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The World Bank

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Report No: 42359-BR

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$235.0 MILLION

TO THE

FEDERATIVE REPUBLIC OF BRAZIL

FOR A

HEALTH NETWORK FORMATION AND QUALITY IMPROVEMENT PROJECT
(QUALISUS-REDE)

IN SUPPORT OF THE FIRST PHASE OF THE HEALTH NETWORK FORMATION AND
QUALITY IMPROVEMENT PROGRAM

December 17, 2008

Brazil Country Management Unit
Human Development Sector Management Unit
Latin America and the Caribbean Regional Office

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CURRENCY EQUIVALENTS

(Exchange Rate Effective December 1, 2008)

| | | |
|---------------|---|------------|
| Currency Unit | = | Real (R\$) |
| R\$ 1,00 | = | US\$0.43 |
| US\$1.00 | = | R\$ 2,33 |

FISCAL YEAR

July 1 – June 30

ABBREVIATIONS AND ACRONYMS

| | |
|--------|--|
| AAA | Analytical and Advisory Activities |
| ACSC | Ambulatory Care Sensitive Conditions |
| AIDS | Acquired Immunodeficiency Syndrome |
| AIH | Authorization for Hospitalization |
| AMQ | Quality Assessment and Improvement Program |
| ANVISA | National Agency for Sanitary Control |
| APL | Adaptable Program Loan |
| CAS | Country Assistance Strategy |
| CGR | Regional Health Commission |
| CGRL | General Coordinating Unit for Logistics |
| CGU | Federal Internal Audit Agency |
| CONAMA | National Environmental Board |
| CORE | Regional Units |
| CPAR | Country Procurement Assessment Report |
| CPS | Country Partnership Strategy |
| CQI | Continuous Quality Improvement |
| CRs | Referral Centers |
| CRS | Regional Health Councils |
| CT | Computerized Tomography |
| DEA | Data Envelope Analysis |
| DP | Program Directorate |
| DRG | Diagnostic Related Groups |
| DSEI | Special Indigenous Sanitary Districts |
| EA | Environment Assessment |
| EF | Environmental Framework |
| FES | State Health Fund |
| FNS | National Health Fund |
| FS | State Foundations |
| FUNASA | National Health Foundation |
| GDP | Gross Domestic Product |
| HD | Human Development |

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| | |
|----------|--|
| HIV | Human Immunodeficiency Virus |
| IDB | Inter-American Development Bank |
| IFRs | Project Interim Financial Reports |
| IMR | Infant Mortality Rate |
| IPP | Indigenous Peoples Plan |
| IPPF | Indigenous Peoples Planning Framework |
| M&E | Monitoring and Evaluation |
| MOH | Ministry of Health |
| MRI | Magnetic Resonance Image |
| NCB | National Competitive Bidding |
| NCD | Non-communicable disease |
| NGO | Nongovernmental Organization |
| NOAS | Operational Guidelines for Health Care Provision |
| NVP | Net Present Value |
| ONA | National Accreditation Organization |
| OSS | Social Health Organizations |
| PDI | Investment Masterplan |
| PDR | Regional Development Plan |
| PROESF | Family Health Extension Project |
| PSF | Family Health Program |
| PSRL | Programmatic Sector Reform Loan |
| PT | Project Cost Center |
| QUALISUS | Health System Quality Improvement Project |
| REFORSUS | Health Reform Project |
| RHCNs | Regional Health Care Networks |
| SANU | Emergency Care Mobile Service |
| SBN | Standard Bidding Documents |
| SE | Executive Secretariat |
| SIAB | Basic Care Information System |
| SIL | Specific Investment Loan |
| SOE | Statement of Expenditures |
| STN | National Treasury Secretariat |
| SUS | Unified Health System |
| SWAp | Sector-Wide Approach |
| TA | Technical Assistance |
| VIGISUS | Disease Surveillance and Control Project |

| | |
|-------------------|--------------------|
| Vice President: | Pamela Cox |
| Country Director: | John Briscoe |
| Sector Leader: | Michele Gragnolati |
| Sector Manager: | Keith Hansen |
| Task Team Leader: | Andre C. Medici |

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BRAZIL

Health Network Formation and Quality Improvement Project (QUALISUS-REDE)

APL PHASE 1

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BRAZIL

BRAZIL: HEALTH NETWORK FORMATION AND QUALITY IMPROVEMENT PROJECT
(QUALISUS-REDE) - APL PHASE 1

PROJECT APPRAISAL DOCUMENT

LATIN AMERICA AND CARIBBEAN

LCSHH

| Date: December 10, 2008 | | Team Leader: Andre C. Medici | | | | | | | |
|--|--------------|---|---------------|-------|-------|------|------|------|------|
| Country Director: John Briscoe | | Sectors: Health (100%) | | | | | | | |
| Sector Manager/Director: Keith Hansen | | Themes: Health system performance (P);Decentralization (S) | | | | | | | |
| Project ID: P088716 | | Environmental screening category: Partial Assessment | | | | | | | |
| Lending Instrument: Adaptable Program Loan | | | | | | | | | |
| Project Financing Data | | | | | | | | | |
| [X] Loan [] Credit [] Grant [] Guarantee [] Other: | | | | | | | | | |
| For Loans/Credits/Others: n/a | | | | | | | | | |
| Total Bank financing (US\$m.): 235.0 | | | | | | | | | |
| Proposed terms: IBRD Fixed-spread loan (FSL) in US dollars; front-end-fee financed out of loan proceeds; payment dates on June 15 and December 15 with the following terms: 5 years grace period, 30 years total repayment term, and level repayments; all conversion options in the loan agreement; and cap/collar premium to be financed out of the loan proceeds. | | | | | | | | | |
| Financing Plan (US\$m) | | | | | | | | | |
| Source | Local | Foreign | Total | | | | | | |
| Borrower | 441.8 | 0.0 | 441.80 | | | | | | |
| International Bank for Reconstruction and Development | 204.4 | 30.6 | 235.00 | | | | | | |
| Total: | 646.2 | 30.6 | 676.80 | | | | | | |
| Borrower: The Federative Republic of Brazil | | | | | | | | | |
| Responsible Agency: Ministry of Health, Executive Secretariat, Luiz Fernando Beskow Esplanada dos Ministérios - Bloco G - Brasília/DF - CEP: 70.058-900 | | | | | | | | | |
| Estimated disbursements (Bank FY/US\$m) | | | | | | | | | |
| FY | 09/10 | 10/11 | 11/12 | 12/13 | 13/14 | 0 | 0 | 0 | 0 |
| Annual | 8.2 | 62.2 | 67.2 | 51.6 | 45.8 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cumulative | 8.2 | 70.4 | 137.6 | 189.2 | 235.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Project implementation period: 5 years | | | | | | | | | |
| Expected effectiveness date: July 1, 2009 | | | | | | | | | |
| Expected closing date: June 30, 2014 | | | | | | | | | |
| Does the Project depart from the CAS in content or other significant respects? [] Yes [x] No | | | | | | | | | |
| Does the Project require any exceptions from Bank policies? [] Yes [x] No | | | | | | | | | |
| [] Yes [] No | | | | | | | | | |

| | |
|--|----------------|
| Have these been approved by Bank management? | [] Yes [] No |
| Is approval for any policy exception sought from the Board? | |
| Does the Project meet the Regional criteria for readiness for implementation? | [x] Yes [] No |
| <p>Project development objectives</p> <p>The objectives of the <u>first phase Project</u> are to:</p> <ul style="list-style-type: none"> (a) Improve the quality and efficiency of the Unified Health System (SUS)' Regional Health Care Networks (RHCN) with the emphasis on secondary-level health care, specialty, diagnostic and emergency centers, and logistical systems serving the Project's targeted regions and populations. (b) Improve the effectiveness of the SUS' RHCNs delivery systems to prevent, detect and treat priority health conditions in the Project's targeted regions and populations. | |
| <p>Project description:</p> <p><u>Component A - Development of Regional Health Care Networks and Strengthening of Health Care Facilities:</u> This component supports two related categories of activities. The first involves the development and implementation of regional and organized arrangements for coordinated or integrated care – (RHCNs). The second consists of upgrading, quality enhancement, organizational reform, and strengthening of management practices in facilities within the RHCNs.</p> <p><u>Component B - Systems Development for Performance Enhancement:</u> This component supports the creation of an enabling institutional and systems environment to support the implementation of RHCNs, improve quality and care management, promote alternative payment systems, and strengthen monitoring and evaluation capacity. This component will have a national focus and will be implemented directly by the Ministry of Health (MOH).</p> <p><u>Component C: Project Management:</u> This component aims at strengthening the MOH to implement and supervise the Project implementation and results. It will finance a group of full-time consultants that will support the MOH's staff to carry out procurement, financial management and administrative tasks associated to the Project's daily implementation. It will also finance facility upgrading (rehabilitation, office furniture and computer equipment), consulting and non-consulting services such as printing, training and travel expenses.</p> | |
| <p>Which safeguard policies are triggered, if any?</p> <p><u>Environmental Assessment (OP/BP 4.01); Physical Cultural Resources (OP/BP) 4.11; and Indigenous Peoples (OP/BP 4.10).</u></p> | |
| <p>Significant, non-standard conditions, if any, for: none</p> <p>Board presentation: None.</p> <p>Loan/credit effectiveness: Approved Operational Manual.</p> <p>Covenants applicable to Project implementation: None.</p> | |

I. STRATEGIC CONTEXT AND RATIONALE

A. Country and sector issues

1. **Country Context and Sector Background:** Brazil has made significant progress in human development over the last decade, reflecting gains in health status, education attainment and social assistance. Equity of access has increased considerably. Significant challenges remain, however. Social services continue to suffer from inefficiencies and poor quality. Given high public debt and tax burden, which in turn may constrain future public spending, a case can be made that without improvements in the efficiency and quality of social service delivery, system affordability and sustainability will be increasingly threatened, while equity gains obtained in recent years may be difficult to sustain. This is particularly the case for the health sector. Health care is both a highly political issue and an important component of public spending. Financial authorities are increasingly concerned with the growing costs of health care, which already represent 11 percent of public expenditures. A recent study estimates that at current levels of health system inefficiency, by 2025 total health spending as a percent GDP will increase from 8 to 12 percent while household spending on health as a percent of income will rise from 5 to 11 percent.¹ Increasing the efficiency and effectiveness in the use of health resources to contain rising costs is perhaps the greatest challenge facing the Brazilian health system.

2. **Health Status Improvements:** Infant mortality in Brazil decreased by 48 percent in 16 years (from 47.5 per 1,000 live births in 1990 to 24.9 in 2006)². Mortality rates from vaccine-preventable diseases in children are negligible; and diarrheal diseases are the cause of less than 7 percent of all deaths among children under 5 years of age. Brazilians are living longer and are much less likely to die from communicable diseases. While Brazil has a relatively high incidence of HIV/AIDS compared to the rest of Latin America, the number of new cases annually has now leveled off in part because of improved surveillance and effective detection measures, and aggressive prevention and education campaigns. Despite these gains, two important challenges have come to the fore. First, non-communicable diseases (NCDs) and injuries are now the leading causes of death with cardiovascular diseases, injuries and cancer the top three causes, accounting for 62 percent of all deaths. Continuing with the status quo³ will add US\$34 billion to the country's health care expenditures over the next decade, and also result in US\$38 billion in lost productivity (World Bank, 2005). Without shifts in how care is provided and good health promoted, the additional cost of treatment combined with lost productivity (due to earlier death and disability) could consume an additional five percent of GDP over this period. Second, despite the fact that more than 97 percent of all births occur in hospitals, neonatal mortality⁴ currently represents over 60 percent of infant mortality. Addressing neo-natal mortality requires establishment of effective care referral systems as well as quality improvement in hospitals.

¹ Other study variables include population increase, GDP growth, average income, general inflation, health inflation and health system efficiency. Various scenarios were simulated, but the data presented here was the most "optimistic" scenario with household income rising 1 percent annually (Ferraz, 2006).

² UNICEF, 2008.

³ Status quo refers to under-provision of health promotion and prevention interventions, weakness of referral systems, lack of dissemination and use of cost-effective treatments, and the absence of functional networks to facilitate the application of case management protocols across all levels of care (World Bank, 2005).

⁴ Deaths occurring during the first 28 days of life.

3. **Progress in Health Care Reforms.** Since the launching of The Unified Health System (SUS) in 1988, change has been incremental but steady. The main strategy of Brazil's health reform (*Reforma Sanitária*) has been the decentralization of service provision from the federal government to the municipalities, and to a lesser extent, to state governments. All states and most large urban municipalities have gained full management responsibility (*gestão plena*) for higher level care.⁵ A second key element of the reforms was the establishment of a federal financing system based on grant transfers. Accounting for over 80 percent of federal health financing, this system represents an important shift away from directly paying for (and operating) services to financing programs and health care through sub-national entities. Also, some of these grants are based on capitation and therefore provide incentives for cost containment. A praiseworthy achievement of decentralization and the grant-based financial systems has been the financial buy-in from states and municipalities, which currently finance nearly 45 percent of all publicly funded health care.

4. **Main Sector Challenges.** Despite advances in health status and progress on health reform, the health system still faces structural and organizational challenges that may compromise its ability to achieve further gains. For its level of income and spending Brazil still exhibits comparatively low health status indicators. In 2004, total health expenditure was estimated at R\$ 193.2 billion (US\$88.6 billion), or about 8 percent of GDP. Public resources accounted for 44 percent of spending while private spending constituted the remainder. Total health spending as a percentage of GDP and per capita total expenditure on health (at purchasing parity rates) placed Brazil in the upper fifth among Latin American countries. However, health indicators such as child and maternal mortality place Brazil among the bottom fifth. Recent studies, including Bank sector work, highlighted the following system shortcomings:⁶

- *Fragmented organization of health care provision:* As elsewhere, coordination of care across clinical and organizational settings is in its infancy in Brazil. Despite the high and increasing incidence of chronic diseases, which are best prevented and treated through integrated and continuous treatment arrangements across provider settings, the health system is organized mostly to provide acute care through stand-alone facilities. Network arrangements, in which different providers come together to formalize arrangements to manage and provide health care, are rare.
- *Irrational supply and distribution of technical resources:* In Brazil too much high-cost equipment is located in some areas; too little in others. Oversupply, underused, misplaced supply (for example, in small, low-volume hospitals), and inequitable concentration of medical equipment contribute to access problems and undermine system efficiency. This distortion of hospital capacity makes services much costlier than necessary and compromises quality. All levels of government own hospitals in Brazil as do many nongovernmental entities. These various hospital "owners" make important decisions about equipment investments largely in isolation from one another. The resulting

⁵ Between 2002 and 2005 all states and 667 urban municipalities signed agreements for full management of the delivery systems under their jurisdiction. This means that these sub-national entities are responsible for all publicly-financed health spending and delivery within their jurisdictions. This entails a combination of direct management of public health programs and publicly-owned facilities as well as financing of private providers.

⁶ This section focuses on problems which QUALISUS-REDE aims to address. It draws mainly on the results of Bank sector work (World Bank, 2005, 2006, 2007 and 2008).

irrational proliferation of high-complexity services is in part a reflection of the lack of policies related to technological assessment and allocation as well as the lack of coordinated care practices.

- *Diseconomies of scale:* Many hospitals in Brazil are in the wrong places and too small to operate efficiently or to ensure quality. About 60 percent have fewer than 50 beds despite international evidence suggesting an optimal hospital size of 150 to 250 beds. Worse, small hospitals are often severely underutilized, suggesting that the population demands few services from these facilities. Evidence from efficiency analyses shows that size is the single most important driver of efficiency. Despite low efficiency and utilization, many small hospitals survive through subsidies known as “public donations” from state and municipal governments. These funds are generally secured politically and represent an additional source of hospital income that is often not registered in sub-national health accounts.
- *Distorted payment mechanisms.* Payment mechanisms remain a relatively unused policy instrument to support policy priorities and to stimulate performance. Some payment mechanisms such as line-item budgets (the dominant form used in public facilities) contribute to inefficiencies and higher costs. Line-item budgets are based on historical input and spending patterns, with no rewards for quality or cost-consciousness. The Authorization for Hospitalization (*Autorização de Internação Hospitalar, AIH*) payment mechanism, consisting of a predefined fee schedule linked to outputs (procedures), is used to pay private hospitals under contract with SUS and theoretically can contribute to more efficient resource use. But, as currently applied, it only modestly contributes to cost control because the payment rates are seriously distorted, contributing to allocation inefficiencies
- *Low-performing organizational arrangements.* A wide variety of organizational and governance arrangements exist in Brazilian health facilities, but few are encourage or reward outstanding performance. For example, there is increasing evidence that public hospitals that operate under autonomous organizational models display higher production, efficiency and quality than facilities where managers have little or no decision-making authority. The most poorly performing hospitals in Brazil are public hospitals directly managed by government. Unfortunately, this arrangement dominates the public organizational landscape. Centralized human resource management that follows rigid civil service rules contributes to low performance. Publicly-financed private hospitals face a different set of problems. Overlapping and informal governance and management functions in these facilities may compromise performance.
- *Lack of accountability and deficient managerial practices.* Duplicative and/or unclear definition of responsibilities between providers and public payers, between municipal managers and federal financiers, and between both managers and providers and the populations they serve results in diffuse accountability. Typical of input-driven public systems, emphasis is placed on ex-ante controls and compliance with norms. Concern for performance is irregular.
- *Low Quality:* Available evidence on health care quality in Brazil points to serious shortcomings in terms of structure, process and results. This is particularly the case for

hospital and specialty services accessed by the poor. A significant number of hospitals can actually be considered unsafe as evidenced by their failure to meet or maintain licensure standards or comply with regulations concerning infection control.⁷ In addition to the regrettable health consequences borne by individual patients, low quality is also a major driver of escalating costs, threatening the affordability of the health care system as a whole. Although research is limited, available studies in Brazil show that poor quality is associated with increased spending.

5. **A new wave of Reforms:** In early 2006 MOH launched a new set of reforms, collectively known as the Health Covenants (*Pactos pela Saúde*)⁸. These reforms represent the first steps in an important shift in federal – sub-national relations in the health sector. Unlike the previous set of reforms (NOAS)⁹ that normatively specified a supply-driven delivery structure, the *pactos* aim to provide sub-national entities flexibility to design and organize their delivery system in line with local conditions. The *pactos*, which are annually negotiated between the MOH and sub-national governments, will specify performance targets for each level of government. The regulations also set regionalization as “the structural foundation” of the health delivery system setting forth practical steps for regionalization of service organizational delivery, including the creation Regional Health Care Networks (RHCNs), the establishment of corresponding of inter-municipal governance structures to support network formation (Regional Management Councils),¹⁰ and the use of existing management instruments such as Regional Development Plans (PDR) and Investment Master Plans (PDIs) to plan and organize RHCNs. The *Pactos* attribute to the states the responsibility of leading and coordinating the creation of RHCNs as well as establishing many of their fundamental and functional features (see below).

