The recently completed Family Health Extension Project (FHEP) has provided support to Brazil’s Family Health Program (Programa de Saúde da Família, or PSF) and allowed dramatic improvements in the coverage of basic health services. The project aimed to improve utilization and quality of publicly-financed health services by (a) expanding coverage of the PSF in about 100 large municipalities, establishing well-articulated referral and counter-referral systems, and introducing performance-based financing and management arrangements; (b) Establishing family health as a core element of health professional and para-professional training; and (c) Strengthening the Ministry of Health’s (MOH or Ministério da Saúde, MS) capacity to monitor and evaluate PSF health services, policies and training activities on a systematic basis.

Inequities in Health Outcomes.

Estimates from 2000/2001 suggested that 45 percent of Brazil’s population lived in poverty and 23 percent (35 million) lived in extreme poverty. Approximately half of the poor lived in urban areas. Data from the 1996 Demographic Survey showed that the health status of Brazil’s poor was significantly worse than that of the non-poor. Children of poor families had three times higher risk of dying before the age of five than children from the wealthiest segments of the population. Fertility rates of poor teenage girls were six times higher than those of better-off teenagers, and poor girls face much higher risks of maternal morbidity and mortality.

The Demographic Health Survey data suggested that, at similar income levels, the urban poor had slightly worse health outcomes than the rural poor. Approximately 40 percent of Brazilians in the poorest wealth quintile and 75 percent in the second poorest quintile lived in urban areas.

While poor urban children had better vaccination rates and were more likely to be treated for diarrhea and acute respiratory infections (ARI) than their rural counterparts, the prevalence of these diseases among the urban poor was higher. Although the urban poor had better access to health services during childhood than the rural poor, the higher urban infant mortality rates raised questions about the timeliness, continuity and quality of care received and/or the severity of the underlying illness. In general terms, the poor had utilization rates 25 percent lower than the non-poor in both urban and rural areas. It was these inequities, that reflected higher transaction costs and behavioral barriers, that led the Government of Brazil to introduce proactive community and family health delivery systems such as the PSF, and to provide financial incentives for the country’s 5,500 municipalities, which are the main players in the organization and delivery of public health services, to adopt them.

The Family Health Program and its Challenges.

The PSF was introduced in 1994, building on the strengths of its predecessor the Programa de Agentes Comunitários (PACS); which had introduced the use of paid health agents who reached out to the community in an organized fashion. PSF was seen at the center of the transformation of the mainly curative and hospital-centered health care system toward one that was oriented toward prevention, promotion and basic care. PSF organized community agents into teams, which typically included a general practice or family health physician, a nurse, one or two auxiliary nurses and, often, dental health professional teams. Building on the PAC, the PSF provided teams with equipment (medical, transport, and basic information technology) and a standardized system of work and reporting requirements. Each team was assigned the responsibility of providing care to a defined set of 600-1,000 families.
The aim of the FHEP was to expand coverage of the PSF from 25% of the population (38 million people in 3,124 municipalities with 10,900 Family Health Teams) to 50% coverage. At the time, most of PSF’s expansion had taken place in rural and peri-urban areas, where municipal primary providers were in short supply. The program faced a number of challenges:

- **Implementation in urban areas was patchy**, in part because the PSF faced the dual challenge of extending coverage and converting the traditional and often ineffective municipal primary care delivery system to one based on the family health strategy.

- **The Program’s expansion in large urban areas and metropolitan regions had been slower than expected**, despite changes in financial incentives.

- Municipal health authorities did not have clear criteria for prioritizing program interventions and geographical areas, and instead applied a mix of risk criteria combined with community and political demands;

- An **inadequate referral system** was in place because of the lack of a defined entry point for the population and the absence of a provider who assumed responsibility for an individual’s and family’s total care that co-existed under the existing traditional PHC models;

- Services were of uneven quality due to shortages of vaccines, medicines, laboratory services, equipment and medical supplies and treatment protocols and standards, quality control and training;

- There were important **human resource supply bottlenecks** in terms of quantity and quality, and varying skills among existing PSF teams. Contractual/employment arrangements relied heavily on temporary personnel. As a result, they were flexible, but unstable, and resulted in legal and political challenges and the high rotation of personnel which compromised program continuity and the stability of the doctor/patient relationship, which was central to the PSF’s family health model.

To reach its goal of expanding PSF to provide coverage to half of Brazil’s population by 2002, the Government:

- **Promoted primary health care interventions that were most cost-effective and beneficial to the poor**, and prioritized actions that focused on communicable and non-communicable illnesses that affected the poor;

- **Secured increased financing for the sector** and for the PSF (14 percent of the MOH’s budget was assigned to PSF); approved new regulations that sought to correct observed deficiencies in the decentralization process while strengthening institutional arrangements to facilitate PSF expansion. Municipalities and states that complied with the regulations would qualify for higher federal transfers.

