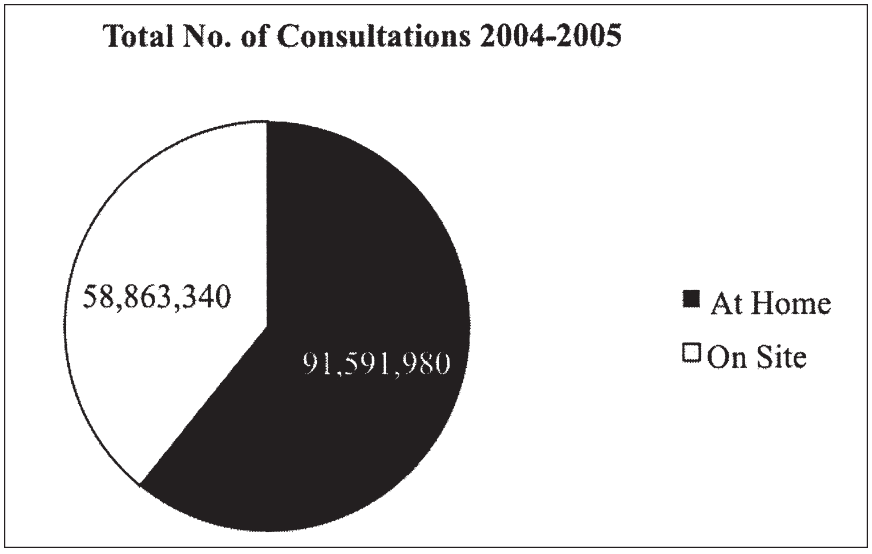

Figure 5. Total number of physician visits under the Barrio Adentro program, 2004–2005.

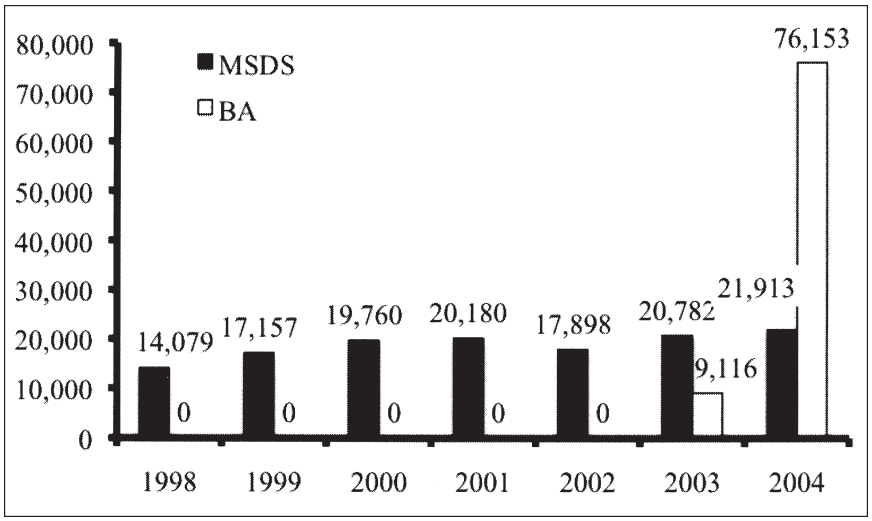

Figure 6. Medical visits, 1998–2004, Ministry of Health and Social Development (MSDS) versus Misión Barrio Adentro (BA).

intensive care beds, and one in every four CDIs has an operating space for emergency surgical operations. Although there is no rigorous estimate of the impact of these services, the total number of activities performed by CDIs at the end of 2007 (see Table 2) suggests an increase in health coverage throughout the country.

The CDI complements an earlier secondary-level care initiative, the program of Clínicas Populares: small hospitals with the capacity for elective surgical interventions, maternal and pediatric care, and a series of medical specialties not present in the CDI (obstetrics, internal medicine, traumatology, ophthalmology, general surgery). Between 2004 and May 2007, 44 such centers were opened, all employing Venezuelan personnel.

Barrio Adentro II includes other services that improve the system's capacity to resolve health problems: the High Technology Centers (Centros de Alta Tecnología, CAT; see Table 3). At the national level, 35 of these centers were planned. The first center was finished in February 2006, and two years later 18 had been established. The CAT exclusively provides diagnostic support services, performing magnetic resonance imaging, computerized axial tomography (CT scan), ultrasound, mammography, bone densitometry, video endoscopy, electrocardiography, and several other tests.