6. Though still a work in progress, the *Pactos* set the stage for a results-based management system as well as the establishment of intra-municipal care networks. However, compliance with performance targets will require development of instruments to enable federal support for and monitoring of municipal and state performance as well as strengthening state and municipal capacity for budgeting, management, and monitoring of service provision. Network formation will depend on the capacity of Regional Management Councils to pool resources and create governance and management structure to operate the to-be-formed networks. Although the *Pactos* clarify the roles of the different levels of government and assign more responsibilities to the states than the NOAS, it also bolsters the decision-making autonomy of the municipalities

⁷ Only about 70 of over 6,500 Brazilian hospitals are accredited or certified by an independent agency, applying standardized assessment methods. A recent assessment by the MOH (2006) found that most facilities do not meet minimal licensure standards.

⁸ Portaria MS/GM 399, of Feb 22/06; Portaria MS/GM 699, 2006.

⁹ Approved in 2001-2002, this former set of reforms, known as NOAS (Operational Guidelines for Health Care Provision) aimed to structure the delivery system through a single, one-size-fits-all arrangement based on the establishment of regional networks based on a pyramid model (micro-regional, macro-regional and regional). However, these reforms made little headway in terms of network formation or care coordination for several reasons: (i) the rigid structure did not account for local conditions; (ii) the configuration of the micro-regions was based on supply rather than demand or performance criteria. (iii) municipalities had few incentives to pool their financing to enter into regionalized networks due to the administrative and financial autonomy of sub-national governments; and (iv) the lack of clarity of state vs. municipal roles (Vilaça, 2002; CONASS, 2006).

¹⁰ The *pactos* replace the complex, bureaucratic process of “certifying” states and municipalities with a contracting system (*Termo de Compromisso de Gestão*) which eventually will link federal funding for states and municipalities to the achievement of negotiated performance targets. The regulations further mandate the establishment of performance contracting between sub-national governments and providers.

with most service delivery. Although municipal participation in regionalization efforts is mandatory, the degree of this participation is left unspecified.

B. Rationale for Bank involvement

7. The World Bank has supported Brazilian Health Reform since its inception in 1988 through a series of health investment projects that have addressed both health status and health system priorities. More recently, the federal government has engaged the World Bank to support the health ministry and sub-national governments to improve the efficiency and quality of publicly-financed services. Unlike nearly all national and international institutions involved in the health sector in Brazil, the World Bank is uniquely positioned to contribute expertise on issues related to health financing, design of regional health care networks, addressing non-communicable diseases, governance and resource management, and performance improvement. These are areas where know-how is lacking in Brazil. Engagement on these issues began four years ago with Government's request for four AAAs¹¹. Based on the results of this sector work and ongoing policy dialogue, the government formally requested Bank financing and technical assistance to design an investment program that will support the *Pactos de Saúde*. As suggested above, these reforms are oriented toward stimulating system rationalization and accountability in part through the reconfiguration of service delivery into RHCNs. The preparation of QUALISUS-REDE has also been an important input into current MOH efforts to formulate a policy on RHCN¹². In short, the potential impact of the Project for the health system is significant and the Bank's value added is considerable.

8. While QUALISUS-REDE Project represents a small portion of federal (recurrent) financing for medium and high complexity care (about 1 percent of annual transfers¹³), there is considerable demand for financing from states. In addition, the Project also represents additional funding (in addition to the recurrent financing directed to ongoing programs and activities) which will be channeled to investments, institutional arrangements and interventions that are not covered by current budgetary allocations.

9. QUALISUS-REDE is complementary to, but does not overlap with, other health lending operations. It is the missing link in the Bank's Brazil health portfolio in the sense of focusing on strengthening the efficiency, quality and governance of a range of specific care settings providing medium and high complexity care (e.g., hospitals, specialty units, and emergency care centers). These service settings and corresponding interventions are not covered by other lending operations. The Family Health Extension Project (Ln.7105-BR, approved in 2002) centers on strengthening primary care; VIGISUS (Ln. 7227-BR, approved in 2004) emphasizes health surveillance and indigenous health; AIDS III (Ln. 4713-BR, approved in 2003) addresses specific issues related to the HIV/AIDS epidemic). Furthermore, QUALISUS-REDE builds upon interventions supported by these projects. For example, QUALISUS-REDE will direct investments to regions that have attained a minimal level of Family Health coverage and possess

¹¹ AAAs include: (i) public expenditure tracking survey/health (2007), (ii) incidence and cost of non-communicable diseases (2005), (iii) hospital performance (2008), and (iv) case studies on human resource management in the health sector (2006). All have disseminated to the MOH and other federal ministries.

¹² Planned for 2008, this policy is considered by some observers as representing a major shift in SUS.

¹³ Based on 2006 federal transfers for medium and high-complexity care.

functional surveillance systems. It will also complement efforts supported by AIDS III to integrate the vertical AIDS program into a regionalized delivery system.

C. Higher level objectives to which the Project contributes

10. QUALISUS-REDE supports the higher level objectives specified in the Country Partnership Strategy II(CPS), including improving the quality of public spending by introducing results-oriented mechanisms to delivery health care, raising public sector performance, increasing engagement with health at sub-national level and promoting good governance. The proposed Project is also closely aligned with the strategic pillars of the CPS II¹⁴- equity, competitiveness and governance - and with the overall HD/health strategy for Brazil by supporting actions that: (i) reduce poverty and inequality through raising the quality of care, and ultimately, improving health outcomes, (ii) contribute to Brazil's competitiveness/growth through finding sustainable solutions to the unrelenting costs and access pressures facing the Brazilian health system, improving the efficiency and affordability of social spending (e.g., rationalizing the supply of costly hospital, specialty and diagnostic services), and improving labor force productivity (e.g., early detection, timely treatment, and continuous management of non-communicable diseases; reduction of waiting time for specialty and elective care); and (iii) strengthen governance foundations by introducing accountability mechanisms in the health sector (e.g., performance contracting, information management, and network and facility governance arrangements).

11. The Project will also embrace another strategic principle of the CPS: engaging government with “long-run, path-setting challenges” in which local experience or knowledge may be lacking. Through reconfiguring the current fragmented nature of SUS service organization and delivery into RHCNs, QUALISUS-REDE takes on a paradigmatic and systemic challenge.¹⁵ Finally, the Project applies a key operational dimension of the CPS through the implementation of a sector-wide approach (SWAP).

II. PROJECT DESCRIPTION

A. Lending instrument and Phases

12. The Health Network Formation and Quality Improvement Project (QUALISUS-REDE) is a 10-year Adaptable Program Loan (APL) to be implemented in two phases. The APL instrument was selected due to: (i) the long-term nature of the activities supported by the Program; (ii) the complexity of the proposed interventions which necessitate a phased approach consisting of learning-demonstration and sequential roll-out; and (iii) the MOH's long-term commitment to health network formation.

13. QUALISUS-REDE will also incorporate a pooled-financing approach to resource allocation (e.g., a type of SWAp). Similar to the Family Health Extension Projects I and II and the Health Surveillance Project II (VIGISUS II), the Borrower has requested that the proposed

¹⁴ Country Partnership Strategy for the Period FY2008-2011, Issued in May 8, 2008.

¹⁵ Project preparation has already contributed considerable international know-how to MOH policy dialogue on RHCN design and implementation, including an IBRD-sponsored International Seminar on this topic.

Project direct loan proceeds through the MOH financial subsystem in which grants are transferred to sub-national entities to co-finance health programs and service delivery. Given the good results of these projects, and special remedies and risk mitigation measures agreed with the Borrower (see Annexes 7 and 8), the pooled financing approach and corresponding flexible disbursement arrangements (e.g., use of Customized Statements of Expenditures) will be applied to the Project.

14. The total cost of the APL Program is US\$1.4 billion, with loan financing of US\$500.0 million across the two phases (See table 1 below). The total cost of the first phase (5 years) is US\$676.8 million, with loan financing of US\$235.0 million.

| | Phase 1 | Phase 2 | Program |
|---------------------------------------|----------------|----------------|----------------|
| Program Cost (US \$ million) | 676.8 | 763.2 | 1440.0 |
| Bank financing (US \$ million) | 235.0 | 265.0 | 500.0 |
| Implementation Period | FY10-14 | FY15-19 | FY10-19 |
| Supervision | Twice a year | Twice a year | -- |
| Triggers' assessment | Jun. 2014 | -- | -- |
| Appraisal | Jan. 2008 | Dec. 2013 | -- |

B. APL Program objective and Phases

15. The overall APL Program objectives are to:

- (a) Improve the quality, efficiency and effectiveness of the SUS-financed delivery system, through the development of integrated regional health care networks (RHCNs),¹⁶ with emphasis on the integration among basic health care and high and medium-complexity health care providers, support services (e.g., diagnostics), and logistical systems (e.g., transport); and
- (b) Contribute to improving the continuity of care by strengthening the prevention, detection, and treatment of diseases and conditions with the greatest impact on the country's disease burden, including hypertension, diabetes, and cancer.

16. The APL's second phase will build upon the accomplishments and lessons learned from the first phase, expanding the development of RHCNs in the approximately 15 targeted regions through implementing additional fundamental features and functional elements (see below) related to network formation. The second phase will extend implementation to additional regions and also aims to deepen support for quality and efficiency improvements at the facility level. Triggers for the second phase are presented in Table 2.

¹⁶ See Box 1 of Annex 4 for a description of an integrated regional network.

Table 2
Triggers for APL Phase 2

1. Regional Network formation agreements are under implementation in at least 10 states in accordance with the approved subprojects.
2. The Ministry of Health (MOH) has approved and disseminated a national policy on regional health care networks consistent with the RHCN attributes which are defined under the Project.
3. A plan for impact evaluation of regional health care networks supported under the Project has been prepared and the base line data has been collected in a sample of participating and non-participating regions.
4. A results-based financing scheme has been implemented as part of subproject funding in at least 100 percent of the subprojects whereby the participating states gain or lose funding during subproject execution (Component A), according to audited performance levels.
5. A system for monitoring of the Project is under implementation by the MOH, consisting of: indicators envisioned under the Project (and specified in Annex 3), targets, data collection methods, data analysis, and feedback mechanisms to networks. A technical monitoring report is produced at project midterm and conclusion displaying and comparing the performance of regional health care networks supported under Component A.
6. An integrated health network accreditation system has been developed and tested in at least two regional health care networks.

C. Project development objectives and key indicators

17. The first phase APL aims to establish the basic conditions for implementation of the QUALISUS-REDE strategy which are required to achieve the APL program objectives. The objectives of the proposed first phase Project are to:

- (a) Improve the quality and efficiency of SUS' RHCNs with emphasis on secondary-level health care, specialty, diagnostic and emergency centers, and logistical systems serving the Project's targeted regions and populations.
- (b) Improve the effectiveness of the SUS' RHCNs delivery system to prevent, detect and treat priority health conditions in the Project's targeted regions and populations.

18. To achieve these objectives, QUALISUS-REDE will support interventions at the system level, the regional level and the facility level. Details of the interventions are as follows: (i) system-wide investments will establish the national framework for integrated healthcare delivery systems and strengthen technical capacity to systematically motivate, support, measure, monitor, and evaluate the performance of regionalized service delivery networks, and the health care organizations that comprise it; these will implemented at the federal level; (ii) regional investments will encourage, develop and test formalized networks in defined regions to facilitate coordinated and continuous care delivery across provider levels and municipalities; these will be implemented by states; and (iii) facility-level investments will improve and sustain organizational performance in units located in defined regional networks. Also implemented by the states, facility-level investments will include financing to improve the quality of care, foster

stronger governance in public and SUS-financed private hospitals, and improve management practices in both.

19. **Project performance Indicators:** The main project indicators for the APL's first phase are as follows:¹⁷

Project Outcome Indicators: Measuring the impact of RHCNs is intrinsically difficult. Many of the indicators listed below are process indicators which are proxies for more robust outcome indicators. International experience suggests that most countries use process indicators to measure success of care coordination practices (OECD, 2007). However, even this approach in Brazil will take significant up-front work. Current information systems in Brazil are oriented toward program, facility, and broad population-based data. Regional and patient-level information related to care coordination and case management across multiple providers does not exist. The vertical dispersion of responsibility among different levels of government further handicaps data collection efforts. No single institution oversees the impacts of service delivery at the regional level. Supported by the proposed Project, certain processes need to be put in place (e.g. standardized clinical pathways for specific conditions, risk classification systems, patient education programs on how to deal with chronic conditions, continuous monitoring of patients' conditions, etc.), indicators defined, information systems constructed, and institutional responsibilities specified to capture the impacts of RHCNs on service quality, effectiveness and efficiency, and ultimately, health status. With these caveats, the proposed targets for outcome indicators are as follows:

Effectiveness

- 10 RHCN subprojects with at least 20% of population identified with a targeted priority condition which are duly registered by risk classification and receiving diagnostic, preventive, and treatment according to the clinical guideline;¹⁸
- 10 RHCN subprojects with all municipalities in subproject areas integrated into a regional Patient Referral and Management Center (*Central de Regulação*)¹⁹, and;
- 10 RHCN subprojects with at least 50% of emergency departments and call centers in subproject areas that are operating with a risk classification system.

Efficiency

- 10 RHCN subprojects with reduction of at least 10% in hospital admissions with complications for diabetes and hypertension in subproject areas.

¹⁷ Annex 3 contains a complete list of performance indicators.

¹⁸ Targeted priority conditions include: cancer, hypertension, diabetes, and conditions related to the neonatal period. For example, the share of hypertensive patients who are classified by risk and receiving treatment by the guideline; the share of women 50-69 who receive mammography and annual PAP test for women 25 a 49 years old for cervical cancer, etc.

¹⁹ This includes evidence of: professional staff (physicians or nurses) able to assess and refer patients, the technology to coordinate care across all levels of care (e.g. call center and internet-based interfaces linking providers); and manage patient needs (appointments, emergencies, risk classification, health education, surgical planning, transfers, etc.) through the system.

Quality

- 10 RHCN subprojects with at least 10% of hospitals in subproject areas which have achieved at least level 1 accreditation per system established by a recognized accreditation organization such as the National Accreditation Organization (ONA) or its equivalent.

20. **Indicators for Participating States:** For each targeted RHCN subproject (coordinated by states) and populations residing therein, the selected indicators, among others, are the following:

Institutional:

- % of municipalities integrated into Regional Governance/Management structures and planning instruments²⁰, and;
- % of SUS-financed providers with signed performance contracts.

Effectiveness

- % of the SUS user population (*usuários do SUS*) which have digital unique patient identification card linked to clinical activities in the regional network;
- % of municipalities which are covered by an organized transport system for patients, including regional coordination, defined routes, links with a Patient Referral and Management Center and support for emergency and elective patients; and
- % of municipalities which have evidence of improvements in the pharmaceutical supply chain, including consolidated purchasing, rationalization of the distribution system and improving availability of pharmacists in basic care units.

Efficiency

- % of facilities (primary health care centers, outpatient facilities and hospitals), support services (lab, pharmacy and diagnostic imaging) and logistics systems in the subproject areas which have undergone a restructuring (merger, conversion, strategic alliances, or change of service profile);
- % of managers at state and municipal level in each of the subproject areas which has received the agreed management training on integrated delivery networks.
- % of hospitals with the cost per bed day and other benchmarking data within the region;

Quality

- % of basic care centers which have obtained quality certification from the ministry of health (AMQ program).

21. **Indicators for Federal Ministry of Health:** The performance of the federal component of the APL's first phase will be measured by the following indicators:

- National policy on RHCN issued by the MOH which is consistent with the network attributes developed under the Project;

²⁰ These should include: Regional Health Commission (CGR) and 3 of the following four management instruments: Regional Health Citizens Board (CRS), Regional Development Plan (PDR), Regional Investment Plan (PDI) and Regional Health Plan.

- Definition of the standards, survey instruments, scoring system, and proposed institutional platform for an accreditation system for integrated networks;
- Studies of technology assessment analyzing the properties, clinical effects and economic impact of specific medical technologies in the 6 priority areas approved by the MOH;
- Information system implemented for the operation of RHCNs including, inter alia, electronic patient ID, Patient Management and Referral Center (*Central Regulação*) and electronic medical records;
- Presentation of results a functional analysis survey of the population in at least 30% of the networks in the subproject regions;
- National observatory and clearinghouse for sharing information on integrated healthcare delivery systems established, and holds conferences on regional experiences RHCN design and implementation;
- MOH approval of a national continuous quality improvement system with corresponding indicators;
- Establishment of new parameters for structuring and developing RHCNs;
- Proposal for the introduction of new guidelines, instruments and strategies for RHCN governance, management and performance contracting issued;
- Definition of the framework, process, indicators, data collection instruments, analytic methods, and feedback system required for the monitoring and evaluation of RHCNs;
- Baseline studies of the current status of the application of clinical pathways for targeted priority conditions are completed.

D. Project components

22. The first phase APL will consist of three components: (a) Development of Regional Health Care Networks and Strengthening of Health Care Facilities; (b) Systems Development for Performance Enhancement; and (c) Project Management.

Component A - Development of Regional Health Care Networks and Strengthening of Health Care Facilities (Estimated total cost US\$646.1 million or 95.5 percent of total Project costs; estimated loan financing US\$205.0 million or 87.5 percent of total loan proceeds).

23. This component supports two related categories of activities. The first involves the development and implementation of regional and organized arrangements for coordinated or integrated care (regional health care networks – RHCN). The second consists of upgrading, quality enhancement, organizational reform, and strengthening of management practices in facilities within the RHCNs. All facilities benefiting from investments in this component must be affiliated with a pre-defined RHCN. Both types of activities will be incorporated into a single type of subproject – Regional Health Care Network Development and Quality Improvement Subprojects, or RHCN subprojects. The subprojects will aim to develop and implement RHCNs in a subset of regions to raise the effectiveness of care provision as well as strengthening the performance (efficiency, quality and responsiveness) of health and support services there in. Box 1 below presents a hypothetical case comparing quality and efficiency impacts of both fragmented and coordinated care delivery on an individual patient.

24. This component will finance works, goods, training and technical assistance. Works will include upgrading and equipping existing health facilities, including the construction of ambulatory and diagnostic units, remodeling of health centers, polyclinics, and specific departments within hospitals, and procurement of medical and non-medical equipment (including basic communications equipment), furniture and patient transportation vehicles. The component will not finance the construction or equipping of new hospitals, and all investments shall be in connection with the RHCNs.²¹

25. The component will support up to 15 demand-driven subprojects through investments in the “fundamental” and “functional” attributes of RHCNs outlined below. These attributes represent a menu of interventions. Each participating state will select a subset of interventions for a defined region based on a diagnosis of population needs, local conditions, and implementation capacity. It is important to note that investments in these areas will not occur all at once. Rather, they will be phased over the ten-year APL implementation period. The team estimates that during the first phase APL each subproject will finance 3-6 “fundamental” interventions and 3-4 “functional” interventions. The first phase is expected to include 10 subprojects in highly-urbanized metropolitan regions and 5 in non-metropolitan regions.

26. Fragmented health care lead to bad health system performance and poor health outcomes. Coordinated care, using regional health care networks is the key to improve efficiency, equity and quality of health care by the integration of promotion, prevention and treatment. The case of Luciana, described in Box 1 illustrates how coordinated care leads to better health outcomes.