- The regulations also **strengthened management requirements** for municipalities to qualify for “autonomous management” status and created a stronger role to the states in overseeing municipal resource management. States and municipalities were required to develop health plans and sign performance agreements that specified performance targets. Municipalities that complied with the new regulations would be “certified” by the MOH to receive increase per capita payments;

- **Drafted a human resource policy** that supported the development of personnel skilled in health services management, family planning and family health strategies and practices, while standardizing and regulating the contractual arrangements that affected PSF teams.

### Results

The first phase of the FHEP went well beyond what was originally expected in terms of the Project’s coverage, expanding the number of participating municipalities from 40 to 187 and reached on average 34.4 percent of population in those municipalities.

Achievements in the area of health service indicators, such as maternal and child health (prenatal coverage) and reduction in hospital admissions for ARI and diarrhea were also analyzed based on the level of PSF coverage in participating municipalities. **Municipalities with PSF coverage of over 60 percent showed the highest increase in the number of mothers with 7 or more prenatal visits**—12 percent, or **six times more than the average for all municipalities**. The increase in the coverage of tetanus vaccination for pregnant women was up to three times higher in municipalities with over 40 percent coverage of PSF than the average increase for all participating municipalities. As expected, the average decline in hospital admissions for ARI and diarrhea was higher in municipalities with greater PSF coverage. For example, **municipalities with over 60 percent coverage reported a decline of hospital admissions for ARI and diarrhea of 15 and 7 percent respectively between 2003 and 2006**, compared 2 and 4 percent for municipalities with less than 20 percent coverage. The weakest difference among municipalities with different PSF coverage levels was evident in the indicator for children’s vaccination coverage, probably because of the already high baseline for this indicator. In sum, increases in PSF coverage are strongly associated with improvements in utilization (e.g., prenatal visits) and results (e.g., vaccination coverage) as well as quality of spending (e.g., reduction in hospital admissions for conditions sensitive to primary care, such as ARI and diarrhea).
**Most of the outcome and output indicators with respect to improving the quality of family health service provision through developing and strengthening in-service and pre-service training of human resources in the PSF model were met or exceeded.** While in 2003, less than half (48%) of AB/PSF staff had training in areas related to planning, management and health service organization and delivery, that proportion had increased to 86% only two years after the start of project implementation.

**M&E Utilization and Sustainability.** The Government’s vision of the health sector—one that has functional referral and counter-referral networks and induces continuous quality improvement at all levels—requires excellent monitoring and evaluation (M&E) systems. When FHEP was prepared, the lack of an evaluation culture, as well as shortcomings in the methods and processes for monitoring and evaluation, were major constraints to the development of a quality- and performance-oriented service delivery system. The Project supported the development of these M&E systems, and the establishment of systems for accreditation of family health units and training institutions. The PSF monitoring system was developed, including the design of instruments and corresponding indicators. A referral system for mother-child care was developed and implemented, and a performance-based management system in support of PSF was developed and tested in a sample of participating municipalities. The next phase of FHEP, currently under preparation, would support further improvements in M&E at the municipal level, and strengthen further the state health secretariats’ capacity to conduct supervision, monitoring and impact evaluation.

**Adoption of Pooled Funding.** Perhaps the most innovative aspects of the FHEP were its fiduciary arrangements. First, the Project adopted a pooled funding approach in which loan funds were pooled with those of the Government to satisfy the Government’s request that Bank financial participation in the grant-based financing system through which the federal government finances health services managed by states and municipalities (known as fundo-a-fundo).

The first phase FHEP also introduced innovative operational arrangements under these pooled components, including: (a) financing a share of the government transfers for PSF instead of a share of each transaction (as is normal practice); (b) disbursements against Statements of Transfers issued by the MOH; (c) annual certification of expenditures by states and municipalities through internal and independent audits; (d) the application of national rules and systems for procurement and financial management; (e) the carrying out of fiduciary risk assessments; and (f) strengthening of sub-national governments’ fiduciary capacity. These innovative features facilitated the smooth flow of Bank financing to municipalities, created a single oversight and reporting system rather than parallel systems for Government and Bank reporting purposes, reduced the size of the administrative personnel needed to follow fiduciary requirements and reoriented Bank supervision to technical matters, including strengthening of the Government’s fiduciary framework.