Finally, Barrio Adentro II includes a third type of establishment: Integral Rehabilitation Rooms (Sala de Rehabilitación Integral, SRI; see Table 4), which are paired with the CDIs; 600 are planned throughout the country. These SRIs are

Table 2

Total number of activities completed at the Centros de Diagnostico Integral, 2004–2007

Activities	2004	2005	2006	2007	Combined total, 2004–2007
Lab clinical	204,784	3,397,227	16,425,430	67,665,974	87,703,415
Electrocardiography	20,365	199,419	923,164	3,383,522	4,526,470
Ultrasound	72,051	667,917	1,454,614	3,617,087	5,811,669
Endoscopy	2,190	49,897	160,717	450,350	663,154
X-ray	5,549	246,352	1,393,420	3,772,895	5,418,216
Ultra-micro-analytic system	1,095	50,785	511,688	3,773,086	4,336,654
Emergency surgery	0	952	4,871	5,769	11,592
Elective surgery	0	0	5,057	29,037	34,094
Childbirths	0	0	342	1,115	1,457
Caesarian births	0	0	55	178	233
External consultations	0	0	1,415,112	5,109,544	6,524,656
Ophthalmology consultations	0	145,015	1,845,673	6,400,577	8,391,265

Table 3

Total number of activities completed at the Centros de Alta Technología, 2006–2007

Activities	2006	2007	Combined total, 2006–2007
Video endoscopy	7,884	23,631	31,515
Mammography	15,217	56,287	71,504
Magnetic resonance imaging	18,230	62,862	81,092
CT scan	31,108	97,781	128,889
Bone density	28,841	94,551	123,392
3-D ultrasound	14,827	64,651	79,478
Electrocardiography	12,409	97,093	109,502
X-ray	21,154	99,924	121,078
Clinical lab	663,602	3,240,996	3,904,598

Table 4

Total number of activities completed at the Sala de Rehabilitación Integral, 2005–2007

Activities	2005	2006	2007	Combined total, 2005–2007
Consultations	77,949	531,638	1,898,205	2,057,792
Rehab visits	325,163	2,712,121	8,381,771	11,419,055
Treatments	940,236	13,309,202	69,273,668	83,523,106
Electrotherapy	160,839	1,633,273	10,381,212	12,175,324
Thermotherapy	88,355	1,618,985	6,203,671	7,911,011
No. of patients using gym for adults	392,506	6,508,614	31,264,204	38,165,324
No. of patients using gym for children	92,488	1,317,814	4,292,433	5,702,735
Medicine (natural and traditional)	80,337	449,857	2,477,480	3,007,674
Speech therapy	35,153	479,854	6,194,502	6,709,509
Occupational therapy	77,574	1,117,692	6,589,515	7,784,781
Podiatry	12,984	136,347	950,661	1,099,992
Hydrotherapy	0	46,766	919,990	966,756

intended to cover a shortcoming that became evident in Barrio Adentro I: care for the disabled. They provide electrotherapy, ultrasound, laser therapy, hydrotherapy, pediatric and adult gymnastics, occupational therapy, and speech therapy services. They also offer consultation in natural and traditional medicine. The first 30 centers were completed by June 2005, and by May 2008, 504 were operational. There were only 63 public services of this type in the entire country in 2004, employing both Cuban and Venezuelan personnel.

Figure 7 shows the progress of setting up the three types of establishments between 2005 and 2008.

Community participation has also been an important element for the process of constructing, equipping, and opening of the various types of establishment for Barrio Adentro II. Each CDI-SRI pair has a catchment area of between 5 and 20 primary health centers, and each has a health committee. Although initially limited to the health committee sited nearest to the establishment under construction, others in the same catchment area were eventually incorporated. With the aim of facilitating community participation, seven simultaneous assemblies of the health committees, corresponding to each center, were convened during 2006 through national press and television. They met with the building and

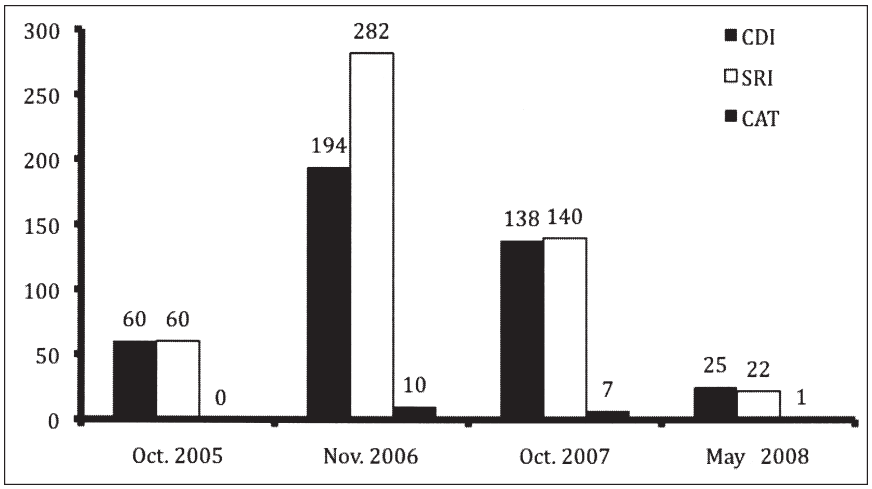

Figure 7. Construction of Barrio Adentro II centers, CDI (left black), SRI (white), and CAT (right black) (see text discussion), 2005–2008.

equipment installation contractors and representatives of the Ministry of Health and of Misión Medica Cubana. These assemblies were involved in defining the operation of this new level of the network and in enabling members of the community to resolve various problems related to implementation.