Box 1: From Fragmented to Coordinated Care: The Case of Luciana^a

Fragmented care: Luciana is a small four-year-old with asthma. She recently came down with a cold and was wheezing heavily all night. Her mother, Ana Paula, called for an ambulance that transported them to the emergency room (ER) at a local public hospital. It was the fifth ER visit (at three different hospitals!) this month – each in response to an asthma attack. The ambulance originally brought her to a hospital closer to home, but the facility did not have any vacant pediatric beds nor was there an attending pediatrician at that time. Therefore, the hospital ordered the ambulance to take her to a larger hospital located 50 miles away in the state’s capital. However, Ana Paula did not think her daughter required admittance to a hospital (she already had been admitted once this month). Rather, Luciana needed treatment and medication to mitigate a severe asthma attack. It was Saturday and the local health center was closed and there was no way to contact the family doctor.

It has been 6 hours since Luciana left her home. As she sat in the crowded ER, Luciana was breathing heavily emitting rasping and whistling sounds as if each breath will be her last. After waiting seven hours, she was finally attended in the ER where they hooked up an IV, took blood samples and ran a routine chest X-ray. It was the fourth set of X-rays and blood work this year. It seems that almost every ER visit resulted in a battery of diagnostic tests. When the attending specialist finally looked in on Luciana, he asked the same questions asked by Dr. Rodrigues, the family doctor at the local health center. The specialist wanted to know the medications Luciana was taking, but Ana Paula could not recall or pronounce their names. Since it was Saturday, there was no way to contact the local health center to obtain treatment information. (Ana Paula had separate medical records in three hospitals and the local health center). The specialist appeared uninterested in the family doctor, or the treatment he prescribed. However, when the attending nurse was about to give Luciana an anti-asthma medication indicated by the specialist, Ana Paula luckily noticed from the color of the label that it was a medication to which Luciana was allergic to. At first, the specialist did not believe her, but when she described in detail Luciana’s previous reaction, which almost resulted in Luciana’s death two

²¹ It is important to note that selection criteria will strongly favor proposals that de-emphasize investments in infrastructure and medical equipment. See Table 3.3. of Annex 3.

months earlier, he fortunately desisted from applying the medication. After giving her an alternative medication, Luciana began to breathe normally. The specialist prescribed another medicine which had been recommended to him by a pharmaceutical vendor, but the hospital (or SUS) did not stock it. Ana Paula could not afford to purchase the prescribed medication at a local pharmacy. She had to borrow money to pay for the bus trip home. The hospital also gave Ana Paula some inhalers, but these were the same ineffective inhalers she had obtained at the health center. She graciously accepted the inhalers, but Luciana never used them.

The following Monday Ana Paula and Luciana visited the local health center and consulted with Dr. Rodrigues. Ana Paula described her ordeal on Saturday. Ana Paula could not provide Dr. Rodrigues with the information on the medication provided at the hospital, because she herself was never told. Dr. Rodrigues was trying his best to provide Luciana with the best possible care to prevent and treat asthma attacks, but did not have access to best practice information or with asthma specialists. He called the hospital to speak with the specialist who attended Luciana on Saturday, but his call was never returned. During the last year SUS spent over US\$25,000 on x-rays, laboratory exams, ER care, medications, hospital stays, and emergency transport in the unsuccessful treatment of Luciana's asthma. Worse, much of this care duplicated previous care or was unnecessary.

Coordinated care: Four years later, Luciana still has asthma, but has not had a severe attack in two years and has not been in an ambulance, ER or a hospital bed over this period. She leads a normal life of an eight-year-old. She is even playing on the school's girl soccer team. Dr. Rodrigues is still her family doctor, but he does not act alone. Rather, he belongs to a multidisciplinary "asthma" team consisting of a pediatrician, allergist, nurse, social worker, and community health agent. The asthma team is one of several teams formed by the recently created regional health care network (RHCN). This network coordinates care across 15 municipalities and covers over 500,000 people.

The nurse, who staffs the local health center, is the "manager" of Luciana's case. Even though the pediatrician works in a specialist clinic in a nearby city, the allergist in a hospital in the capital city, and other staff in the local health center, all use the same medical record to which they have electronic access. With support from the Health Ministry, the RHCN developed a clinical pathway for asthma treatment that assists the team and patients make the best possible decisions on Luciana's behalf. The team also has access to an electronic information system that provides up-to-date information on research and best clinical practices regarding asthma treatment and case management. Based on this information, which is included in clinical pathway, the team developed a treatment and self-care program for Luciana. The team has a monthly meeting to discuss the management of Luciana's case as well as other patients suffering from asthma. The nurse and social worker work with Ana Paula and Luciana so that the latter learn how to care for Luciana's asthma. The family received a printout of questions and answers regarding treatment and advice on what to do in case of problems. Home visits by the community health agent assist Luciana and Ana Paula with self-care – taking medicines regularly, avoiding things that trigger attacks, recognition of potential problems, etc. Luciana has bi-annual check-ups with Dr. Rodrigues and the nurse who monitor Luciana's condition. A bus service organized by the RHCN picks up Luciana and her mother at the local health center and brings her to the specialty clinic for Luciana's annual diagnostic tests and check up with the pediatrician of the asthma team. The results are shared and discussed with other team members.

When problems come up, Ana Paula and Luciana always have someone to talk to. They can contact any member of team. But they also have access to RHCN's call center during off hours. The call center nurses and physicians also have access to Luciana's medical records as well as the cell phones of the asthma team. For example, during a recent asthma flare-up on a Saturday evening, the attending physician prescribed the medicine indicated in the clinical pathway and had proved effective according to Luciana's medical record. Ana Paula picked up the phoned-in prescription at a nearby hospital.

The asthma team estimates that their coordinated approach costs SUS much less than the above-mentioned US\$25,000 bill that paid for much duplicated and unnecessary care. Of greater importance, Luciana's asthma is under control: she receives timely and high quality care based on best practice medical evidence. Although asthma is a chronic condition that she will have her entire life, Luciana has learned to manage it while avoiding ERs, hospitals, and late night ambulances.

^a Inspired by and adapted from Lawrence (2002)

27. The configuration of network relationships will be based on development and implementation of set of “fundamental”²² and functional²³ RHCN features typically found in organized integrated delivery networks according to international and Brazilian experience. Box 1.1 of Annex 4 illustrates the relation between these elements. Investments in both types of features seek to coordinate care and raise the performance of facilities and service provision within these networks²⁴. The main elements for the development and implementation of “fundamental”²⁵ and functional²⁶ RHCN subprojects are described below.

28. RHCN fundamental areas eligible for subproject support

(i) *Network and facility policies*: This area consists of the development of policies, plans and strategies and corresponding legal and regulatory framework to establish RHCNs at the state level as well as to support performance improvement at the facility level.

(ii) *Network configuration*: This area entails defining the overall configuration of the network in terms of territorial (regional) demarcation, population definition, assessment of the population’s health needs and disease priorities, setting out the delivery units (primary, secondary, tertiary, diagnostic, etc.), service types (promotional, preventive, diagnostic, curative, etc.) and competencies at which care will be delivered, and specifying the connections between these units and services.

(iii) *Network and facility governance arrangements*:²⁷ The subprojects will test regional governance arrangements to oversee network development, implementation, and performance monitoring. Subprojects will also support the introduction of alternative

²² “Fundamental” features of RHCNs are the essential building blocks for the establishment of integrated care. They create the enabling institutional and systems environment for developing and implementing integrated or coordinated functions. They can consist of policies and strategies, institutional responsibilities and competencies, laws and regulations, data and systems to track and evaluate performance, governance and management structures.

²³ Closely linked to fundamental features, “functional” attributes of RHCNs are actions, mechanisms, and functions that support coordinated and affordable care delivery. They can consist of managerial techniques, accountability mechanisms, performance-based incentive schemes, operational arrangements, care practices, purchasing and contracting arrangements, information technologies, and human resource management and training practices.

²⁴ See Annex 4 for a more detailed description of each feature.

²⁵ “Fundamental” features of RHCNs are the essential building blocks for the establishment of integrated care. They create the enabling institutional and systems environment for developing and implementing integrated or coordinated functions. They can consist of policies and strategies, institutional responsibilities and competencies, laws and regulations, data and systems to track and evaluate performance, governance and management structures.

²⁶ Closely linked to fundamental features, “functional” attributes of RHCNs are actions, mechanisms, and functions that support coordinated and affordable care delivery. They can consist of managerial techniques, accountability mechanisms, performance-based incentive schemes, operational arrangements, care practices, purchasing and contracting arrangements, information technologies, and human resource management and training practices.

²⁷ Governance refers to the means by which a network or an organization (such as a hospital), its managers and staff are held accountable for their behaviors (such as resource management, planning, service monitoring, financial management, etc.) to deliver services with quality and efficiency. Theoretically, governance authority includes oversight of administrative practices and fiscal performance, planning and policy making, and accountability to individuals, communities, payers and governments. Accountability is a key concept that captures the responsibilities of actors and the consequences they face based on performance.

governance arrangements in hospitals, granting greater autonomy (and accountability for results) to facility management.²⁸

(iv) *Network and facility management structures*: This area involves building institutional capacity to manage the network – to select, deploy, and supervise resources in the most efficient way possible to achieve network objectives. Subprojects will also support strengthening managerial practices at the facility level for areas such as: procurement, personnel, information, public relations, materials and finance.

(v) *Network and facility financing systems and payment mechanisms*: The subprojects will seek to organize and test pooled financing arrangements to fund service delivery. They will also support the introduction of payment mechanisms to fund networks and stimulate efficiency in health care facilities.

(vi) *Monitoring and evaluation systems*: The subprojects will finance the design of a monitoring system to measure assess and raise performance (effectiveness, efficiency, quality, health outcomes) of health services at both the regional (network) and facility levels.

(vii) *Support systems*: Subprojects will support the consolidation, horizontal integration, and efficient management of support services, including, pharmaceutical purchasing and supply, diagnostics, pathology, and therapeutic services.²⁹

(viii) *Logistics*: This area involves the organization and vertical integration of patient flows to facilitate timely access and efficient utilization. Investments will support electronic patient identification cards, appointment call centers (for diagnostic exams, specialty consultations, and elective surgery), emergency dispatch systems, emergency and non-emergency patient transport systems, and patient or family communication systems such as call centers.

29. **RHCN functional areas eligible for subproject support**

(i) *Evidenced-based care pathways or clinical guidelines*:³⁰ The subprojects will support the development and application of clinical pathways for targeted priority conditions or care processes such as hypertension, diabetes mellitus, cancer, and neo-natal care.³¹

²⁸ Recent federal legislation creating Social Organizations and Social Organizations in the Public Interest provide two vehicles to establishing alternative governance arrangements in Public hospitals. A bill before Congress seeks to establish “State Foundations” as another governance form for public hospitals.

²⁹ Currently, the supply of these services is inefficiently fragmented across many providers within a given region.

³⁰ According to the Institute of Medicine (1999) clinical pathways or guidelines can be defined as “systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.” Clinical pathways are an important means to achieving network cohesion and improving both cost-effectiveness and quality through adapting best practices and standardizing practice patterns across the network. Pathways describe the entire care path for patients with specific conditions, including support functions such as laboratory, radiology, and pharmacy. It is a tool for care management that facilitates the measurement of effects, elimination of problems, benchmarking, and quality comparison. In more advanced networks, pathways are seen as the basis for network configuration and asset management. They also challenge existing and often deficient medical practice patterns by controlling practice variation.

³¹ However, any single subproject will focus on only one or two conditions.

(ii) *Disease and care management*: Care management for any network responds to the population's epidemiological profile and system affordability. The subprojects will support a care management model with the following features: (a) emphasis in primary care; (b) management of chronic care; (c) strengthening health promotion, home care, and patient self-care; (d) use of population-based risk assessment and classification methods; and (e) use of multidisciplinary teams across provider levels.

(iii) *Organized management of referrals, bed assignment, diagnostic exams, specialty consultations, and urgent/emergency care*. The subprojects will aim to strengthen Patient Screening and Referral Centers (CRs) at the regional level to: (a) receive, review, authorize, and monitor requests for specialty outpatient appointments, diagnostic exams, referrals, and emergency care among all facilities located in the *regional* network, and (b) follow-up on each case, tracking patient progress while reducing unnecessary inpatient stays and subsequent specialty visits.

(iv) *Contracting and contract management arrangements*: Subprojects will seek to craft contracts at two levels: (a) between the state/municipalities and network management; and (b) between network management and facilities comprising the network. Subprojects will also invest in establishing state and regional capacity to prepare, negotiate, monitor, evaluate, and financially manage contracts.

(v) *Patient communication and health promotion*: Subprojects will support the development and implementation of systematic processes to: (a) communicate health and network information to patients in an understandable manner; and (b) receive feedback from patients on their health status and perceptions of care received.

(vi) *Continuous quality improvement (CQI)*:³² This area aims to design and implement a network-wide CQI program that also addresses specific quality issues at frontline service providers. Specific interventions supported by the subprojects will include: facility licensure and accreditation (for hospitals and diagnostic units) and quality certification (for ambulatory medical units), strengthening of hospital quality control commissions, improving systems for the identification, prevention and correction of medical errors, adverse events and facility-acquired infections, redesign of care processes based on protocols, and the continuous monitoring of care processes.

(vii) *Efficiency enhancement*: Focusing on the facility level, subprojects will support the implementation of managerial functions to enhance efficiency of services and support functions.³³ These can involve strengthening systems and methods for: inventory and stock control, intra-facility resource allocation, purchasing and procurement, human resource

³² CQI is an organizational approach for upgrading quality through identification, prevention, and correction of errors via continuous assessment, monitoring and strengthening of care delivery processes. Although usually applied at the facility level, CQI is increasingly used to create a facilitating environment for quality improvement among facilities comprising an organized network. It is a systematic approach to quality improvement that aims to ensure consistency of standards, quality of treatment, and continuity of care across the settings and providers throughout the network and in accordance with the evidence base.

³³ These interventions should be part of a broader, network-wide plan to combat inefficiencies.

management, pharmaceutical distribution (e.g., unit dose systems), financial and budgetary management, cost accounting, planning, maintenance and contract management (outsourced services).

(viii) *Continuous education for professional and auxiliary staff:* This area involve structuring and implementing a program to assess competencies, upgrade skills, and continuously improve the performance of personnel and clinical staff in communicating with and providing services to patients.

(ix) *Information and communication systems:* The subprojects will support investments in information and communication technologies to strengthen information management required for the coordination of care across an integrated network and to support decision-making and contract management, evidenced-based practice patterns, monitoring and evaluation, patient communication, logistics, and quality and efficiency enhancement.

(x) *Change management:* The implementation of RHCNs involves changing provider behaviors, work schedules, and clinical practices. This invariably generates resistance particularly among health professionals who fear lost of autonomy. Introducing RHCNs requires change management strategies to engender the participation and support of key stakeholders, especially physicians, nurses and other health workers. It also involves buy in from municipal health authorities to enable resource pooling and establishing functional governance and management structures. The subprojects will finance consultant services to formulate and implement change management strategies.

Component B - Systems Development for Performance Enhancement (Estimated total cost US\$26.3 million or 3.9 percent of total project costs; estimated loan financing US\$26.3 million or 11 percent of total loan proceeds).

30. This component supports the creation of an enabling institutional and systems environment to support the implementation of RHCNs to improve quality and care management, promote alternative payment systems, and strengthen monitoring and impact evaluation. This component will have a national focus and will be implemented directly by the MOH. Consisting of studies, consultancy services, goods (information technology), training (including materials and logistics), and travel expenses, the Project will support a series of activities that are divided into six areas as follows:

(i) *Support for Network Formation:* This area will support the development of policies, strategies, instruments, and systems to support the implementation of networks nationwide: Specific activities will include: (a) development and testing of structures for RHCN governance; (b) formation of a national policy in support of RHCNs; (c) development and testing of a accreditation system of RHCNs; (d) development and implementation of continuing education program on care coordination; (e) development and testing of information systems for patient identification cards, electronic medical record systems, and appointment and referral centers; (f) evaluation and strengthening of monitoring and auditing systems, and planning and management instruments used in SUS with a focus on supporting RHCNs; and (g) support for change management practices to create an enabling institutional environment for subproject implementation.

(ii) *Disease and Care Management*: The main focus of this area is the development, testing, and implementation of clinical pathways in support of care coordination for high priority diseases and conditions. This will involve an in-depth analysis of international and national experiences on designing and implementing clinical pathways. It will also support development of risk classifications systems for these same conditions as well as for urgent and emergency care.

(iii) *Quality Enhancement*: This area consists of a number of activities to support quality improvement at both the RHCN and facility levels, including: (a) preparation of a national quality improvement strategy; (b) development of an incentive program to stimulate facility licensure and accreditation; and (c) establishment of national quality benchmarking and public reporting systems.

(iv) *Technological innovation and assessment*: This area will support a series of studies assessing the properties, clinical effects (intended and unintended), and economic impact of selected technologies such as drugs, biologics, medical devices, equipment and supplies, medical procedures, and support systems. It is expected that these technologies will contribute to improving care processes at an affordable cost for the priority conditions supported by the subprojects.

(v) *Health Financing and Performance*: This set of activities will consist of: (a) development of payment mechanisms for RHCN; (b) development of payment mechanisms for hospitals that provide clear incentives for efficiency (including the migration from the AIH-based hospital payment system to DRGs); (c) implementation of national cost accounting systems for health care facilities; and (d) development and implementation of purchasing arrangements (and corresponding instruments) that link financing to performance;

(vi) *Monitoring and Impact Evaluation*: This area will support the MOH in providing technical assistance, monitoring performance, and designing an impact evaluation of the RHCNs implemented under Component A, including the collection of base line data. It will also involve training of technical personnel that will support RHCN implementation at the regional level.

Component C: Project Management (Estimated total cost US\$3.8 million or 0.6 percent of total project costs; estimated loan financing US\$3.1 million or 1.5 percent of total loan proceeds).

31. The component C is aimed at strengthening the MOH to implement and supervise the project implementation and results. It proposes to finance a group of full-time consultants that will support the MOH's staff to conduct procurement, financial management, and administrative tasks associated with the Project's daily implementation. It will also finance facility upgrading (rehabilitation, office furniture and computer equipment), consulting and non-consulting services such as printing, training, and travel expenses.

E. Lessons learned and reflected in the Project design

32. The proposed Project's design incorporates a number of lessons drawn from the Family Health Extension I (PROESF: 2002-2006) and Health Reform Project (REFORSUS: 1996-2004) projects.³⁴ These are as follows:

Limit the number of subprojects: subprojects should be of sufficient scale to avoid resource dispersion; (Component A): Both PROESF and REFORSUS executed significantly more subprojects than anticipated in the original designs, resulting in severe fragmentation of financing and activities which in turn compromised development impact. This dispersion of resources mostly responded to political pressures from states and municipalities to access project financing. Although not a guarantee, QUALISUS-REDE will include a contractual clause placing a ceiling on the number (15) of state-executed subprojects eligible for financing. This will allow for sufficient scale for subproject execution and not stretch MOH capacity to support the subprojects.