**Performance-based Financing:** The pooled funding approach enabled the application of a performance-based financing scheme to the mingled funds (government and IBRD) directed to participating municipalities. The scheme consisted of two parts. The first involved a bonus for municipalities that complied with three performance criteria: (i) execution of at least 90 percent of funds received from the project and according to approved implementation plans, (ii) evidence of progress toward achievement of performance indicators particularly in terms of PSF coverage, and (iii) presentation of accounting ledgers detailing expenditures for at least 75 percent of funds received. Announced in mid-2005 and implemented in 2006, the bonus was distributed as a lump-sum payment to thirty-five (of 187) of participating municipalities. The bonus represented 50 percent of the value of each municipality’s original grant. The second part consisted of a “performance prize” based on three criteria: (i) spending was aligned with approved implementation plans; (ii) municipality attained PSF population coverage of at least 70 percent; and (iii) the municipality complied with fiduciary benchmarks related to procurement and financial management. Twelve participating municipalities received the prize in 2006, sharing R$6 million in additional transfers. The prize was awarded during a formal ceremony attended by the federal health minister and the mayors of the winning municipalities.

Although modest in scope, this performance-based financing was the first of its kind for the MoH which has included a modified version of the scheme in a recently approved policy (2006), known as Health Convenants (Pactos de Saúde). The health convenants link future federal financing to states and municipalities with compliance with agreed benchmarks.

**Lessons Learned**

**The pooled funding approach offered several advantages that make it worth replicating, given similar conditions.** It, (i) allows for a single procurement, financial management and disbursement system, which reduces transaction costs of Bank financing and ensures that support under a project for improving Government’s systems
brings results; (ii) directs Government and Bank efforts to technical and fiduciary oversight, monitoring and strengthening of the larger Government program rather than ring-fencing a much smaller Bank-financed project; (iii) allows the Bank’s technical specialist(s) to focus advice during supervision on technical aspects, while financial management and procurement specialist address compliance with the Bank’s fiduciary requirements; (iv) inserts the Bank-financed project into a high-priority programmatic and policy framework, and (v) creates the vehicle to link both Government and Bank financing to results. In effect, the pooling approach under the FHEP benefited both the Government and the Bank by redefining a partnership to focus on results.

The inclusion of a very large number of municipalities with varying institutional and technical capacities offered many lessons. First and foremost, it is necessary to have in place both monitoring systems with a defined number of easily verifiable indicators to monitor and assess performance and technical assistance arrangements in the form of a permanent cadre of central- and state-based technical and fiduciary personnel to provide support to the municipalities, especially those with lower capacity.

To determine municipalities’ capacities, it is necessary to conduct in-depth technical and fiduciary risk assessments and categorize municipalities according to their technical and institutional capacity to plan, supervise and monitor family health care. Based on these assessments, it is important to craft customized plans and interventions to: (i) extend services; (ii) strengthen planning, management and supervisory capacities for primary care; (iii) strengthen fiduciary capacity; and (iv) support municipalities with change management. Also, eligibility criteria should be established for continued participation in the program, and special support mechanisms should be introduced for municipalities with low capacity.

The first phase of FHEP also provided important lessons on technical design issues for this particular model of family health program, especially in a decentralized environment. For the program to be successful, it is important to strengthen the capacity of family health teams to respond to patient demand and to foster the stability and sustainability of family health physicians. Also, the program should strengthen interventions to: (i) expand quality certification systems applied to municipalities and family health teams, based on results of a quality assessment instrument; (ii) integrate the family health program into municipal policy making and planning; (iii) implement network arrangements that link family health teams to diagnostic and specialized care centers as well as logistic and transport systems; (iv) promote healthy behaviors and integrated management of chronic diseases; and (v) improve the availability of essential pharmaceuticals for poor populations.

A final lesson is that it would be useful for large programs that are implemented among three levels of government, such as the PSF, to establish a mechanism to facilitate the stability of personnel at the federal level that are hired to provide technical assistance to states and municipalities with the appropriate accountabilities for productivity and quality. This may be difficult to ensure given staffing changes resulting from changes in administrations and other reasons. Still, it might be possible to issue a contract, for the duration of the program, with a private firm or academic institution to recruit, hire and pay the personnel that will be providing technical assistance.

Conclusions

The health status of Brazil’s population has improved significantly over the last decade: infant mortality has decreased by 47 percent in 14 years, mortality rates from vaccine-preventable diseases in children are negligible and diarrhea diseases are the cause of less than 7 percent of deaths among children under five years of age. Still, significant health system issues remain. Substantial disparities still exist in health status, health financing and service utilization among regions, states and municipalities, income groups and between urban and rural areas. Also, Brazil’s health care system, where the Government is an important actor, remains hospital- and specialty-centered, compromising the affordability and sustainability of the delivery systems. Only 45 percent of Brazilians have regular access to more affordable primary health care, and coverage continues to be lower in large cities. Non-communicable diseases (NCDs) are now the main cause of death and disease in Brazil, placing a significant and growing impact on the economy and requiring greater interaction between the different levels and components of the health system, and a well functioning primary health care facility as the central point from where other health facilities are referred.

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