Hospital and Specialized Care Program

Barrio Adentro III includes adaptation of the infrastructure, equipment, and personnel of Venezuela's 300 existing public hospitals, which began in 2006 and was reformulated in 2007. The project plans improvements in infrastructures, with 1.3 million bolivars allotted for the improvement of equipment, and better training of personnel.

This third phase includes as a special component the installation of a network offering radiotherapy and chemotherapy. The national plan aims to open 18 specialized centers throughout the country (target coverage, 85% of the population), of which 9 were fully operational by the end of 2006. The rest were scheduled to open during 2007. This component is particularly important given that cancer is the second leading cause of death for both men and women.

Barrio Adentro IV (see Table 5) involves the construction of a dozen new general hospitals, each with a specific area of hyper-specialization. The two main objectives of these facilities are to achieve high specialization in areas of strategic importance to the country, while simultaneously broadening general hospital coverage (particularly in areas with low ratios of beds per inhabitant). This

Table 5

Planned hospitals in the Barrio Adentro IV network

State	Health centers
Miranda	General Hospital of Pneumonology, National Center of Oncology, General Hospital of Neurosurgery
DDTO capital	Adult Cardiology Hospital, Blood and Cord Bank
Aragua	National Center for the Treatment of Addictions
Barinas	General Hospital of Toxicology
Apure	General Hospital of Maternal Childhood
Mérida	General Hospital of Gastroenterology
Cojedes	General Hospital of Orthopedics
Carabobo	General Hospital of Ophthalmology
Guárico	General Hospital of Nephrology and Urology
Zulia	Blood Bank

program was formalized in December 2006 with the creation of an institution responsible for its administration. Although initiated as an independent project, the Hospital Cardiológico Infantil Latinoamericano "Dr. Gilberto Rodríguez Ochoa" (HCIL), inaugurated in August 2006 (see Table 6), corresponds to this phase of Barrio Adentro and has served as a model for execution of the process at other hospitals.

In parallel with the development of this second phase of Barrio Adentro, two additional programs were established for high-impact areas of health. The first is aimed at treating cataracts and other common vision-related pathologies, and is known as Misión Milagro (see Figures 8 and 9). This program began with the development of two extensive adult education programs (Misión Robinsón), which detected many people with vision conditions that were a barrier to learning, and it was formally constituted in 2006. The second, Misión Sonrisa (see Table 7), is also a credit to the "mission" strategy. Primary care dental services in Barrio Adentro permitted necessary tooth extractions, leaving patients in need of dental prostheses. The new mission is aimed at caring for these patients and plans the installation of 140 laboratories throughout the country.

CONSIDERATIONS ON THE IMPACT OF THE BARRIO ADENTRO PROGRAM

To rigorously ascertain the impact on quality of life of any health system is a difficult challenge. In the present case, the complexity is even greater because we are dealing with a system still under construction, and thus subject to frequent

Table 6

Health care activities at the Hospital Cardiológico Infantil Latinoamericano "Dr. Gilberto Rodríguez Ochoa"

	No., August 20 to December 21, 2006	No., January 1 to July 23, 2007	Total
Interventions			
Surgery	234	328	562
Hemodynamics	129	257	386
Total	363	585	948
Indicator			
Diagnostic imaging	2,354	4,974	7,328
Echocardiograms	1,065	1,774	2,839
Laboratory exams	28,839	50,003	78,842
Blood bank donations	566	680	1,246
Deceased	15 (4%)	39 (7%)	54 (6%)

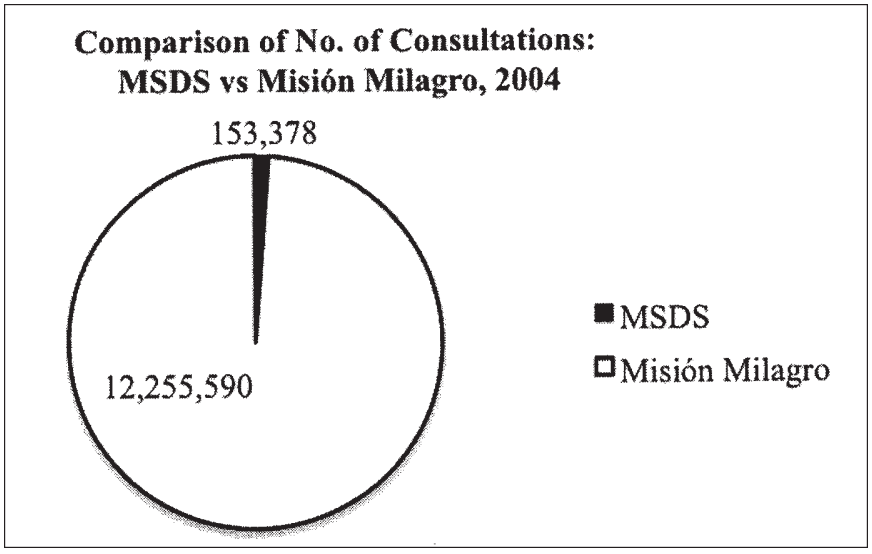

Figure 8. Comparison of number of consultations registered at the Ministry of Health and Social Development (MSDS) and Misión Milagro, 2004.