Plan to provide substantial technical assistance to participating states: RHCN formation and implementation is a complex task and most states have little or no experience and know how in RHCN design. Without extensive and continuous technical support, it is unlikely that the proposed Project will execute robustly. QUALISUS-REDE will establish a cadre of regionally-based, full-time consultants to provide support to states in the preparation and implementation of investment subprojects. These national consultants will be trained by the MOH. To complement the national consultants, international firms will be hired to provide short-term technical assistance to the states.

Pre-investment, capacity-building stage. To allow sufficient time to develop RHCN subprojects, and establish institutional capacity to plan, implement and monitor them, the Project will include a pre-investment stage: the first year of project implementation will be used for subproject development and selection, hiring of consultants to provide technical assistance, the training of state implementation teams, and strengthening of institutional capacity and fiduciary systems at the state level. The subprojects will then be implemented during the remaining four years of project life.

Limit spending on hardware investments while promoting financing for "software" investments such as in managerial and organizational change: The REFORSUS project included an investment fund to support upgrading of plant and equipment for SUS hospitals and specialty ambulatory units as well as introducing modern management practices. In theory, this fund sought to link hardware investments to managerial development and quality improvement in beneficiary facilities. In practice, this linkage failed to materialize. The proposed Project will attempt to mitigate this risk through subproject selection criteria (see Table 3.3 of Annex 3) that: (i) favor regions that are relatively well-endowed with infrastructure and equipment; and (ii) and reward subproject proposals that are oriented toward "software" investments.

³⁴ This section draws on REFORSUS and Family Health Extension ICRs.

Establish specific links between investment financing and the achievement of (physical and non-physical) performance targets: Similar to previous health projects, most financing will be executed by sub-national entities (in this project, states). Once the “winning” states are selected, an incentive is needed to stimulate continuous execution of funding and achievement of agreed outputs and results. To avoid continuous financing of low-performers while rewarding high performers, a performance-based financing scheme (discussed below) is incorporated into the design of Component A. The scheme links levels of financing to agreed outputs and results that are measured at specific two-year intervals. Exclusion criteria are included as an exit strategy for non-performers and persistent low performers.

Consider an independent commission to review and score subproject proposals: Political interference in subproject selection plagued REFORSUS. One measure to mitigate this risk is to hire academics, researchers, and health professionals unaffiliated with SUS or the states to review and score the subproject proposals. The final decision, based on the rankings by the independent commission, will rest with the MOH.

Consider an independent group to assess subprojects progress and performance: Given the performance-based financing scheme (outlined below) that is incorporated in project design, an independent firm or institution will conduct mid-term and final reviews or technical audits of subproject performance. The MOH will prepare the methods, survey instruments, and scoring system for these technical audits.

Conduct in-depth fiduciary risk assessment: Prior to subproject implementation, Bank and MOH teams will conduct fiduciary risk assessments of “winning” states. Based on the assessment, an actions plan for strengthening fiduciary processes will be developed as well as performance indicators that will be included in MOH-state contracts.

33. The project design also draws on the lessons learned from international experiences in RHCN formulation and implementation, including:³⁵ (i) develop policies and strategic plans that specify the system’s vision and objectives and how the system intends to achieve them; (ii) avoid mandating the formulation of RHCNs; apply a demand-driven, bottom-up approach that allows for wide consultation and participation of stakeholders; achieving buy-in of facilities is critical for success; (iii) promote a two-way communication strategy that allows system leaders to communicate vision, strategy and operational details as well as receive continuous feedback from the line is essential; development of trust, goodwill and respect are building blocks for network formation; (iv) invest in change management to facilitate modifications in organizational culture (away from fragmented service provision and toward coordinated and integrate care); (v) emphasize a system-wide approach; avoid the formation of “enclave” or “sub networks” based on specific diseases especially if the underlying fundamental and functional features for broader care coordination are absent; (vi) use quality improvement goals as means to

³⁵ Main sources include: OECD, 2007; Goodwin, 2004; Kekomaki, et al., 2005; Pan American Health Organization, 2007; Woods, 2002; Cercone, 2007; Conrad and Shortell, 1997; Navarree, et al, 2005; Vilaça Mendes, 2005, 2007; Shortell, et al.,2000; Lawrence (2002), Institute of Medicine, 2001; and Dlugaca, et al., 2004.

create an “overall sense of system-ness”(Shortell et al., 2000: 46); (vii) don’t do everything at once; craft a long-term implementation plan that allows for gradual implementation of fundamental and functional features while permitting learning by doing; (viii) develop a monitoring system and corresponding information system that allows for continuous performance assessment; establish success factors and milestones that facilitate assessment; (ix) don’t underestimate the need for human resource management, training, and development processes to facilitate the creation of multidisciplinary teams and introduction of coordinated care processes; and (x) work to get the right incentives and accountabilities (through governance, contracting, and payment mechanisms) to foster care coordination across providers.

F. Alternatives considered and reasons for rejection

34. The following alternatives were considered and rejected:

No project: The Borrower and Bank discussed whether or not to go forward with the project at all. Both agreed that in several areas the value added of the loan and Bank involvement consists of: (i) providing know-how and technical support to the MOH regarding development of policies, plans, and investments related to implementation of RHCNs³⁶; (ii) developing a robust monitoring framework for RHCN implementation; (iii) improving the quality of program supervision; (iv) mandating an impact evaluation; and (v) incorporating a performance-based financing scheme.

DPL: A DPL was considered but The Ministry of Finance no longer favors this type of instrument.

SIL: The SIL lending instrument was rejected because it does not provide the long-term lending framework required by the proposed Project. Many of the proposed interventions are relatively new to Brazil, and a relative longer time is needed for them to develop and mature. The phasing approach provided by an APL is also crucial to identifying lessons and problems that emerge during the implementation, and proposing corrective measures.

³⁶ Due to the complexity of developing and implementing RHCN, MOH has steadfastly supported World Bank collaboration with the QUALISUS-REDE program.

III. IMPLEMENTATION

A. Institutional and implementation arrangements

35. The first phase of the Health Network Formation and Quality Improvement Project (QUALISUS-REDE) is expected to be implemented over a five-year period. The loan will be expected to become effective on or about July 1, 2009, and will have a Closing Date of June 30, 2014. The Project consists of three components (i) Component A - Development of Regional Health Care Networks and Strengthening of Health Care Facilities; (ii) Component B - Systems Development for Performance Enhancement, and (iii) Component C - Project Management.

36. The total Project costs are US\$676.8 million, with a proposed loan amount of US\$235.0 million. The Project will be coordinated by the Ministry of Health (MOH) through its Executive Secretariat (SE)³⁷. Most project activities – 87.5 percent of total loan proceeds, will be implemented by the States (Component A), and the remaining 12.5 percent by the MOH (Components B and C).

37. The 26 States and the Federal District will be eligible to participate in Component A of the proposed Project through their Secretariats of Health. States will present Regional Health Care Network Development and Quality Improvement Subprojects (the RHCN subprojects), and will be subject to a selection process, which is described below. The MOH will approve up to 15 subprojects to be financed under the Project, which were technically qualified by a panel of experts, with qualifications acceptable to the Bank, as described below.

38. Component B, which includes financing of goods (information technology), technical assistance, consulting services, studies, training, and monitoring and evaluation activities will be implemented by the MOH using its line Secretariats and Departments for technical definitions and oversight, and its *Coordenação Geral de Recursos Logísticos* (CGRL) for procuring related goods, consulting and non-consulting services. Given the complexity of putting in place health care networks, and based on the lessons learned from other Bank-financed projects (REFORSUS, Family Health I, VIGISUS I and II), this component will finance a group of full-time consultants to provide technical assistance to the participating States³⁸ and support on the daily implementation of subprojects under Component A. It will also finance consultants to provide technical assistance to the MOH on the formulation and implementation of health networks.

39. The Component C is aimed at strengthening the MOH to implement and supervise the project implementation and results. To this end, it will finance a group of full-time consultants that will support the MOH's staff to conduct procurement, financial management, and administrative tasks associated to the Project's daily implementation. It will also finance facility upgrading (rehabilitation, office furniture and computer equipment), consulting and non-consulting services such as printing, training, and travel expenses, all of them to be procured and selected through the CGRL.

³⁷ A proposal for restructuring the MOH was prepared by the MOH and submitted to the Brazilian Senate to approval. After the approval of the new structure the Project coordination could be transferred to another MOH unit during its implementation.

³⁸ Approximately 15 consultants (ratio of 1 consultant per subproject).

40. Project implementation will be supported by a detailed Operational Manual, containing all relevant information for the executing agencies - MOH and State. Given the complexity, and the substantial amount of resources involved in Component A, special attention will be given to the subproject-related sections of the Operational Manual.

41. **Selection of RHCN Subprojects:** Subprojects will be selected on a demand-driven and competitive basis. Subproject selection will consist of a two-step process.³⁹ The first step involves state submission of a 20-25 page proposal containing a short diagnosis, identification and description of targeted region, including service supply, technical and financial proposal for network implementation and facility quality improvement, implementation plan, and description of implementation capacity as well as prior experience with region-wide initiatives. Based on criteria presented in Table 3.3 of Annex 3 the proposals will be scored and ranked by a panel of outside experts contracted for this purpose. The MOH will select subprojects among those that have been deemed technically qualified by the expert panel. Up to 15 subprojects will be selected with 10 to be in metropolitan regions and 5 in non-metropolitan regions. No state will be approved for more than one subproject.

42. The second step consists of the presentation of a complete, detailed subproject plan which includes at a minimum the following elements: diagnosis, technical plan, implementation plan, organizational arrangements, procurement plan, monitoring system and corresponding indicators, and financial management arrangements. The MOH will review and approve the subprojects according to criteria specified in Table 3.4 of Annex 3. It is expected that upon review, the MOH will recommend modifications and resubmission of a revised proposal.⁴⁰

43. **Allocation of Funds to Subprojects: Eligibility and Exclusion Criteria:** Once a subproject plan has been approved by the MOH, the “winning” states will be eligible to receive MOH allocations to finance approved RHCN Subproject activities upon compliance with the following criteria (Table 3.5 in Annex 3): (i) signed MOH-state agreements; (ii) establishment of subproject coordinating unit; (iii) training of subproject coordinators; (iv) existence of approved financial management system; and (v) agreed fiduciary action plan.⁴¹

44. States that do not initiate financial execution of the subproject 6 months after receiving MOH allocations will lose eligibility for further funding until the issue is solved. Technical assistance will be provided to the State to solve the financial or technical issues that impede execution. Low levels of execution after two years (e.g., at the mid-term of subproject execution) can result in reduction and delay in further financing during the remainder of the subproject cycle (see below for performance-based financing scheme).

³⁹ The operational manual will include detail descriptions of the process, including rules, procedures, and guidelines for proposal preparation.

⁴⁰ If a state does not submit the detailed plan before the due date, or once assessed by the MOH, fails to modify the plan according to MOH recommendations, and submit a revised plan prior to a specified date, the plan will be excluded from project participation. In this case, the MOH will select the proposal (from step 1) with next highest ranking score, and solicit the state to prepare a plan.

⁴¹ For medium and high risk states based on fiduciary risk assessment that will be performed prior to Subproject execution.

45. Criteria for exclusion from the APL’s second phase financing include: (i) irregular use of project funds, (iii) failure to furnish required financial and performance information; (iii) low execution of project financing; and (iv) failure to implement fiduciary action plan (for states where such a plan was deemed necessary based on fiduciary assessments). (Table 3.6 in Annex 3).

46. **Performance-based Financing:** Component A will incorporate a performance-based financing scheme for RHCN subprojects in which MOH allocations to participating states are tied to performance.⁴² Through the pooled financing mechanism (described below) in which Bank financing is mingled with federal grant transfers, the arrangement will aim to reward states for achieving agreed benchmarks related to results and implementation at specified intervals while reducing (or even cancelling) financing for non-performers. The scheme is illustrated in Figure 4.2 of Annex 4.

47. Each state will sign an agreement with the MOH that will specify structure, process and result indicators at two-year intervals (approximately the mid- and end-points of the project cycle). Achievement of these indicators during the first two years will determine the level of financing for the second two-year interval of APL Phase I. Moreover, compliance with the indicators during the second two-year interval of APL Phase I will determine eligibility and levels of financing for participation in the second phase of the APL. States will be required to comply with a subset of “mandatory” indicators. They also can negotiate a set of optional “elective” indicators.⁴³ Consisting of technical and fiduciary indicators, both types are presented in Table 3.2 of Annex 3.

48. “Unsatisfactory” compliance with the mandatory indicators will result in reduced or delayed financing for subsequent two-year interval. However, states receiving this ranking will receive additional technical assistance from the MOH to improve performance. The Project will finance an agreed action plan during the subsequent two-year interval to raise performance. Only persistent poor performance or complete lack of performance will result in exclusion from further project financing.⁴⁴ “Satisfactory” compliance will result in financing for the second interval according to the original subproject plan. However, states can earn additional financing (e.g., a bonus payment beyond the planned allocation). To receive the bonus, states will need to demonstrate “excellent” compliance with the mandatory indicators and comply with a percentage of selected elective indicators. The bonus will represent approximately 10 percent of the value of the funding during the previous two-year period. Performance will be verified through a technical audit.

⁴² This is not a performance-based disbursement scheme in which disbursements of loan proceeds are tied to outputs or results.

⁴³ Both types of indicators will be specified in MOH-state contracts.

⁴⁴ Based on experiences of REFORSUS and the Family Health Extension Project, it is important to have an exit strategy for persistent low and non-performance. See Annex Table 3.6 for exclusion criteria for State participation in APL Phase II.

49. **Pooled Financing:** All Components A financing will be channeled to states through a pooled funding (SWAp) approach.⁴⁵ Loan proceeds will be pooled with federal grant transfers for medium and high complexity care investments. These grants are the main financial conduit for supporting a very large and on-going government budgetary program for specialty and hospital care.⁴⁶ These grants are transferred to states and municipalities which are responsible for service delivery. These transfers flow through a National Health Fund, maintained by the MOH, to a common bank account in each state, known as the State Health Fund.

50. Although there are no counterpart requirements for participating states, Constitutional Amendment 29 mandates that States contribute 12 percent of the budget to health. Since not all states abide by law, subproject selection criteria include compliance with the 12 percent mandate (See Annex Table 3.3).

Monitoring and evaluation of outcomes/results

51. A monitoring system and impact evaluation will assess performance of the proposed Project (and broader APL program). The monitoring system, complemented by the collection of baseline and ex-post data for the impact evaluation, will contribute to determining whether the Project achieved the desired outcomes and outputs as specified in the Results Framework. The monitoring and evaluation (M&E) system will assist the Government to monitor, assess and improve how Project and government program resources are managed. Consonant with the Project's objectives, the central idea of the M&E system supported by the Project is to focus on achieving outcomes and outputs rather than simply aligning annual plans, resources, tasks, activities and services. Although implementation monitoring will be part of the M&E system, the system will also aim to systematically collect performance information that links resources to performance targets. Table 3.7 of Annex 3.1 presents a framework for the monitoring system and impact evaluation, specifying tasks, processes, and responsibilities. The M&E system will collect, analyze and act upon six sets of data:⁴⁷ (i) QUALISUS-REDE performance indicators included in federal-state agreements; (ii) performance indicators not included in federal-state agreements; (iii) MOH institutional capacity indicators; (iv) fiduciary indicators; (v) environmental indicators; and (vi) base line and ex-post survey data for impact evaluation.

⁴⁵ The pooled financing model is similar to the one pioneered in Brazil Family Health Extension Project (PROESF I, II), and applied to the second APL phase of the Brazil Disease Surveillance Project (VIGISUS II).

⁴⁶ These funds are incorporated into two grant transfers, *teto de média e alta complexidade* (MAC) and *Ações Estratégicas* (AC) to states and municipalities that directly manage hospitals and specialty units or contract out these services to private providers. Loan proceeds will be pooled with federal grant transfers for medium and high complexity. In 2006, the MOH transferred about US\$8.8 billion, 47 percent of its US\$18.7 billion budget, through grant transfers for medium and high complexity care. The States received US\$4.1 billion. Assuming 15 states will execute subprojects, on average QUALISUS-REDE will represent about 2 percent of MAC and AC transfers to them. Finally, such transfers are enough to account for all counterpart funds allocated in the project (US\$441 million).

⁴⁷ See Annex 3 for a description of each set of data.

52. A monitoring system and impact evaluation will assess performance of the proposed Project (and broader APL program). The monitoring system, complemented by the collection of baseline and ex-post data for the impact evaluation, will contribute to determining whether the Project achieved the desired outcomes and outputs as specified in the Results Framework. The monitoring and evaluation (M&E) system will assist the Government to monitor, assess and improve how Project and government program resources are managed. Consonant with the Project's objectives, the central idea of the M&E system supported by the Project is to focus on achieving outcomes and outputs rather than simply aligning annual plans, resources, tasks, activities and services. Although implementation monitoring will be part of the M&E system, the system will also aim to systematically collect performance information that links resources to performance targets. Table 3.7 of Annex 3.1 presents a framework for the monitoring system and impact evaluation, specifying tasks, processes, and responsibilities. The M&E system will collect, analyze and act upon six sets of data:⁴⁸ (i) QUALISUS-REDE performance indicators included in federal-state agreements; (ii) performance indicators not included in federal-state agreements; (iii) MOH institutional capacity indicators; (iv) fiduciary indicators; (v) environmental indicators; and (vi) base line and ex-post survey data for impact evaluation.

A. Sustainability

53. The QUALISUS-REDE Program is likely to be sustainable in the medium- and long-term. From a policy standpoint, the MOH has affirmed that QUALISUS-REDE (formerly QUALISUS) will be the flagship health program of the current President Lula Administration in Brazil. The program focuses on improving the quality, effectiveness, and efficiency of the SUS-financed delivery system through the formation and implementation of organized and coordinated provider networks in defined regions with at least 250,000 inhabitants. MOH has recently mobilized a significant number of technical staff to formulate policies, strategies, and plans for RHCN development and implementation. The MOH's QUALISUS-REDE preparation team has been at the forefront of this effort. Finally, the probability of ownership at the state level is high. A few states have already taken experimenting with elements of RHCNs (e.g., Minas Gerais, São Paulo, and Ceará). Others have sent representatives to these states to study their designs and experience.

54. The formation of RHCNs is likely to receive considerable financial support over the next several years. Two of the main pillars of the approved PAC⁴⁹ for Health (Investment Program for Health, known by the name MAIS-SAUDE in the MOH) are the reconfiguration of the SUS-financed health system into RHCNs and introducing results-based management throughout SUS. The Government is proposing US\$45 billions for the PAC and US\$1.1 billion for the health part of this Program respectively over the next four years⁵⁰. In 2004 and 2005 the MOH spent about US\$25 million in investments under the former QUALISUS program. This funding complemented about US\$9 billion, representing 47 percent of the federal health budget, which the MOH spends annually on medium and high-complexity care. The latter is provided mostly in hospitals.

⁴⁸ See Annex 3 for a description of each set of data.

⁴⁹ PAC is the acronym for the Plan for Accelerating Economic Growth (Plano de Aceleração do Crescimento). The PAC is the main Brazilian Government investment strategy and has implications in all Ministries and Sectors.

⁵⁰ It is important to note that only a portion of this proposed financing has been secured.

B. Critical risks and possible controversial aspects

| Risk | Risk Rating | Risk Mitigation Measure | Post-mitigation Risk Rating |
|---|-------------|--|-----------------------------|
| Change in the Government’s health priorities or strategies, especially with respect to the focus on improving efficiency and quality. | N | Efficiency, cost containment, and quality are increasingly viewed as critical to SUS sustainability. Finance authorities have questioned MOH requests for increased spending, seeking greater information on and accountability for results (to justify any future budget increases). The recently enacted “Pactos” reforms are an attempt to prepare the foundation for results-based management. Two the main investment pillars of the PAC for Health is the creation of RHCNs and improving results-based management. Both are supported by the proposed Project. | N |
| Complexities of network design and implementation could result in weak network implementation and effectiveness. | S | Although there is no “right” model to orient the formation of care networks, guidance will be needed regarding their design and implementation in the targeted regions. What should be avoided is a top-down, one-size-fits-all model. One the other hand, too much flexibility may result in weak or non-operational designs. In other words, multiple models of regional integration will emerge that respond to differential capacities and local conditions, but the effectiveness of these models may be deficient. The Project includes financing for the creation of a cadre of full-time, regionally-based consultants to support the state subprojects. To complement the national consultants, international firms will be hired to provide short-term technical assistance to the states. | M |
| Political interference in subprojects planning and implementation, resulting in pressure to finance additional investments or investments outside of Project scope. | S | Submission of subprojects will be subject to well-defined eligibility criteria and part of state-sponsored regional investment plan; the total number of subprojects will be limited to 15 (to achieve sufficient scale) and placed as a loan covenant; and investments will be directed only to facilities in pre-defined regions. An independent panel of experts will be hired to review and score subproject proposals. Only those proposals that are technically qualified by the panel can be selected. | S |
| Low execution or weak performance of subprojects. | S | Financing will be staged and linked to performance. Eligibility for first time financing will depend on establishing capacity and an enabling institutional environment for implementation and performance monitoring during a pre-investment stage. Subsequent (investment) financing will depend on compliance with implementation and performance indicators at defined two-year intervals. Penalties for under-performance (reduction or cancellation of financing) and rewards for good performance (continuing or increased financing) constitute an | M |

| Risk | Risk Rating | Risk Mitigation Measure | Post-mitigation Risk Rating |
|--|--------------------|--|------------------------------------|
| | | incentive to keep execution and performance on track. | |
| Subprojects place too much emphasis on hardware investments. | S | The proposed Project will attempt to mitigate this risk through subproject selection criteria that: (i) favor regions that relatively well-endowed with infrastructure and equipment; and (ii) and reward subproject proposals that are oriented toward “software” investments. | M |
| Lack of professionals with experience in implementing Bank-financed projects or high staff turnover at the MOH and/or State Secretariats of Health | S | Financing a smaller number of subprojects with a staged approach will facilitate project oversight and management. Central coordination and decentralization of execution, together with strong TA and support to states, will mitigate the risk posed by administration changes. The presence of a core technical and fiduciary team at central and decentralized levels will be a requirement for eligibility and continuous subproject financing. | M |
| Weak technical and fiduciary capacity of states implementing the Project | S | An initial assessment of technical and fiduciary risk of candidate states, and the planned pre-investment phase focusing on capacity building will reduce this risk. | M |
| Overall Risk Rating | S | Project design and the proposed pre-investment phase will reduce the overall risk from S to M. | M |

C. Loan/credit conditions and covenants

55. Negotiations:

- Letter of Sector Policy (or Letter of Intent) to cover both phases of the APL signed by the Borrower;
- Draft Operational Manual found satisfactory to the Bank, including selection criteria for subprojects, model of contract for subprojects (to be signed between the MOH and the States), and procedural details for subprojects implementation and monitoring;
- Procurement Plan for Components B and C, covering the first 18 months of Project implementation; and
- Terms of Reference for selecting the Procurement and Financial Management consultants.

56. Special Covenants

- No special covenants were included.

57. Effectiveness

- Approved Operational Manual.

IV. APPRAISAL SUMMARY

A. Economic and financial analyses

58. The Project is expected to save over 10,000 lives from the targeted conditions alone, representing 281,000 years of life, over the 10 year horizon. Direct benefits during this period include a reduction of hospital admissions for these conditions in the order of 31,000, generating savings of US\$44.2 million. The costs and benefits of the Project are estimated over a horizon of 10 years, including the 5 years of project implementation. During the implementation period the Project has a negative Net Present Value (NPV). Nevertheless, over the full period of analysis and under the most likely scenario, the Project breaks even, resulting in an NPV of nearly US\$97.5 million, which further increases as the time horizon extends.

59. Two main factors contribute to the observed economic performance of the Project: the scale of the subprojects and the definition of outcome variables directly related to the target conditions. The pilot feature of the subprojects implies that a substantial amount of resources will be invested upfront in establishing or strengthening structural, organizational and informational conditions necessary for a health care network to function adequately. These investments, and the establishment of the networks themselves, will have a far-reaching impact beyond the disease-specific indicators used in this analysis, but any additional impacts are difficult to identify and measure at this point.

60. Finally, it is important to note that the proposed Project has a flexible design: the exact project implementation areas and scope of interventions will be defined through subproject proposals and subsequent negotiations with the MOH, once received and selected. Therefore, the above figures are approximations based on the expected mean values for key variables and assumptions. Alternative scenarios and their effect on the Project's economic performance are presented in the sensitivity analysis (see Annex 9).

B. Technical

61. Several aspects of the technical design are worth highlighting. Each is based on international experience in RHCN formation and implementation. First, any design should consider a subset of inter-related fundamental and functional features of networks. Focusing on one without the other is a recipe for failure. Fundamental features are the essential building blocks for the establishment of integrated care. They create the enabling institutional and systems environment for developing and implementing integrated or coordinated functions. Closely linked to these features, functional attributes are actions, mechanisms, and functions that support coordinated and affordable care delivery. Second, the design should account for not only investments aimed at coordinating or integrating care across providers, but also should address quality and efficiency shortcomings of the providers themselves. Third, the literature demonstrates that there is no one-size-fits-all approach to designing, implementing, managing, and financing RHCNs. The best configuration is dependent on local conditions, capacities, and leadership. For this reason, the Project adapts a demand-driven approach in which the participating states select interventions to be developed according to local conditions. States will craft interventions and activities drawn from a menu of fundamental and functional features (see Figure 4.1).

C. Fiduciary

62. **Procurement:** Procurement for Components B and C will be conducted by the MOH whereas procurement for Component A will be conducted, by the selected states. A capacity assessment of the MOH for the Project was performed, but capacity assessments of the states will be completed after RHCN subproject selection. The overall project risk for procurement has been rated average. Procurement of goods and works for the Project will follow NCB procedures, applying the procedures for competitive methods of the national procurement laws, but the ICB procedures described in the Bank's Guidelines will prevail for international procurement. However, the selections of consultants will need to follow the Bank's Guidelines. Because of the general lack of familiarity of the MOH and states with these procedures, the MOH will hire consultants to support procurement implementation. Each state's capacity assessment will indicate whether any special risk mitigation action plan will be needed, including (if necessary) the definition of any prior review thresholds.

63. **Financial Management:** Given the Bank's extensive experience in the health sector in Brazil, the overall Financial Management Assessment conclusion is that the Project has satisfactory financial management arrangements in place to meet Bank's minimum requirements (although areas for improvement have been identified and will be adequately followed up). The financial management risk associated with the Project has been assessed as moderate. The Project's financial management system will be able to provide relevant and reliable financial information, in a timely manner, and to support project's management in the control, planning, implementation and monitoring of the Project, towards the achievement of its objectives.

D. Social

64. The QUALISUS-REDE Project addresses three social issues:

(i) The recognized tension between the equity goal of the Brazilian health system, and the inequity of health outcomes. Substantial disparities exist among regions, states, and municipalities within states, income groups, and between urban and rural areas. While basic health care is available in the majority of Brazilian municipalities, more than half are not linked to high and medium complexity health care. The proposed Project responds to this challenge by improving the quality, efficiency and effectiveness of SUS-financed delivery system through the development of RHCNs, with emphasis on high and medium complexity health care providers, support services (e.g., diagnostics), and logistical systems (e.g., transport);

(ii) Prevention, detection, and treatment of non-communicable conditions with the greatest impact on the country's disease burden, including hypertension, diabetes, and cancer. Available data demonstrate that the poor suffer higher rates of mortality from these conditions than the well-off; and

(iii) Waiting time for specialty care, elective surgery, and complex diagnostics. Recent surveys demonstrate that over 60 percent of Brazilians obtain medium and high-complexity care exclusively from the SUS. These are low-income populations. Waiting time limits access to care and can lead to higher morbidity, out-of-pocket spending, and lost income.

65. The Safeguard on Indigenous Peoples (OP/BP 4.10) is triggered by the Project. The Project targets two types of regions: urbanized metropolitan areas with at least 500,000 inhabitants and non-metropolitan areas with at least 250,000 inhabitants. According to the 2000 Census, less than 0.3 percent of the population is indigenous in large metropolitan areas. However, it is possible that indigenous peoples can be beneficiaries of QUALISUS-REDE *in non metropolitan areas* where approximately five subprojects will be implemented. As those health regions will be selected during the first year of project execution, the development of an IPP is not yet possible given the uncertainty whether the selected regions contain Indigenous populations.⁵¹ The proposed Project incorporates an Indigenous Peoples Planning Framework to be observed by the States for the development of Indigenous Peoples Plans for subprojects whose catchment areas include indigenous communities.

E. Environment

66. The QUALISUS-REDE Project triggers two safeguard policies: Environmental Assessment (OP/BP 4.01), and Physical Cultural Resources (OP/BP 4.11). The Project received a “B” classification, and an Environmental Assessment (EA) was prepared to identify potential environmental impacts. The EA proposes activities to enhance environmental management, particularly under RHCN Subprojects of Component A. This section summarizes EA findings and recommendations. It also describes key issues of an Environmental Framework (EF) for rehabilitation, expansion and/or construction of health facilities.

67. As part of the support to health networks and units under Component A, works will take place in two types of regions: metropolitan areas with at least 500,000 inhabitants and non-metropolitan areas with at least 250,000 inhabitants. It is anticipated that the former will involve highly urbanized areas while the latter will entail a combination of urban and rural areas. The proposed Project will involve construction in urban areas of new but relatively small-scale, ambulatory facilities such as specialty clinics and laboratories, and the rehabilitation or expansion of existing facilities. Construction will not take place in protected areas or on ecologically fragile sites. Nor will construction result in involuntary resettlement. New hospital construction is ineligible for project financing.

68. The health sector possesses a vigorous legal and regulation framework related to facility construction and medical waste management. The legal and regulatory framework has been strengthened in recent years through the issuing of more detailed regulations and guidelines governing medical waste management and health facility construction (in 2004 and 2005). More recently (in 2006) the MOH produced a construction manual for basic care units based on current legislation, incorporating these recent changes. The guidelines included in the manual will be followed by participating states as they plan, construct and operate their networks and units.

⁵¹ No RHCNs subprojects are planned for regions containing significant indigenous populations such as the Legal Amazon. However, the Alto Solimões Basic Services and Sustainable Develop project (2008) already aims to implement aspects of RHCNs in the Alto Solimões region of Amazonas State, which possesses a large indigenous population. Also, one of the objectives of the VIGISUS 2 project (2004-08) is to extend family health and basic care services to Indigenous peoples. US\$40 million of the VIGISUS 2 project financing is dedicated to this objective.

69. The EA analyzes potential impacts of new construction, both positive and negative. In general, any adverse impacts are expected to be localized and reversible. During facility *construction*, the impacts will generally be temporary, of low intensity and with well-known mitigation measures that can be easily implemented. Negative impacts could result from inadequate site selection, terrain movements, and dust and noise contamination of superficial water supplies and inadequate disposal of garbage and construction waste. However, the potential impact is low because all works are small scale. Environmental guidelines that are aligned with Brazilian legislation as well as MOH basic unit construction guidelines will be included in the Operational Manual.

70. During facility *operation* the main possible internal negative impacts are related to inadequate management and disposal of medical waste generated from patient diagnosis and care. This risk will be mitigated through strengthening the system for management and disposal of medical wastes, per government environmental regulations and MOH guidelines.

71. Importantly, the Project will take an additional step toward achieving more effective medical waste management. Assessments and site visits performed by the MOH and Bank project preparation team found that one of main obstacles to management of medical waste was poorly organized sanitary transport and disposal systems in many municipalities. Although specific facilities may comply with MOH/ANVISA standards for collection and separation of medical wastes *within the facility*, collection, transport, and disposal by municipalities can be irregular and ad hoc. To mitigate this risk, establishing or strengthening an organized sanitary and transport system for medical waste that serves all municipalities and units within the targeted regions for RHCN subprojects will be a mandatory Subproject activity_(See Annex 3).

72. The EF aims to guide the selection, screening, construction and monitoring of health networks and units. The EF is based on the governmental regulatory and institutional instruments, and thus is similar to those prepared in other Bank projects with the same finality. It will be incorporated in the Operational Manual. The EF specifies actions and measures to mitigate potential environmental risks, including any required procedures and approvals, at four stages of construction activities: functional analysis and site selection, design, construction and operation. In order to address the Physical Cultural Resources safeguard (OP/BP 4.11), the EF also includes “chance find” rules and procedures, as well as screening procedures to identify any known cultural resources requiring special attention during renovation activities.

F. Safeguard policies

| Safeguard Policies Triggered by the Project | Yes | No |
|--|-------|-------|
| Environmental Assessment (<u>OP/BP</u> 4.01) | [X] | [] |
| Natural Habitats (<u>OP/BP</u> 4.04) | [] | [X] |
| Pest Management (<u>OP</u> 4.09) | [] | [X] |
| Physical Cultural Resources (<u>OP/BP</u> 4.11) | [X] | [] |
| Involuntary Resettlement (<u>OP/BP</u> 4.12) | [] | [X] |
| Indigenous Peoples (<u>OP/BP</u> 4.10) | [X] | [] |
| Forests (<u>OP/BP</u> 4.36) | [] | [X] |
| Safety of Dams (<u>OP/BP</u> 4.37) | [] | [X] |
| Projects in Disputed Areas (<u>OP/BP</u> 7.60)* | [] | [X] |
| Projects on International Waterways (<u>OP/BP</u> 7.50) | [] | [X] |

G. Policy Exceptions and Readiness

No policy exceptions are anticipated.

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas.*

Annex 1: Country and Sector or Program Background

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

1. INTRODUCTION

1. This annex provides background information on the Brazilian health sector and a rationale for the QUALISUS-REDE investment project. Since its inception in the 1988 constitution, The Unified Health System (SUS – *Sistema Único de Saúde*) has produced a number of achievements, including the reorganization of health care delivery, coverage expansion, and a reduction of inequalities. These successes have contributed to significant improvements in health indicators during the last two decades. However, several important shortcomings remain relating to the effectiveness, efficiency and the quality of care, especially in terms of medium and high complexity care. The latter consume a large share of health spending. The QUALISUS-REDE Investment Project seeks to address these shortcomings. The proposed Project is consistent with the broader MOH-sponsored QUALISUS-REDE Program (formerly QUALISUS), which it aims to strengthen and support.

2. The next section presents an overview of the SUS, with a special focus on the organization and delivery of medium and high complexity services. Section 3 describes the main shortcomings that the Project seeks to address. Section 4 presents the main lessons learned from previous Bank projects in Brazil. Section 5 offers an overview of policies and programs supported by the proposed Project. The final section aligns sector problems with proposed Project interventions.

2. GENERAL BACKGROUND

3. Brazil is a middle-income country (GNI per capita was US\$7,958⁵² in 2007) with an estimated population of 191.6 million. The population growth rate has decreased rapidly during the last decades, and is currently at 1.4%. The total fertility rate is close to renewal levels (1.9 children per woman in child-bearing age, estimated in 2007). This rapid demographic transition has resulted in a relatively young current population, but the number of elderly is accelerating, and along with it, the prevalence of non-communicable diseases (NCDs).

4. Brazil has historically been characterized by wide socioeconomic inequalities: the Gini coefficient, at 0.59, is among the highest in the world, but has decreased slightly in recent years.⁵³ A little less than one-fourth of the population lives below the poverty line, but this proportion increases to 48% in the Northeast, but declines to 9% in the Southeast. Recent federal programs such as the *Bolsa Família* program, covering 11.1 million poor families in 2008, have managed to significantly reduce poverty.⁵⁴ But important inequalities remain. Mirroring

⁵² This data is estimated by the Atlas method used by the World Bank to smooth fluctuations in prices and exchange rates. This applies a conversion factor that averages the exchange rate for a given year and the two preceding years, adjusted for differences in rates of inflation between the country, and through 2000, the G-5 countries (France, Germany, Japan, the United Kingdom, and the United States).

⁵³ World Bank: World Development Indicators 2006.

⁵⁴ Ministério do Desenvolvimento Social:http://www.mds.gov.br/bolsafamilia/o_programa_bolsa_familia/principais-resultados

economic inequalities, health indicators exhibit significant variation both regionally and across income groups. For example, estimates of infant mortality rates vary across Brazil's 5,500 municipalities from below 10 per 1,000 live births to almost 100/1,000.

2.1. The Brazilian health sector

5. The SUS is a national health system providing universal and free health care coverage to all citizens. SUS is publicly-funded with universal and free coverage. It is the usual source of care for 55% of the population, but an additional 35% use it occasionally. The current SUS system is the result of a long, gradual and still ongoing health reform process initiated in the early 1980s. The main focus of this reform has been the decentralization of most responsibilities for providing and managing care to municipal governments. Under the pressure of changing epidemiological patterns, reforms efforts included a restructuring of health care provision, gradually moving from a vertical disease-centered orientation toward a more comprehensive and integrated approach. The federal government, through the MOH, is responsible for designing national health policies. However, SUS is a complex system of shared but often ambiguous responsibilities among federal, state, and municipal governments. Health policies are thus implemented through negotiated agreements with state and local authorities and through co-financing arrangements between the three levels of government.

6. Private insurance schemes offer supplementary coverage to 51 million Brazilians in 2008, who, given the universal nature of SUS effectively have double coverage. About 26% of the population is enrolled in private insurance plans through an array of organizational and financial arrangements including HMO-like organizations and traditional indemnity insurance. Finally, households contribute over 25% of national health expenditure through out-of-pocket purchase of drugs and payment of some services (especially eye and dental care which are insufficiently covered by both SUS and private insurance).

7. Brazil possesses a vast network of health facilities, including 7,400 hospitals (with 443,000 beds), and 58,000 ambulatory and diagnostic facilities. Nearly two-thirds of the hospitals and over 90% of diagnostic facilities are private, while three-fourths of ambulatory facilities (not including physicians in private practice) are public. The latter are mostly operated by municipalities. Most private providers are contracted by SUS. Municipalities are responsible for the organization and provision of primary care, while the states have responsibility for coordination and oversight. Many states also provide or finance a significant share of secondary and tertiary care. The federal government retains a small network of facilities, which are mainly university hospitals. As mentioned, the MOH now concentrates mostly on policy formulation but retains considerable financial leverage in the sector, financing care through grant transfers to states and municipalities.