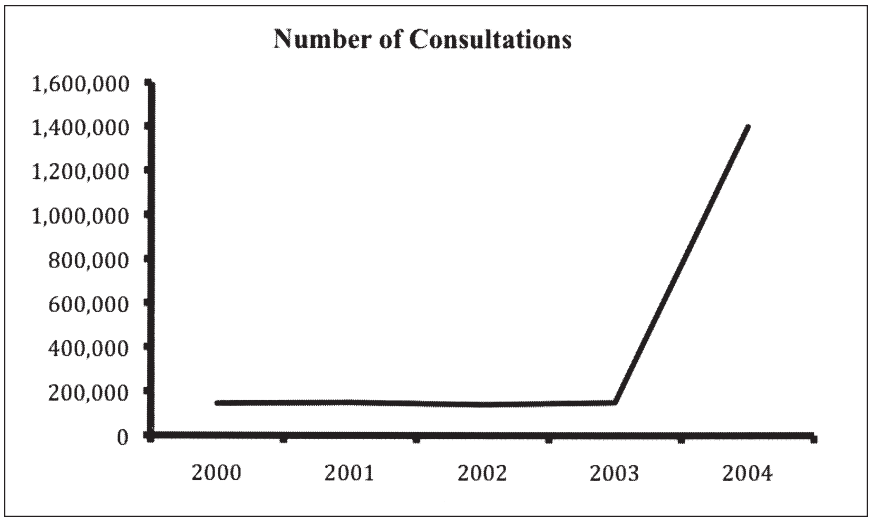

Figure 9. Number of consultations, Misión Milagro, 2000–2004.

Table 7

Misión Sonrisa

Goal	Description	States (no.)
Inauguration of 38 dental laboratories: a través Misión Sonrisa	8 assigned laboratories	Aragua (2), Vargas (2), Mirando (2), Caracas (2)
	30 laboratories planned; necessary inventory of 7 states	Zulia, Mérida, Carabobo, Nva. Esparta, Lara, Guárico, Barinas

modifications. Moreover, Barrio Adentro arises in a context of interaction with other public policies having considerable effects on the population's living conditions. Nevertheless, in this section we present some preliminary data on the impact of Barrio Adentro.

We present empirical evidence from three different perspectives. First, patient interviews reflect a high degree of satisfaction with services received, in four particular areas: (*a*) quality of care (which is described as "warm," "human"); (*b*) accessibility: centers are geographically close to users, care is free, and hours of availability are extensive; (*c*) the provision of medicines free of charge (37); and

(*d*) significantly reduced waiting times to receive care (in comparison with hospitals). Another indicator of patient satisfaction is reflected through surveys, which illustrate the degree of acceptance of Misión Barrio Adentro, with satisfaction levels exceeding 60 percent. A further indirect indicator involves the political activism shown by health committees in defense of the program when the right-wing opposition has attacked it.

Second, the increase in access to health services is a clear indication of the improvement in quality of life experienced through Barrio Adentro. The number of primary care centers increased about threefold between 1998 and 2007. The location of the new medical centers also helped reduce geographic barriers to health services: not only were they equitably distributed among the regions, but they were also preferentially sited in areas with a lower density of services, particularly in peripheral city areas. With respect to medical consultations, in 2004 and 2005 three times as many consultations took place in the Barrio Adentro network (150 million) as in the traditional network (58 million).

Finally, a few epidemiological indicators for the years 2004 and 2005 suggest a possible impact of Barrio Adentro through the increase in diagnosis and follow-up of patients with chronic diseases such as hypertension and diabetes, for whom a lower incidence of complications is thus expected (see Figures 10 and 11). For certain infectious diseases, the number of cases has risen (suggesting a higher rate of detection) but the number of deaths has diminished (suggesting better follow-up and opportunities for treatment). For example, between 2003 and 2005, cases of diarrhea among children under 1 year of age rose from 241,360 to 435,396 (80.4% increase), whereas the number of deaths fell from 1,148 to 574 (50% reduction). Similar trends in diarrhea-associated morbidity and mortality have been observed among children aged 1 to 4 years; the same has also occurred for pneumonia, again observable both in children under 1 and children aged 1 to 4 years. These data suggest that the increase in accessibility has meant coverage of a hitherto unmet need, and consequent avoidance of preventable deaths.

DISCUSSION AND CONCLUSION

The Venezuelan experience with construction of a new publicly funded health system, aiming to quickly reach universal coverage and based on a strategy of primary health care, ratifies the validity of incorporating health as a universal right and confirms the relevance of principles contained in the Alma-Ata and Ottawa Declarations. Implementation of Barrio Adentro provides rigorous evidence on the feasibility of setting up a public health system when the necessary political will and community organization exist and, of course, in a context where power relations and the reigning ideology favor public policies of this type (38).

The development of Barrio Adentro is occurring in a political context clearly opposed to neoliberal policies, one that recognizes health, education, and employment as fundamental rights and seeks a rapid improvement in the population's

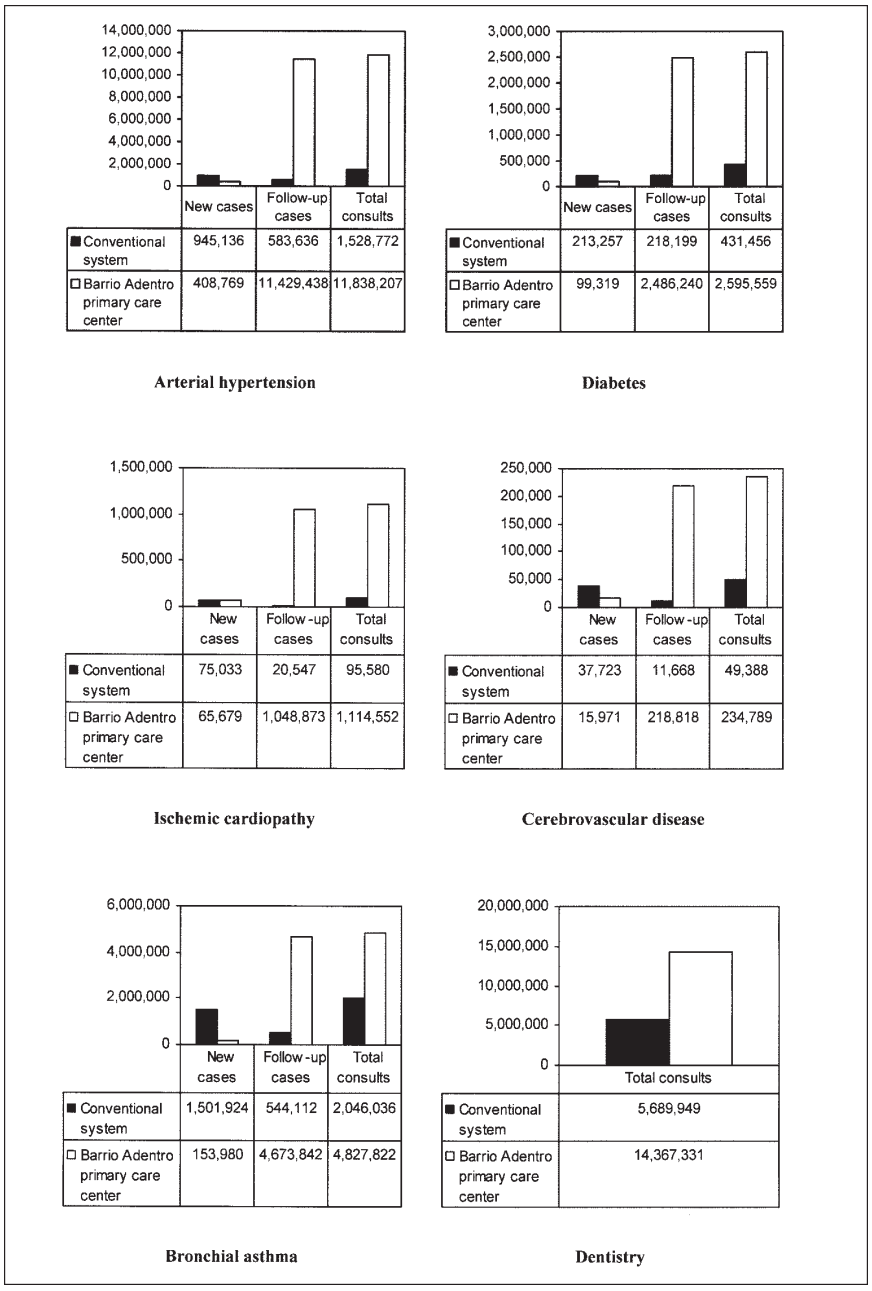

Figure 10. Detection of new cases and follow-up visits, conventional system and Barrio Adentro primary care centers, 2004–2005.