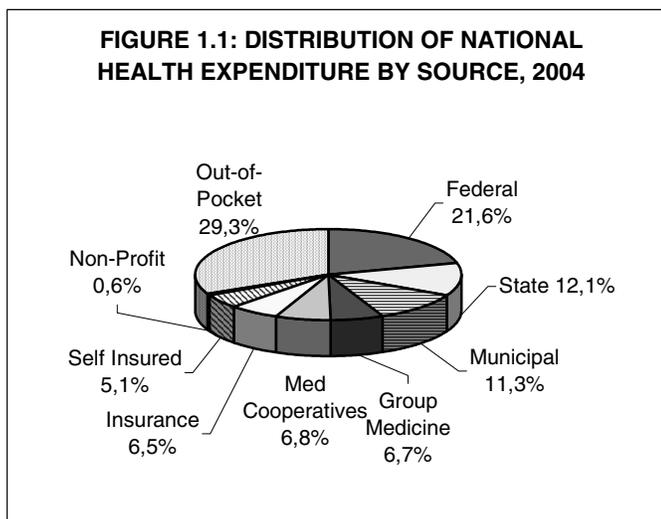
8. Decentralization has faced considerable challenges in part arising from the small size and lack of planning and managerial capacity of most of the country's 5,500 municipalities, coupled with the large degree of autonomy that municipalities enjoy in the Brazilian federation. Regionalization of the health service network is considered a solution to this problem, and has been promoted by successive SUS authorities over the past decade with limited success. For example, in 2001 the NOAS regulations (SUS Health Care Operative Norms) proffered a strategy of regionalization of certain services across defined groups of municipalities. The

complexity of the approach and difficulties in achieving municipal coordination reduced its impact. Recent regulation (the 2006 Covenants for Health – *Pactos pela Saúde*) has gone a step further, strengthening the regionalization strategy for medium and high-complexity services, and defining a coordinating role for the states. The *Pacto* regulation also transferred responsibility to the states in terms of promoting and developing regionalized service delivery systems. Also in 2006, federal legislation revised a previous law on the formation of inter-municipal consortia, allowing for considerably more flexibility in establishing governance and management arrangements. These *Pactos pela Saúde* and consortia regulations have contributed to an increasingly favorable environment for states and municipalities to pool resources and rationalize service supply within a regional framework. Although a handful of experiments are underway in a few states, regionalized and coordinated service delivery has yet to take hold in Brazil (see Section 3.1 below). The proposed Project seeks to support a stronger coherent regionalization agenda in Brazil.

9. Finally, the SUS established a complex web of participatory, consensus-building mechanisms to complement MOH regulatory and policy-making authority and to serve as a system of checks and balances. These mechanisms consist of health councils at the state and municipal levels, and joint commissions with participants from two or more levels of government. Consisting of representatives of government, health care providers, health professionals, and health service users, the councils review and approve all health plans and policies. In theory, the purpose of the councils is to ensure social accountability in the decision-making processes.⁵⁵ Health commissions are the main forums for policy negotiation, approval or rejection, and exits at both the state and national levels. At the state level, the “bipartite” commission consists of state and municipal health authorities. At the national level, the “tripartite” commission seats federal, state, and municipal health officials.

2.2. Financing and spending

10. Brazil spends around R\$ 193 Billion annually on health (2006 estimate, approx. US\$89 billion. SUS represents nearly 50% of the total. The remainder comes from private sources: private insurance schemes and out-of-pocket payments (Figure 1.1). SUS is financed by contributions by all three levels of government. The federal government represents 48% of public spending, while state and municipal governments account for 27 and 25% respectively.



⁵⁵ In practice, anecdotal evidence suggests those most have little power and are mere rubber stamps for government health authorities.

11. Brazil's total (public and private) spending on health is commensurate with its level of development, representing about 8% of GDP in 2006 (near the average for the lowest quartile among OECD countries). In that year Brazil spent US\$650 per capita at purchasing power parity. This is about the average for middle-income countries.

Hospital care traditionally accounts for the bulk of health expenditure: representing about 67 percent of total health spending. SUS is the main financier of hospital services, accounting for 58 percent of hospital financing.⁵⁶

2.3. The epidemiological challenge

12. Brazil's health reform, implemented in three overlapping waves as described above, was incremental but nonlinear. Measuring impact is difficult because changes system wide and no baseline data were collected. Time series data suggest significant improvements in health status over the past 25 years. Infant mortality has decreased sharply. Mortality rates from vaccine-preventable diseases in children are negligible; and diarrheal diseases cause less than 7 percent of all deaths among children under-five-years of age. The number of new cases of HIV/AIDS has leveled off, in part due to an aggressive prevention, promotion, and treatment system. For lack of comparable data, it is nearly impossible to attribute these achievements to SUS reforms. However, specific programs developed and implemented through the SUS (e.g., Family Health, Disease Surveillance, and HIV/AIDS), have contributed to improved health outcomes, especially in life expectancy and infant mortality.

13. However, neonatal and maternal mortality rates, which are closely related to the quality and effectiveness of hospital care, show much slower progress, considering that in Brazil over 90 percent of deliveries take place in a hospital. Maternal mortality reported for 2004 was 53.9 per 100,000 live births, down from 67 in 1980. However these figures are considered to be greatly underreported and the adjusted MOH figure for 2004 was 75.4 per 100,000 live births.

14. During the last 20 years, Brazil has experienced a demographic transition, with its population growth rate decreasing from nearly 2.3 percent to 1.4 percent. Together with a concurrent epidemiological transition, the burden of disease has shifted from infectious to non-communicable diseases (NCDs). Nearly two-thirds of the burden of disease (measured in disability-adjusted life years, DALYs) corresponds to NCDs. The main causes of mortality in 2005 include circulatory diseases (33 percent of all deaths), injuries (16 percent), and cancer (14 percent).

15. The rapid pace of the demographic and epidemiological transitions will increase pressure on demand for health care and financial resources. The incidence of NCDs is likely to deepen as the Brazilian population ages. The health system thus faces a dual challenge: it must continue to address the burden of communicable diseases and maternal and child health, while restructuring health care and directing resources to meet the growing challenge of NCDs. The current weakness in the systems is exemplified by the fact that only 5 percent of diabetics are receiving regular care to control their condition.

⁵⁶ See La Forgia, Gerard and Bernard Couttolenc, "Hospital Performance in Brazil: The Search for Excellence", World Bank, Washington, 2008.

16. Treating NCDs already consumes nearly one-half of hospital spending (World Bank 2005a). Continuing with the status quo will add US\$34 billion to Brazil's health care expenditures over the next five years, and also result in economic costs of US\$38 billion in lost productivity (table 1.1). Status quo refers to under provision of health promotion and prevention interventions, weakness of referral systems, lack of dissemination and use of cost-effective treatments, and the absence of functional networks to facilitate the application of case-management protocols across all levels of care. Together, the financial and economic costs represented about 10 percent of Brazil's GDP in 2003.

Table 1.1
Financial and Economic Costs Related to the NCD Burden of Disease, 2005–09

| <i>Disease</i> | <i>Financial costs^a</i> | <i>Economic^b and financial costs</i> |
|----------------|------------------------------------|---|
| | <i>US\$B</i> | <i>US\$B</i> |
| IHD | 26.3 | 39.3 |
| CVD | 3.5 | 19.7 |
| DM | 1.2 | 3.9 |
| COPD | 3.2 | 6.8 |
| Cancer | 0.2 | 1.8 |
| Total | 34.4 | 71.5 |

Source: World Bank 2005a. *Note:* Assumes status quo will continue. IHD ischemic heart disease; CVD cerebrovascular disease; DM diabetes mellitus; COPD obstructive chronic lung disease.

a. Financial costs are for the treatment of patients with NCDs.
b. Economic costs correspond to productivity losses due to NCDs.

3. MAJOR PROBLEMS

17. Authorities at all levels of government generally agree on the insufficiency of resources for health. However, although Brazil has improved health indices across the board over the last 25 years, based on its spending, it is an average performer in terms of health outcomes. Table 1.2 compares Brazil's spending and performance to those of other Latin American and middle-income countries. Comparing spending with health indicators, such as infant and maternal mortality, places Brazil at an average performance level in Latin America and among middle-income countries. Other countries spend less but achieve equal or superior health outcomes for their populations.⁵⁷ Other factors contribute to the relatively poor performance of the Brazilian health system, such as inefficiencies in resource allocation and use, low quality of care, and ineffective care coordination across providers. The remainder of this section summarizes the main health system challenges.

3.1. Main drivers of poor performance

18. This section presents reviews five main challenges facing Brazil's health system, with a focus on SUS: (i) weak system coordination and distorted supply; (ii) weak governance with deficient management and accountability; (iii) diluted funding mechanisms with distorted incentives; (iv) lack of systematic quality assurance; and (v) weak information for decision making.

⁵⁷ Other factors can influence comparisons between spending and outcomes, such as access to water and sanitation, education of girls, and the distribution of resources (Medici 2005; World Bank 2004c). Spending alone is not a good predictor of health outcomes across countries. Even controlling for these factors, however, some countries perform better than others at similar levels of spending and economic development (World Bank 2004c). This suggests that additional factors may modulate the effectiveness of public spending on health. Policies that direct spending to address the health needs of the poor and improve the quality of spending can help improve health outcomes. For example, raising spending on high-complexity hospital care may have little impact on overall health outcomes.

Weak Coordination and Distorted Supply

19. **Fragmented organization of health care provision:** As elsewhere, coordination of care across clinical and organizational settings is in its infancy in Brazil. Despite the high and increasing incidence of chronic diseases, which are best prevented and treated through integrated and continuous treatment arrangements across provider settings, the health system is organized mostly to provide acute care through stand-alone facilities. Network arrangements, in which different providers come together to formalize arrangements to manage and provide health care, are rare.

Table 1.2: International comparisons of inputs and outcomes – 2004

| | (1) Health expenditure per capita ¹ | Health Expenditure as % GDP | Immunization rate - % * | (2) Life Expectancy at birth | Infant Mortality /1000 | Maternal mortality /100000 |
|------------|--|-----------------------------|-------------------------|------------------------------|------------------------|----------------------------|
| Brazil | 597 | 7.6 | 97.5 | 71 | 25 | 75 |
| Argentina | 1067 | 8.9 | 92.5 | 75 | 16 | 46 |
| Chile | 707 | 6.1 | 94.5 | 78 | 8 | 17 |
| Colombia | 522 | 7.6 | 90.5 | 73 | 18 | 78 |
| Mexico | 582 | 6.2 | 97.0 | 75 | 23 | 63 |
| LAC region | 455 | 6.8 | 91.5 | 72 | 27 | - |
| Upper MIC | 611 | 6.5 | 92.0 | 69 | 23 | - |
| Lower MIC | 307 | 5.6 | 87.0 | 70 | 33 | - |

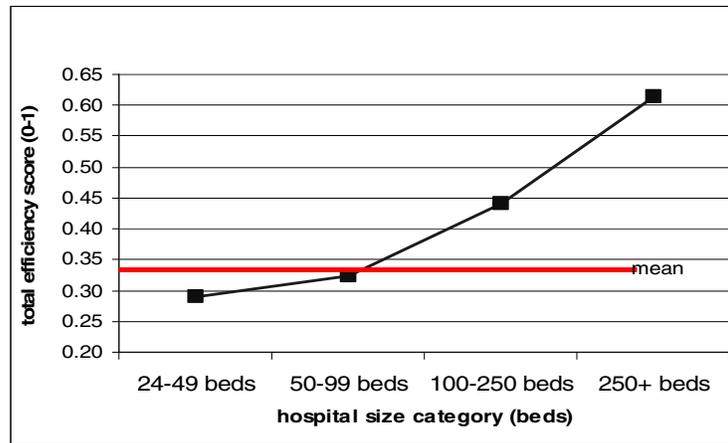
Source: The World Bank (WDI 2006), WHO (WHR 2006). Notes: ¹ In US\$ PPP (Purchasing Power Parity) for 2003. * Measles and DPT. Brazil figures for Infant Mortality and Maternal Mortality are from MOH, and lower than the World Bank estimates (32 for IMR and 260 for model estimate of Maternal Mortality).

20. By and large, Brazilian publicly funded hospitals do not coordinate with one another, or with other care providers, with regard to patient care, referral, and follow-up. Even hospitals and other providers controlled or financed by the same entity (e.g., municipality) do not effectively coordinate. Coordination between SUS and non-SUS private hospitals is nonexistent. And, even in the best of circumstances, coordination is hard to accomplish, in part due to Brazil's federal structure, which grants state and municipal government's considerable independence.

21. **Irrational supply and distribution of technical resources:** In Brazil too much high-cost equipment is located in some areas; too little in others. Oversupply, under use, misplaced supply (in small, low-volume hospitals), and inequitable concentration of medical equipment contribute to access problems and undermine efficiency. This distortion of hospital capacity makes services much costlier than necessary and compromises quality. All levels of government own hospitals in Brazil and so do many nongovernmental entities. All these hospital "owners" make important decisions about equipment investments largely in isolation from one another. The density of hospital beds is overall adequate, but complex diagnostic services and equipment – such as computerized tomography (CT) and magnetic resonance (MRI) – are over-supplied and irrationally distributed. For instance, Brazil has an average density of these equipments close to the average OECD country, and the metropolitan area of Rio de Janeiro has twice as many CT scanners and MRI equipment as the metro area of Paris, for a similar population. The irrational proliferation of high-complexity services responds in part from the lack of policies related to technological assessment and allocation as well as the failure to coordinate care.

22. **Significant diseconomies of scale:** Many hospitals in Brazil are in the wrong places and too small to operate efficiently or to ensure quality. About 60 percent have fewer than 50 beds despite international evidence suggesting an optimal size of between 150 and 250 beds. Worse, small hospitals are severely underutilized, suggesting that the population demands few services from these facilities. Evidence based on Data Envelopment Analysis (DEA) shows that size is the single most important driver of efficiency (figure 1). Despite low efficiency and utilization, many small hospitals survive through subsidies known as “public donations” from state and municipal governments. These funds are generally secured politically and represent an additional outlay not often registered in sub-national health accounts. Most municipalities—which administer health care delivery more closely than other actors—cover too small a catchment area. Absent regional (or inter-municipal) coordination, scale economies are missed, and cost-shifting activities take place.

Figure 1.2: DEA Efficiency Scores, by Bed Size
(N = 428 with 25+ beds)



Source: Couttolenc et al. 2004 2004.200200420042004.

23. Small scale also contributes to higher spending and lower quality. For example, Brazilian State of Minas Gerais estimated that it was spending excessive sums of money treating low-complexity conditions in hospitals instead of at the more affordable primary level. In 2002, these conditions represented 40 percent of admissions (and 25 percent of hospital spending) in hospitals with fewer than 50 beds compared with 13 percent in hospitals with more than 200 beds.

24. Higher volume is known to be associated with better outcomes, particularly for complex procedures. Brazil conforms to this analysis. Higher mortality rates for coronary bypass surgery were found in facilities that performed fewer surgeries; the risk of death was much higher in hospitals with the smallest number of coronary surgery cases (table 1.3). As suggested above,

| Surgeries per hospital | Number of hospitals | Total operations | Total deaths | Mortality rate (%) |
|------------------------|---------------------|------------------|--------------|--------------------|
| 1-9 | 22 | 93 | 12 | 12.9 |
| 10-49 | 31 | 681 | 86 | 12.6 |
| 50-149 | 43 | 2,947 | 264 | 10.0 |
| 150-299 | 23 | 8,077 | 509 | 6.3 |
| 300+ | 5 | 4,269 | 228 | 5.2 |

Source: Noronha et al. 2003.

patient volume is closely associated with facility size.

Deficient Management and Unaccountable Facility Governance

25. ***Ineffective governance and organizational arrangements***: Excessive centralization of managerial functions, combined with rigid civil service rules, political interference, and lack of information, create an organizational environment that deprives public facility managers of the means to manage and improve performance. With few exceptions, organizational arrangements in the public sector promote centralization and discourage accountability, leading to weak management of resources and staff. Most public facilities – pertaining to the direct administration model – do not have the autonomy or capacity to actually manage their resources, and many have no information whatsoever on the amount of resources they use. Accountability rests on formal administrative and financial controls rather than on achieving performance and results. Private hospitals face a different set of problems than their public counterparts. Overlapping governance and management functions in nonprofit hospitals may compromise performance. Decision making appears informal among many nonprofits, particularly the smaller facilities. Only larger hospitals have formal organizational structures, apply modern business practices, possess full-time management teams, and demonstrate separation between governance and management practices. Modernizing governance and managerial practices is also a major challenge facing the private nonprofit hospital subsector.

26. ***Low productive efficiency***: Although sparsely documented, there is increasing evidence of significant inefficiencies stemming from poor management and control of resources. Important underutilization and oversupply of certain services has been observed across the system; for instance, Brazil’s average bed occupancy rate is below 40% nationwide, and most operating rooms are severely underused (the mean national number of surgeries per operating room is 0.7 per 24 hour-shifts).⁵⁸ SUS tends to use more human resources in hospital care than other countries (Brazilian hospitals use 10.5 personnel per occupied bed, twice as many as American hospitals).

27. ***Inadequate resource management***: Management of and control over inputs such as drugs and other supplies are generally weak and allow for significant waste and misuse. An unknown but significant volume of drugs is lost because of drug validity expiration, lack of control over decentralized stocks or due to inadequate distribution schemes to patients (for example, “single dose” systems for instance are not used in many hospitals). Infrastructure and equipment maintenance is usually unsystematic, reactive and often completely lacking, leading to downtime of critical equipment downtime and contributing to ineffective treatment. As suggested above, the rigidity of public management rules prevents effective and timely decision-making, often precluding timely procurement of supplies, and makes it impossible to actually manage human resources.

⁵⁸ World Bank, “Governance in Brazil’s Unified Health System (SUS) – Raising the Quality of Public Spending and Resource Management”, Report No 36601-BR, Feb 2007.

Distorted and Diluted Funding

28. Payment mechanisms remain a relatively unused policy instrument to support policy priorities and to stimulate performance. In fact, some payment mechanisms such as line-item budgets (the dominant form used in public facilities) contribute to inefficiencies and higher costs. Line-item budget allocations are based on historical input and spending patterns, with no rewards for quality or cost-consciousness.