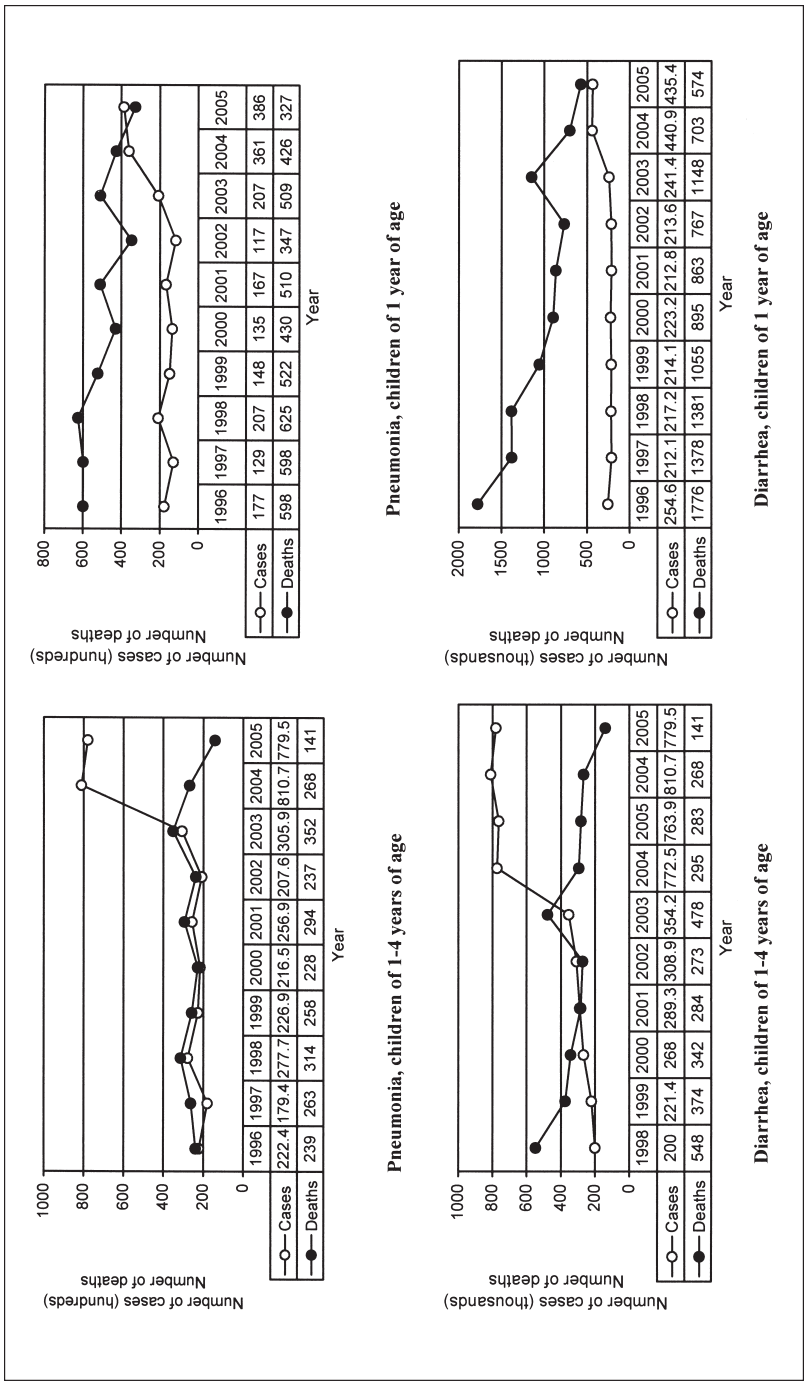

Figure 11. Number of cases and deaths for various pediatric diseases.

living conditions, fostering greater equality in the distribution of wealth. At the international level, this context is characterized by the government pronouncing itself in favor of the integration of Latin America, promotion of a multi-polar system, and opposition to free trade treaties that prioritize purely economic interests (ALCA, the Free Trade Area of the Americas), and supportive of proposals involving alliances based on solidarity and complementarity, such as the Alternativa Bolivariana de América (ALBA).

The experiences of Barrio Adentro are useful for the development of primary health care not only in core countries but also in those of the periphery and semi-periphery.[1] Barrio Adentro constitutes a valuable experience for countries with political processes that emphasize social rights and are seeking to satisfy their populations' demands for health, as is the case in Bolivia, Ecuador, and Nicaragua. On the other hand, the successful and rapid increase of primary health care coverage may be of interest for countries with universal systems where some political actors are beginning to argue the need to abandon public systems and open the door to alternatives with greater private participation, as in Canada; or for countries where some argue the need to abandon privately organized schemes in favor of public alternatives providing greater coverage and equity, as in Colombia and Peru. The political and social context and mechanisms that encourage and promote community participation in the administration of health care and the emphasis on social determinants of health in Barrio Adentro may serve as important elements to help marginalized communities of other countries increase their access to quality health services.

Also emerging from the analysis of Barrio Adentro is its contribution to a different model of international cooperation between countries of the periphery ("South-South"). The solidarity of the exchange between Cuba and Venezuela constitutes a crucial aspect of the feasibility of Barrio Adentro. It presents a model of South-South international relations in which solidarity and complementarity predominate, as opposed to the imposition and competition characteristic of neoliberal health policies conditioned by their funding through multilateral organizations (28). Cuba and Venezuela have signed a number of agreements that have led to benefits for the populations of both countries and complement the strengths of each nation. Thus, while contributions from Cuba have facilitated the unprecedented rate of development of a health system in Venezuela, Cuba has obtained and continues to develop greater energy stability. This form of cooperation corresponds to a model summarized in the ALBA proposal by the Venezuelan government, the implementation of which has led to similar exchanges with Argentina—where Venezuela provides energy resources in exchange for health-related goods and services. A further manifestation of this

[1] We used World Systems Theory (40), because it models the power relations between rich and poor countries and does not assume a linear view of "development."

change of paradigm in international exchanges is the Misión Milagro initiative, which has allowed thousands of patients from the Americas to have cataract operations free of charge in Venezuela and in Cuba.