29. The Authorization for Hospitalization (*Autorização de Internação Hospitalar*, AIH) payment mechanism, consisting of a predefined fee schedule linked to outputs (procedures), is used to pay private hospitals under contract with SUS and theoretically can contribute to more efficient resource use. But, as currently applied, this mechanism only modestly contributes to cost control because the payment rates are seriously distorted. For most inpatient care, AIH payment rates are much below cost, and substantially over cost for a few treatments and procedures, mostly high-complexity care. The result is overemphasis on a few “profitable” services and not enough provision of services that cause institutions to lose money but are in high demand. This imbalance seriously undermines patient access to needed services and cost-effective use of public resources. It is also a major driver of the well-publicized financial crisis in the nonprofit hospital sector, which is heavily dependent on SUS funding. Moreover, the situation may drive hospitals to provide overlapping services or submit fraudulent coding to raise revenues, specialize in lucrative treatments, and/or seek (and thereby depend on) lump-sum bailouts from local governments to make ends meet.

30. SUS-imposed expenditure ceilings set an overall limit on spending but do not drive behaviors that result in efficient resource use at the facility level. The ceilings themselves are based on historical trends and therefore harbor embedded inefficiencies that have accumulated over the years. The ceilings are also moving targets, since they always are depending on government tax revenues during the course of the fiscal year.

31. Most private insurers and health plans pay for hospital care through a predefined fee schedule negotiated between the plans and hospitals. Similarly to the SUS, discrepancies between payment rates and costs in the private sector are evident but have not been systematically analyzed. However, the disputes over rates between insurers and providers (e.g., hospitals and physicians), often discussed in the press, suggest that fee schedules are unaligned with costs. As in the case of the SUS-AIH mechanism, the impact of discounted fee-schedules on cost containment appears modest at best because private facilities, too, have an incentive to over provide treatments that are more generously reimbursed treatments.

32. The multiplicity of payment systems confronting the typical facility manager dilutes the impact of incentives associated with any single mechanism. Incentives to improve efficiency and quality or control costs of any one mechanism may be offset by contradictory incentives inherent in another. In addition, discrepancies in payment rates may contribute to system wide distortions. For example, lower-rate payers (such as the SUS) may drive hospitals to skim on quality, shift costs to higher-rate payers, or transfer complex cases to public facilities, which do not depend on production-based payment but are obligated to treat everyone. An increasing number of private

hospitals cater to patients covered by private health plans, which pay higher rates than the SUS and cover higher-income patients. This contributes to stratification in the hospital system.

33. Finally, contracts accompany many payment mechanisms because they specify the terms and conditions of the payment. Although the SUS has a long history of contracting private hospitals to deliver hospital services, purchasing is a passive and often poorly-managed activity. The contracting instruments, known as *convênios*, are essentially legal instruments for distributing budget to private providers traditionally linked to the public system. The *convênio*, as a contracting tool, is devoid of accountability and is not used to create incentives to improve the production, quality, or efficiency of hospital services.

Lack of Systematic and Continuous Programs to Enforce Standards and Ensure Quality

34. In contrast to many middle-income countries, Brazil has an adequate regulatory (licensing) framework to ensure minimum quality standards related to structure and, to a lesser degree, processes (e.g., reporting requirements for hospital-acquired infections). Likewise, Brazil is ahead of many countries in the region in the development of accreditation programs. The critical problem is that these standards are not applied to, or enforced in, most hospitals. Brazil is also unusual for establishing regulations and institutional mechanisms to protect its citizens from physician malpractice. However, partly because of physician self-interests in protect themselves against standards-based evaluation, the mechanisms seem ineffective. Brazil is also one of the few middle-income countries with a robust biomedical and clinical research industry, resulting in pioneering medical advances and technological innovations in a number of areas. However, treatment and technological advances, whether produced in Brazil or elsewhere, do not always make their way into clinical practice in Brazilian hospitals, except at a few prestigious centers of excellence. Equally troubling are the large discrepancies in the quality of care among and within Brazilian hospitals.

35. Few systematic and continuous efforts have been made to measure and improve the quality of care in Brazilian hospitals. Generally absent are national policies, programs, and systems to support quality measurement and evaluation, quality performance review and comparison, quality improvement capacity building, dissemination of evidence-based research, and public disclosure. Further, the institutional infrastructure to develop, coordinate, and implement such policies is lacking. A handful of promising MOH and regional initiatives as well as facility-based, *organization-wide and continuous* quality improvement programs exists but, because they have not been evaluated, their suitability for replication is unknown. Without a more concerted policy and institutional effort, any real progress toward addressing quality concerns will remain elusive.

Lack of Information for Decision Making

36. The absence of useful information about quality, efficiency, and cost of health services underlies all issues. At every level, critical information to inform decisions is absent or incomplete although relatively large amounts of data are collected. For example, the quality of care provided in most Brazilian facilities is unknown and nearly impossible to assess due to unavailability of information. The absence of systematic and reliable information on costs,

volume, outcomes, and patient characteristics impedes the design of more robust payment mechanisms. Without systematic data collection, it is impossible to monitor, analyze, or compare progress on quality outcomes, efficiency and costs. Limited data availability also drives Brazilian researchers to focus on small-scale studies that and often cannot be applied on a wide scope due to the cost of collecting primary data at the facility level. Moreover, when available, data are often unreliable or not comparable due to variations in the definition and measurement of variables. This situation limits the volume and usefulness of policy-relevant research on hospital performance.

37. Policy makers at each level of government are forced to make key decisions about resource allocation without having minimal information about the quality, cost, or value of services. Facility managers, likewise, rarely have the information needed to identify pressing quality problems or to reconfigure staff or other resources to improve quality or productivity. In essence, decision makers are flying blind as they seek to take steps to improve Brazil's hospitals.

4. LESSONS FROM PREVIOUS BANK PROJECTS

38. Previous Bank projects in Brazil provided some important lessons relevant to this Project. In particular, the Brazil Health Sector Reform Project — REFORSUS, implemented between 1996 and closed in 2003 after four project extensions, was designed to: (a) improve the delivery of health care under the SUS, and (b) assist the government in introducing policy reforms to improve the financial sustainability and efficiency of the SUS. REFORSUS included an investment component and an institutional development component.

39. The REFORSUS Project suffered a series of technical shortcomings and operational setbacks that compromised the achievement of development objectives. Implementation took twice as long as planned while US\$78 million of loan financing was eventually cancelled. Drawing on the ICR, the lessons learned from REFORSUS that will be incorporated into QUALISUS project design are outlined in Box 1.1.

Box 1.1
Lessons learned from REFORSUS design and implementation
that will be incorporated into the design of QUALISUS-REDE I

- (1) Establish specific links between investment financing and the achievement of (physical and non-physical) performance targets, including an exit strategy for non-performing subprojects; it is best to do this through a phasing approach in which progress is assessed before financing is disbursed for a subsequent phase;
- (2) Link investments to a well-developed and coherent plan to develop networks and improve quality and efficiency in health care units (hospitals, specialty units and emergency centers), with specific benchmarks that are monitored annually; investments in specific facilities should be linked to organizational arrangements conducive to improved performance;
- (3) Limit financing to a manageable number of investment subprojects; subproject should be of sufficient scale to avoid resource dispersion;
- (4) Incorporate a pre-investment stage to establish institutional capacity to plan, implement and monitor Investment subprojects (under discussion)
- (5) Restrict subproject management to a single sub-national entity, preferably a state;
- (6) Conduct a technical risk assessment prior to disbursements to determine institutional capacity to implement subprojects;
- (7) Specify in project design an appropriate monitoring and evaluation system, with baseline information and linked to the policy framework;
- (8) Consider an independent group to assess subprojects plans and progress;
- (9) Require that a single secretariat within the MOH provide technical and fiduciary oversight;
- (10) Provide disincentives for focusing on hardware investments to facilitate sufficient financing for managerial and organizational change;
- (11) Establish a cadre of central-and state-based technical and fiduciary staff to provide technical and fiduciary support to states in the preparation and implementation of investment subprojects. This is particularly the case for low-capacity states.

5. POLICIES AND PROGRAMS SUPPORTED BY THE PROPOSED PROJECT

40. Recent policy and program initiatives at the Brazilian federal and state levels have already started to address the weaknesses identified above. The proposed Project seeks to expand, strengthen, and consolidate these initiatives.

41. **Regionalization:** Regionalization of health services has been a SUS objective since its inception, and a regionalization strategy was defined in successive SUS regulations. However, due to the strategy's complexity, ill-defined sub-national responsibilities, and the wide diversity of local capacities, few regionalized service systems were developed. In most states, health regions were established on paper and Regionalization Master Plans designed, but based on administrative criteria rather than on health needs and patient flows. Overall, the long-standing emphasis on regionalization and the relative failure of previous regionalization strategies provide a fertile ground for new initiatives based on a network model. A few states have recently initiated programs to develop regionalized networks. Building on these experiences, the MOH is currently preparing a policy for the development and implementation of Regional Health Care Networks (RHCNs).

42. **Health Covenants:** An important recent initiative was the enactment of the 2006 intergovernmental "Covenants for Improving Health and Strengthening SUS" (*Pacto pela Saúde - Consolidação do SUS*). Although the *Pactos* consist of an array of initiatives, to date, the *Pactos* represent the most systematic effort at establishing an enabling environment for the

development of RHCNs. The *pactos* seek to establish this environment through five initiatives: (i) defining national policy priorities (care of the elderly, cancer of the uterus and breast, infant and maternal mortality, emerging and endemic diseases, health promotion and strengthening of primary care); (ii) structuring the regionalization of SUS, especially for the intermediate level of complexity, through appropriate management mechanisms; (iii) streamlining the operation of SUS by clarifying the responsibilities of each level of government and simplifying the process for a state or municipality to be accredited in SUS; (iv) consolidating the nearly 100 different payment mechanisms into five block grants (primary care, medium and high-complexity care, health surveillance, pharmaceutical care, and SUS management); and (v) adopting a results-oriented management approach by implementing management contracts.⁵⁹

43. Though still a work in progress, the *Pactos* set the stage for a results-based management system as well as the establishment of intra-municipal care networks. However, compliance with performance targets will require development of instruments to enable federal support for and monitoring of municipal and state performance as well as strengthening state and municipal capacity for budgeting, management and monitoring of service provision. Network formation will depend on the capacity of Regional Management Councils to pool resources and create governance and management structure to operate the networks that will be formed. Although the *Pactos* clarify the roles of the different levels of government and assign more responsibilities to the states than the NOAS, they also bolster the decision-making autonomy of the municipalities with most service delivery. Although municipal participation in regionalization efforts is mandatory, the degree of this participation is left unspecified.

44. ***QUALISUS-REDE Program:*** The MOH-sponsored QUALISUS-REDE Program (formerly QUALISUS) constitutes the background for the investment project. The program was designed to address the main weaknesses found in the organization and delivery of SUS health care services: long lines at emergency rooms and waiting time for elective surgeries and diagnostic tests, and low patient satisfaction with SUS facilities. QUALISUS-REDE has a special focus on metropolitan areas and large urban areas or regions where the majority of the poor reside and where the establishment of regionalized service delivery has proved especially difficult. These areas are also characterized by the frequent oversupply of technology-intensive equipment and services, and its irrational allocation and distribution.

45. The program focuses on improving the quality and effectiveness of hospital and emergency care, especially at the intermediate level of complexity (which is seen as the main gap in the care continuum), through the organization of regional facility networks. Hospitals and specialized ambulatory and emergency facilities participating in the program receive investment funds for infrastructure renovation and equipment, as well as significant improvements in four areas: (i) responsiveness to patients' needs and reduction in waiting times; (ii) patient screening and referral according to risk; (iii) reorganization of health services and hospital operations; and (iv) implementation of Emergency Care Mobile Service (SAMU). The program began implementation in 2005 in Rio de Janeiro, with an investment of R\$ 38 million.⁶⁰

⁵⁹ Many limitations remain in *Pactos* policy, which the proposed QUALISUS-REDE project seeks to address. One of the main limitations relates to the absence of specific models for network governance and financing.

⁶⁰ Ministério da Saúde, online document: http://portal.saude.gov.br/saude/visualizar_texto.cfm?idtxt=20388

46. **Contracting and State Foundations:** Recent initiatives relating to contracting and organizational arrangements will also be supported by the proposed Project. Inspired by the Social Health Organizations (OSS) autonomous management model installed in hospitals in São Paulo state, the MOH is implementing a management contract approach with federal university hospitals. Currently, 85% of these hospitals have submitted proposals. The MOH is developing a model for performance-based contracting with private non-profit hospitals. The MOH also recently proposed (March 2007) that public hospitals under direct administration be converted to fully autonomous “state foundations” (FS). This proposal also borrows many elements from the OSS organizational form, as practiced in São Paulo State. The new FS organization will be a non-profit, private institution incorporated under private law, and will have autonomous decision-making authority over all resources. Given its private status, an FS will apply flexible human resource management in which private labor law will govern all personnel management. Accountability arrangements will entail management contracts linked to a to-be-determined performance-based financed system. The model includes additional elements such as governance boards with representatives from government (majority), civil society, employees and users and professionalization of hospital management. These new organizational and contracting arrangements, although too recent to be evaluated, are possibilities to be explored for the governance of the proposed regional networks.

47. **Facility Accreditation:** A number of initiatives have been developed regarding quality improvement programs, licensing and accreditation. Most of them are private initiatives and include a small number of hospitals. However, in the late 1990s a federal agency – ONA, the National Accreditation Organization –was established to stimulate accreditation of hospitals and diagnostic units. However, due to the lack of a financial incentive, only a small number of facilities have been accredited.

6. RELATION BETWEEN MAIN SECTORAL ISSUES AND ACTIVITIES IN THE PROPOSED QUALISUS-REDE PROJECT:

48. Table 1.4 below aligns the main sectoral problems with major proposed interventions of the QUALISUS-REDE project. Annex 4 presents a more detailed description of proposed interventions.

| Sector Problem | Proposed Intervention Supported by the QUALISUS-REDE Project | Project Component |
|---|---|---|
| Weak coordination and distorted supply | <ul style="list-style-type: none"> • Subprojects will develop and implement up to 15 RHCN demonstration projects. • MOH will produce RHCN policy. | Component A Component B |
| Deficient management and unaccountable facility governance | <ul style="list-style-type: none"> • RHCN subprojects will support implementation of governance and management arrangements for RHCNs. • RHCN subprojects will support implementation of alternative governance arrangements in hospitals. • RHCN subprojects will strengthen facility management. | Component A Component A Component A |
| Distorted and diluted funding | <ul style="list-style-type: none"> • RHCN subprojects will organize and test pooled financing arrangements to fund regionalized service delivery, and RHCN and provider payment mechanisms. | Component A |

| | | |
|--|---|--|
| | <ul style="list-style-type: none"> • Development of payment mechanisms for RHCN. • Development of payment mechanisms for hospitals that provide clear incentives for efficiency (including the migration from the AIH-based hospital payment system to DRGs); • Development and implementation of purchasing arrangements (and corresponding instruments) that link financing to performance; (v) | <p>Component B</p> <p>Component B</p> <p>Component B</p> |
| <p>Lack of systematic and continuous programs to enforce standards and ensure quality</p> | <ul style="list-style-type: none"> • RHCN subprojects will support the implementation of continuous quality programs in network facilities. • Implementation of evidence-based clinical pathways for priority health conditions. • Development and implementation of policies and instruments related to technological assessment. • Establishment of an incentive program to stimulate facility accreditation • Developing and testing of accreditation system for RHCNs. | <p>Component A</p> <p>Component B</p> <p>Component B</p> <p>Component B</p> <p>Component B</p> |
| <p>Lack of information for decision making</p> | <ul style="list-style-type: none"> • RHCN subprojects will support information technologies for care coordination. • Development of national quality benchmarking and public report system. • Implementation of national cost accounting systems for health care facilities. • Development of monitoring system for RHCN. | <p>Component A</p> <p>Component B</p> <p>Component B</p> <p>Component B</p> |

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies
BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE)
APL PHASE 1

| Relation between Current and Proposed Health Operations and Health Status and System Priorities | | |
|--|---|--|
| Operations | Health Status Priorities Addressed | Health System Priorities Addressed |
| Federal Lending | | |
| AIDS III (SWAp) | HIV/AIDs nationally | -Improved access to affordable AIDS prevention and treatment |
| Family Health I, II (SWAp) | Women's and Child Health in large urban municipalities. | -Basic care coverage extension -Systematic M&E for basic care -Quality assurance for family health teams -Results-based management tools for basic care -Improved allocative efficiency |
| VIGISUS II (SWAp) | Health surveillance in states and metropolitan areas Minority Health | -Effective surveillance systems -Targeted interventions for minority populations -Targeted strategies to address behavioral risks -Use of surveillance data for decision-making -Performance-based financing |
| STATE LENDING | | |
| Bahia Health Reform | Women's and Child Health (health stand alone) | -Basic care coverage extension (rural areas) -Strengthening policy development and state oversight functions -Effective referral and case management systems -Basic care coverage extension (rural areas) |
| Amazonas Regional Development | Women's and Child Health Communicable diseases | -Quality improvement initiatives for basic care -Effective surveillance systems -Alternative organizational and managerial practices in hospitals -Effective referral and case management systems -Strengthening decentralization and state oversight functions |
| Knowledge Services | | |
| Programmatic AAA on Hospital Performance (2004-07) | Women's and Child Health Communicable and non-communicable diseases | -Quality improvement and accreditation initiatives -Cost containment through improved allocative and productive efficiency -Alternative organizational and managerial practices in hospitals -Results-based management for medium and high-complexity care |
| NCD AAA (2005) | Non-communicable diseases | -Effective referral and case management systems -Cost containment |
| Impact Evaluations (2004-2007) | Family Health Indigenous Health | -Systematic M&E -Results-based management tools for basic care |
| Human Resource Management in basic care and Hospital Settings (PREM-HD) 2005-2006) | Women's and Child Health Non-communicable diseases | -Systematic M&E -Results-based management tools for basic, medium and high-complexity care -Alternative organizational and managerial practices in hospitals -Cost containment through improved productive efficiency |
| Governance in SUS: Quality of Public Expenditures in Health (HD-PREM) 2004-2006 | Women's and Child Health Non-communicable diseases | - Cost containment through improved allocative and productive efficiency |

Annex 3: Results Framework and Monitoring

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

**Annex Table 3.1: Project Results Framework
APL Phase 1 (2009-2013)**

| PDO | Project Outcome Indicators | Target | Use of Project Outcome Information |
|--|---|---|---|
| <p>(a) Improve the quality, efficiency and effectiveness of the SUS-financed delivery system, through the development of integrated regional health care networks (RHCNs), with emphasis on the integration between basic health care and high and medium complexity health care providers, support services (e.g., diagnostics), and logistical systems (e.g., transport); and</p> <p>(b) Contribute to improving the continuity of care by strengthening the prevention, detection, and treatment of diseases and conditions with the greatest impact on the country's disease burden, including hypertension, diabetes, and cancer.</p> | <p><u>For targeted regions participating in RHCN subprojects (as a group):</u></p> <ul style="list-style-type: none"> • Number of RHCNs with reduction of at least 10% in hospital admissions with complications for diabetes and hypertension.⁶¹ • Number of RHCNs with at least 20% of population identified with a targeted priority condition covered under the subprojects which are duly registered by risk classification and receiving diagnostic, preventive, and treatment according to the clinical guideline.⁶² • Number of RHCNs with an increase of at least 10% of hospitals which have achieved at least level 1 accreditation from a MOH recognized accreditation organization, such as the National Accreditation Organization, or its equivalent. • Number of RHCNs subprojects which all municipalities are integrated into a regional Patient Referral and Management Center (<i>Centro de Regulação</i>).⁶³ • Number RHCNs with 50% of emergency departments and call centers that are operating with a risk classification system. | <p>10 RHCNs</p> <p>10 RHCNs</p> <p>10 RHCNs</p> <p>10 RHCNs</p> <p>10 RHCNs</p> | <p>This outcome information will be used to evaluate program results and plan further extension and strengthening of integrated networks in participating regions, as well as other regions not covered by the Project.</p> <p>YR 1: Conduct baseline survey. YR 2: Adjust interventions and outcome indicators according to baseline findings. YR4: Use results to plan for APL Phase 3. and extend network strategy to other regions.</p> |

⁶¹ The indicator of hospital admissions with complications includes : (i) the % reduction in hospital admissions for ambulatory care sensitive conditions (ACSC) related to the clinical pathway areas for diabetes, and hypertension; (ii) and the reduction of readmissions for these two causes.