The process of constructing a public national health system, as established in the Constitution of the Bolivarian Republic of Venezuela, is clearly in progress. Barrio Adentro has led to enormous advances in medical care coverage and universality of the right to health; the culmination of phases III and IV will further extend coverage, resolving the needs for care at the tertiary and quaternary levels. However, a tremendous amount of work remains to be completed. One of the most notable tasks pending is integration of the multiple public health systems currently in existence. Incorporation of some establishments from the traditional network into Barrio Adentro, and implementation of an occupational scheme for physicians that stimulates full-time dedication to a single establishment (39), were initial steps in this direction. But the services depending on the Ministry of Health remain fragmented: regional governments, local councils, the Venezuelan Social Security Institute, IPASME, and hundreds of public health service providers. Fragmentation in public funding is of similar importance. The integration of these systems is not merely a constitutional precept; it is one of the main factors required to guarantee the sustainability of Barrio Adentro.

Reinforcement of preventive and health promotion policies has contributed to positive effects on quality of life, exemplified by the development of an aggressive anti-smoking policy, reinforcement of immunization programs, introduction of vaccines for rotavirus, and reinforcement of health education to combat dengue and malaria. However, with the considerable political and media attention on development of the primary system for care of individual health, both the further integration of collective health policies and the managing of particular serious public health problems, such as violence or traffic accidents, have been postponed. Similarly, the focus on the primary system has contributed to strengthening the medicalized model of health care at the expense of a more integrated conception.

Despite the importance and innovation of the Barrio Adentro primary health care initiative, there is limited scientific literature on this model and little research is currently under way. Many aspects of the implementation process need to be explored, such as community participation and cost-benefit ratios, in order to understand questions of scale and performance enhancement. Such information is needed in attempts to apply the lessons learned to similar developments in other parts of the world, where access to health services is limited.

Acknowledgment — We thank Rosicar Mata, Carlos Alvarado, Nuramy Gutiérrez, José Mendoza, Luis Lira, Robert Rodríguez, Cesar Arismendi, cooperating committees of health, the Cuban interviewees, and Aldo Muñoz for their contributions to this project. Parts of this article appeared in *Social Medicine*, November 2008.

REFERENCES

1. Laurell, A. C. Structural adjustment and the globalization of social policy in Latin America. *Int. Sociol.* 15(2):306–325, 2000.
2. Armada, F., Muntaner, C., and Navarro, V. Health and social security reforms in Latin America: The convergence of the World Health Organization, the World Bank, and transnational corporations. *Int. J. Health Serv.* 31(4):729–768, 2001.
3. Iriart, C., Merhy, E., and Waitzkin, H. Managed care in Latin America: The new common sense in health policy reform. *Soc. Sci. Med.* 52(8):1243–1253, 2001.
4. Homedes, N., and Ugalde, A. Why neoliberal health reforms have failed in Latin America. *Health Policy* 71:83–96, 2005.
5. Huber, E. Options for social policy in Latin America: Neoliberal versus social democratic models. In *Welfare States in Transition*, ed. G. Esping-Andersen, pp. 141–191. Sage, London, 1996.
6. Mesa-Lago, C., Cruz-Saco, M. A., and Zamalloa, L. Determinants of social insurance/security costs and coverage: An international comparison with a focus on Latin America. In *Welfare, Poverty and Development in Latin America*, ed. C. Abel and C. Lewis. Macmillan, New York, 1993.
7. Weeks, J. The contemporary Latin American economies: Neoliberal reconstruction. In *Power and Inequality in Latin America*, ed. S. Halebsky and R. C. Harris, pp. 109–135. Westview Press, Chicago, 1995.
8. Jaggar, A. M. Vulnerable women and neoliberal globalization: Debt burdens undermine women's health in the global south. In *Recognition, Responsibility, and Rights: Feminist Ethics and Social Theory*, ed. R. N. Fiore and H. Lindemann Nelson, pp. 195–209. Rowman and Littlefield, Boulder, CO, 2003.
9. World Bank. *World Development Report: Investing in Health.* Oxford University Press, Chicago, 1993.
10. Kinman, E. Evaluating health service equity at a primary care clinic in Chilimarca, Bolivia. *Soc. Sci. Med.* 49:663–678, 1999.
11. Manfredi, C. Can the resurgence of malaria be partially attributed to structural adjustment programmes? *Parasitologia* 41:389–390, 1999.
12. Garfield, R. Control in Nicaragua: Social and political influences on disease transmission and control activities. *Lancet* 354:414–418, 1999.
13. Labonte, R., and Schrecker, T. The G8 and global health: What now? What next? *Can. J. Public Health* 97(1):35-38, 2006.
14. Jasso-Aguilar, R., Waitzkin, H., and Landwehr, A. Multinational corporations and health care in the United States and Latin America: Strategies, actions, and effects. *J. Health Soc. Behav.,* extra issue, 2004, pp. 135–157.
15. Naim, M. *Paper Tigers and Minotaurs: The Politics of Venezuela's Economic Reforms.* Carnegie Endowment for International Peace, Washington, DC, 1993.
16. Buxton, J. Venezuela. In *Case Studies in Latin American Political Economy*, ed. J. Buxton and N. Phillips, pp. 162–184. Manchester University Press, New York, 1999.
17. Lander, E. The impact of neoliberal adjustment in Venezuela, 1989-1993. *Latin Am. Perspect.* 23(3):50–73, 1993.
18. Tulchin, J. S., and Bland, G. (eds.). *Venezuela in the Wake of Radical Reform*. Lynne Rienner, Boulder, CO, 1993.
19. World Bank. *Staff Appraisal Report: Venezuela Health Services Reform Project.* Washington, DC, 2005.

20. Inter-American Development Bank. *Program to Strengthen and Modernize the Health Sector.* Washington, DC, 2006.
21. Díaz-Polanco, J. El papel del financiamiento en los procesos de reforma del sector salud: el caso de Venezuela. In *La reforma de salud de Venezuela: aspectos políticos e institucionales de la descentralización de la salud en Venezuela*, ed. J. Díaz-Polanco, pp. 124–145. Fundación Polar, Caracas, Venezuela, 2001.
22. Feo, O. *Repensando la Salud.* IAES, Maracay, Venezuela, 2001.
23. Rondón, R. *La Descentralización de la Salud en Venezuela*. Litho Color, Caracas, Venezuela, 1996.
24. Montiel, R., and Deliamar, E. La política de salud neoliberal y su impacto en la población venezolana. *Acta Odontol. Venez.* 37(3):199–204, 1999
25. Lander, E. Venezuelan social conflict in a global context. *Latin Am. Perspect.* 32(2): 20–38, 2005.
26. Ministerio de Salud y Desarrollo Social. *Plan Estratégico Social.* Caracas, Venezuela, 2002.
27. Ministerio de Salud y Desarrollo Social. *Barrio Adentro: expresión de atención primaria de salud: un proceso de construcción permanente*. Caracas, Venezuela, 2005.
28. Republica Bolivariana de Venezuela. Decreto Presidencial No. 2745. Caracas, January 26, 2004.
29. Ministerio de Salud y Desarrollo Social. Barrio Adentro. 2008. www.mpps.gob.ve/ms/modules.php?name=Topics.
30. Alvarez Sintes, R., and Barcos Pina, I. Experiencia en el diseño y la ejecución del programa de formación de promotores comunitarios de salud en el contexto de la misión Barrio Adentro. *Rev. Cubana Med. Gen. Integr.* 20(5-6), 2004.
31. Osorio Illas, L., and Paisan Rizo, W. M. Caracterización del estado de las alteraciones de la movilidad en una comunidad rural venezolana. *Rev. Cubana Med. Gen. Integr.* 21(5-6), 2005.
32. Osorio Illas, L., and Paisan Rizo, W. M. Caracterización de las alteraciones del fondo de ojo en pacientes hipertensos en una comunidad venezolana. *Rev. Cubana Med. Gen. Integr.* 22(1), 2006.
33. Osorio Illas, L., Paisan Rizo, W. M., and Hitchman Barada, D. L. Factores de riesgo asociados a la retinopatía diabética en pacientes diabéticos tipo II. *Rev. Cubana Med. Gen. Integr.* 22(1), 2006.
34. Lopez Pardo, M., Quirantes Moreno, A. J., and Perez Mendez. J. A. Pesquisaje de alcoholismo en un área de salud. *Rev. Cubana Med. Gen. Integr.* 22(2), 2006.
35. Paisan Rizo, W. M., Bravo Martinez, W., and Osorio Illas, L. Caracterización de la enfermedad pulmonar obstructiva crónica en una parroquia venezolana. *Rev. Cubana Med. Gen. Integr.* 22(2), 2006.
36. Jardim, C. Prevention and solidarity: Democratizing health in Venezuela. *Monthly Rev.* 56(8):35–39, 2005.
37. Quirantes Moreno, A., and Lopez Pamirez, M. Caracterización e impacto económico de la atención médica en un área de salud. *Rev. Cubana Med. Gen. Integr.* 22(2), 2006.
38. Navarro, V., and Shi, L. The political context of social inequalities and health. *Soc. Sci. Med.* 52(3):481–491, 2001.
39. Republica Bolivariana de Venezuela. Decreto No. 4.028. Caracas, November 2005.

40. Wallerstein, I. *The Modern World System: Capitalist Agriculture and the Origins of the European World Economy in the Sixteenth Century.* Academic Press, New York, 1974.

Direct reprint requests to:

Dr. Carles Muntaner
University of Toronto
155 College Street
Suite 300, Health Science Building
Toronto, Ontario M5T 1P8
Canada

e-mail: carles.muntaner@utoronto.ca