⁶² Targeted priority conditions include: cancer, hypertension, diabetes, and conditions related to the neonatal period. For example, the share of hypertensive patients who are classified by risk and receiving treatment by the guideline; the share of women 50-69 who receive mammography and annual PAP test for women 25 a 49 years old for cervical cancer, etc.

⁶³ This includes evidence of: professional staff (physicians or nurses) able to assess and refer patients, the technology to coordinate care across all levels of care (e.g. call center and internet-based interfaces linking providers); and manage patient needs (appointments, emergencies, risk classification, health education, surgical planning, transfers, etc.) through the system.

| Intermediate Outcomes By Component | Intermediate Outcome Indicators | Target | Use of Intermediate Outcome Monitoring |
|---|--|---|---|
| <p>Component A <u>In targeted regions supported by subprojects:</u></p> <p>(i). Improve system effectiveness and efficiency through implementation of RHCNs.</p> <p>(ii) Develop and establish integrated network fundamental features, functional elements, and care coordination processes among all publicly-supported services</p> <p>(iii) Strengthen processes to raise technical quality and patient satisfaction in service units.</p> | <p>Component A <u>For targeted regions and populations residing therein supported by subprojects (as a group):</u></p> <ul style="list-style-type: none"> • Number of RHCNs with all municipalities integrated into Regional Governance/Management structures and planning instruments;⁶⁴ • Number of RHCNs with at least 60% of the SUS user population (<i>usuários do SUS</i>) which have digital unique patient identification card linked to clinical activities in the regional network • Number of RHCNs with at least 50% of facilities (PHC centers, outpatient facilities and hospitals), support services (lab, pharmacy and diagnostic imaging) and logistics systems in the subproject areas which have undergone a restructuring (merger, conversion, strategic alliances, or change of service profile) • Number of RHCNs with 50% of SUS finance providers' hospitals with the cost per bed day and other benchmarking data within the region. • Number of RHCNs with 60% of municipalities which are covered by an organized transport system for patients, including regional coordination, defined routes, links with a Patient Referral and Management Center and support for emergency and elective patients. • Number of RHCNs with 30% of SUS financed providers with signed performance contracts. • Number of RHCNs with 60% of municipalities which have evidence of improvements in the pharmaceutical supply chain, including consolidated purchasing, rationalization of the distribution system and improving availability of pharmacists in basic care units. • Number of RHCNs with 50% of managers at state and municipal level in each of the subproject areas which has received the agreed management training on integrated delivery networks • Number of RHCHs with 20% of basic care centers which have obtained quality certification from the ministry of health (AMQ program) | <p>10 RHCNs</p> | <p>Disseminate performance results and discuss with regions providing inputs for any correction actions.</p> <p>Results monitoring will be used to plan the introduction of additional network fundamental and functional features in participating regions.</p> <p>YR1-4: Create formalized and continuous arrangement for assessment of network features and results.</p> |

⁶⁴ These should include: Regional Health Commission (CGR) and 3 of the following four management instruments Regional Health Citizens Board (CRS), Regional Development Plan (PDR), Regional Investment Plan (PDI) and Regional Health Plan.

| Component B | Component B | | |
|---|--|--|--|
| <p>Establish MOH capacity to: (i) assess new medical and health technologies; (ii) provide technical support to the regional networks formation; (iii) to enhance quality of care; (iv) strengthen approaches to disease and case management; (v) develop financing and payment mechanisms to stimulate improved performance; and (iv) measure, monitor, and evaluate network performance</p> | <ul style="list-style-type: none"> • National policy on RHCN issued by the MOH which is consistent with the network attributes developed under the Project • Definition of the standards, survey instruments, scoring system, and proposed institutional platform for an accreditation system for integrated networks. • Studies of technology assessment analyzing the properties, clinical effects and economic impact of specific medical technologies in the 6 priority areas approved by the MOH. • Information system implemented for the operation of RHCNs including, inter alia, electronic patient ID, Patient Management and Referral Center (<i>Central Regulacao</i>) and electronic medical records. • Presentation of results of a quality of life and functional analysis survey of the population in at least 30% of the networks in the subproject regions. • National observatory and clearinghouse for sharing information on integrated healthcare delivery systems established, and holds conferences on regional experiences RHCN design and implementation. • MOH approval of a national continuous quality improvement system with corresponding indicators. • Establishment of new parameters for structuring and developing RHCNs. • Proposal for the introduction of new instruments for RHCN governance, management and performance contracting issued. • Definition of the framework, process, indicators, data collection instruments, analytic methods, and feedback system required for the monitoring and evaluation of RHCNs. • Baseline studies of the current status of the application of clinical pathways for targeted priority conditions is completed | <p>Policy issued</p> <p>Accreditation system tested in at least two RHCNs</p> <p>Reports published</p> <p>System implemented in at least 2 RHCNs</p> <p>Survey applied in at least one municipality of each RHCNs</p> <p>3 events realized</p> <p>MOH publication</p> <p>MOH publication</p> <p>Proposal defined and implemented in at least 2 RHCNs</p> <p>Annual report published</p> <p>Baseline data available and published</p> | <p>Gauge degree to which MOH has strengthened and consolidated capacity to monitor and evaluate integrated networks, and provide policy guidance and support to states for network consolidation and expansion.</p> <p>Y3-4: Assess lessons learned from network implementation.</p> |

**Annex Table 3.2
Federal State Agreements – Subproject Performance Indicators**

| Mandatory Indicators (in targeted subproject areas) | 2 years | 4 years |
|---|--------------------|--------------------|
| Effectiveness | | |
| % reduction in hospitalizations with complications for diabetes and hypertension. | | |
| % of the municipalities in RHCNs which are integrated into a regional Patient Referral and Management Center (<i>Centro de Regulação</i>). ⁶⁵ | | |
| % of municipalities which are covered by an organized transport system for patients, including regional coordination, defined routes, links with a Patient Referral and Management Center and support for emergency and elective patients. | | |
| % of population with a targeted priority condition covered under the clinic pathways prioritized in the subprojects which are duly registered by risk classification and receiving diagnostic, preventive, and treatment according to the clinical guideline. ⁶⁶ | | |
| % of municipalities which have evidence of improvements in the pharmaceutical supply chain, including consolidated purchasing, rationalization of the distribution system and improving availability of pharmacists in basic care units. | | |
| % of emergency departments and call centers that are operating with a risk classification system | | |
| % of the SUS user population, exclusive or not, (<i>usuários do SUS</i>) which have digital unique patient identification card linked to clinical activities in the regional network | | |
| Efficiency | | |
| % of facilities (primary health care centers, outpatient facilities and hospitals), support services (lab, pharmacy and diagnostic imaging) and logistics systems in the subproject restructuring plan which have undergone a restructuring (merger, conversion, strategic alliances, or change of service profile) | | |
| % of hospitals with the cost per bed day and other benchmarking data within the region | | |
| % of managers at state and municipal level in each of the subproject areas which has received the agreed management training on integrated delivery networks | | |
| Quality | | |
| % of municipalities carrying out a user satisfaction survey analyzing the RHCN and its services to the population. | | |
| % of basic care centers which have obtained quality certification from the ministry of health (AMQ program) | | |
| % increase in hospitals which have achieved at least level 1 accreditation from a MOH recognized accreditation organization, or its equivalent. | | |
| Institutional | | |
| % of municipalities integrated into Regional Governance/Management structures and planning instruments. ⁶⁷ | | |
| % of SUS financed providers with signed performance contracts. | | |
| Fiduciary | | |
| State conducts annual audit of procurement processes | Yes/No | |
| Financial management: account for specified percent of expenditures | | >70% |

Targets are variable and will be set at two-year intervals according to specific subproject plans and base lines.

⁶⁵ This includes evidence of: professional staff (physicians or nurses) able to assess and refer patients, the technology to coordinate care across all levels of care (e.g. call center and internet-based interfaces linking providers); and manage patient needs (appointments, emergencies, risk classification, patient information, surgical planning, transfers, etc.) through the system.

⁶⁶ Targeted priority conditions include: cancer, hypertension, diabetes, and conditions related to the neonatal period. For example, the share of hypertensive patients who are classified by risk and receiving treatment by the guideline; the share of women 50-69 who receive mammography and annual PAP test for women 25 a 49 years old for cervical cancer, etc.

⁶⁷ These should include: Regional Health Commission (CGR) and 3 of the following four management instruments Regional Health Citizens Board (CRS), Regional Development Plan (PDR), Regional Investment Plan (PDI) and Regional Health Plan.

| Elective Indicators For Bonus Financing (States will Select a Subset) | 2 Years | 4 Years |
|---|------------|------------|
| % municipalities which have introduced network financing arrangements and provider payment mechanisms that align economic incentives with health objectives of the network. | | |
| % new hospital governance arrangements for hospital autonomy (including state foundations (state foundations, social organizations ,or others) | | |
| % of patients referred from primary care providers to specialists in accordance with the clinical pathways applied in the subproject. | | |
| % of municipalities with achievement of at least 80% of agreed continuing education targets (for example, primary health care teams in the subproject areas that have received at least 40 hours of continuing medical education in the last 12 month). | | |
| % of each RHCN municipality which have evidence of a link between the Portaria 1101 parameters (or clinical pathways) and the required number of type of laboratory exams for targeted priority conditions. | | |
| % of each RHCN municipality which have evidence of a link between the Portaria 1101 parameters (or clinical pathways) and the required number of type of imaging exams conditions | | |
| % basic health centers which have verified capacity to collect samples for basic lab tests | | |
| % of laboratories linked with SUS which were produced in a lab which is quality certified by a formal system (ONA, ISO, etc) | | |
| % of technical staff in diagnostic facilities which have received training according to subproject proposals | | |
| % of each RHCN municipalities which have electronic patient records linked to clinical activities in the regional network. | | |
| % change in the difference between the utilization per inhabitant (exams per capita) and the MOH norms as defined in PT 1101. ⁶⁸ | | |
| % change in the difference between the specialty visits per inhabitant (visits per capita) and the MOH norms as defined in PT 1101 ⁶⁹ | | |
| % of clinical pathways in the priority conditions which have been implemented | | |
| Share of municipalities which have implemented supervisory practices in support of the implementation of the selected clinical pathways | | |
| % of RHCN basic visits accomplishing the PT 1101 parameters (or clinical pathways) | | |
| % of RHCN specialty visits accomplishing the PT 1101 parameters (or clinical pathways) | | |
| % of healthcare providers which have implemented cost accounting systems according to the subproject proposal | | |
| % reduction in hospitalization rates in the 6 priority clinical according the PT 1101 (or clinic pathways), by patient’s region of residence, in comparison with other municipalities in the state and in other project regions. | | |

Targets are variable and will be set at two-year intervals according to specific subproject plans and base lines.

⁶⁸ PT 1101 section 11 defines expected demand for lab exams of between 30 – 50% of all visits require a lab exam. On average this will translate to 40% of all visits (estimated at 2.5 per inhabitant per year) will require a lab exam. In other words, the expected production of lab exams will be, on average, is 1 lab exam per inhabitant. The indicator will measure the variation between the base line level and the average.

⁶⁹ As with the previous indicator, this indicator will be measured as the difference between the specialty visits per inhabitant and the standard established by the MOH: 22% of all visits are to specialist (this yields expected 0.55 specialist visits per capita per annum)

Annex Table 3.3
Selection Criteria and Grading System for RHCN Subproject Proposals
(Round 1 of selection process)

| <i>Selection Criteria</i> | Grading | | | |
|--|--------------------------|--|--|---|
| | 0 | 1 | 2 | 3 |
| 1. Management Capacity of State Health Secretariats (Weigh: 35%) | | | | |
| Execution of federal programs (through convenes): PROESF and VIGISUS | No information presented | Less than 50% compliance with budget execution and liquidation of expenses in either program | 50-70% compliance with budget execution and liquidation of expenses in either program | More than 70% compliance with budget execution and liquidation of expenses in either program |
| Innovative state-initiated projects implemented in last 3 years (state initiative and funds) | No information presented | 1 project or less initiated | 2 projects initiated | 3+ projects initiated |
| Compliance with Constitutional Amendment 29 at state level (minimum allocation of state budget to health = 12%) | No information presented | Compliance in last year | Compliance in at least 1 of the last 3 years | Compliance in last 3 years |
| Secretary of Health Budgetary execution level (average 2003-06) | No information presented | < 70% | 70 – 90% | > 90% |
| Structure and key team proposed for project management | No information presented | Inadequate structure and weak team (in accordance with the minimum team described in operational manual) | Adequate structure but inadequate team(in accordance with the minimum team described in operational manual) | Structure and team meets standard (in accordance with the minimum team described in operational manual) |
| 2. Existing facilities and service supply in targeted region (25%) | | | | |
| Extent to which network covers all levels of care: Existing facilities cover the different levels of care and technological complexity | No information presented | Only primary care facilities | Primary care facilities and has capacity to provide procedures in outpatient/inpatient care of medium complexity | Primary care facilities and has capacity to provide procedures in outpatient/inpatient care of medium and high-complexity |
| Utilization rate (consultations per inhabitant) in the proposed region for basic care medical services is in accordance with MOH parameter (Portaria MS 1101/2002) | No information presented | Production is 2 standard deviations or more from parameter | Production is 1 standard deviation of the median | Production is within 5% of the parameter |
| Utilization rate (specialized consultations per inhabitant) in the proposed region for specialized physician services in accordance with MOH parameter (Portaria MS 1101/2002) | No information presented | Does not meet the utilization rate standard | Meets the minimum utilization parameter but has less than 6 specialties | Meets the minimum utilization parameter and has more than 6 specialties |
| % of medium-and-high complexity procedures offered in the region according to MOH package of services (DATASUS source data and the PPI Manual) | No information presented | Provides less than 30% of the procedures outlined as medium and high complexity in the MOH standard | Provides between 30-60% of the procedures outlined as medium and high complexity in the MOH standard | Provides more than 60% of the procedures outlined as medium and high-complexity in the MOH standard |

| 2.1. Diagnostic and Therapeutic Services | | | | |
|--|--------------------------|---|--|--|
| X ray and Ultrasound production in the region in relation to MOH parameter per inhabitant (Portaria MS 1101/2002) FOOTNOTE | No information presented | Does not meet the standard of exams per inhabitant | Meets the standard in at least 1 of the 2 services | Meets the standard in both services |
| % de <i>unidades básicas</i> . (health centers) in the region which are collection points for lab services | No information presented | Collection is made in less than 30% of basic health units | Collection made in 30-50% of basic health units | Collection made in > 50% of basic health units |
| % of municipalities in the region with an organized basic drugs care program | No information presented | <50% of the municipalities have a program in place | 50-70% of the municipalities have a program in place | 70%> of the municipalities have a program in place |

| 2.2. Logistic Systems | | | | |
|---|--------------------------|---|---|--|
| % Municipalities with or linked to a Patient Management and Referral Centers (RC) | No information presented | There are none, and none of the municipalities is linked to a RC | Less than 50% of municipalities have a RC or are linked to a regional RC | More than 50% of municipalities have a RC or are linked to a regional RC |
| % Municipalities with a SUS patient identification system in the region | No information presented | <50% of municipalities with evidence of any patient ID system | 50-70% of the municipalities have a patient identification system operating | More than 70% of the municipalities have a patient identification system operating |
| Proportion of municipalities with an organized patient transport system (non emergency) | No information presented | <50% of municipalities have an organized patient transport system | 50-70% of municipalities have an organized patient transport system | >70% of municipalities have an organized patient transport system |

| 2.3. Network management | | | | |
|---|--------------------------|---|---|---|
| Existence of a regional management council (<i>Colegiado de Gestão Regional- RMC</i>) | No information presented | There is none | RMC approved but no evidence of council meetings (no minutes) | Ongoing evidence of RMC activity as expressed through written minutes |
| % Municipalities with a Health Management Covenant (pacto gestao) signed | No information presented | <50% of municipalities with evidence signed Pacto | 50-70% of the municipalities with signed Pacto | More than 70% of the municipalities with a signed Pacto |
| Existence of the Regionalization Master Plan (PDR) | No information presented | There is no PDR | There is a PDR but is based on compliance bureaucratic-administrative criteria (based on geographic division and planning parameters) | There is a PDR based on patient flows (based on real demand) |
| Existence of ongoing initiatives related to inter-municipal cooperation (consortia, agencies, etc.) | No information presented | There are none | There are initiatives, but in other areas than health | There are initiatives in health |
| Existence of a Continuous Education Plan (according to MOH regulation: PT 1996/2007) | No information presented | There is no plan | There is a plan but no activities have been undertaken in the region. | Evidence of implementation of the continuing education plan as demonstrated through documentation |

| 3. Quality of the preliminary technical proposal (40%) | | | | |
|---|--------------------------|--|--|--|
| The quality and coherence of regional situation analysis meets the minimum standards (analysis of the epidemiological, administrative-financial and | No information presented | Situation analysis is descriptive and includes 1 of the 3 areas identified | Situation analysis is analytical and includes at least 2 of the 3 identified areas | Situation analysis is analytical and includes at least 3 of the 3 identified areas |

| | | | | |
|---|--------------------------|--|--|--|
| structure of the network) and is coherent with the rationale of the proposal | | | | |
| Clarity and consistency of objectives | No information presented | Objectives are not related to the problems | Objectives are focused on solving the problems but not clearly expressed | Objectives are clear, measurable, and focus on solving the problems |
| The actions proposed bear a high level of coherence between proposed network attributes and the proposal's diagnosis and objectives | No information presented | Actions are not related to the problems and objectives | Actions are partially related to the problems and objectives | Actions are clearly related with the problems. |
| Proposal's vision of networks: addressing and linking of major components and attributes of a network ⁷⁰ | No information presented | Less than 50% of the network attributes defined are aligned with problems and objectives | Between 50 and 70% of the attributes are considered by the proposed actions and are clearly related to problems and objectives | More 70% of the attributes are considered by the proposed actions and are clearly related to problems and objectives |
| Relation between process development (software) and physical investments and medical equipment (hardware) ⁷¹ | No information presented | Less than 40% of funding allocated to process development | Between 40 and 60% of funding allocated to process development | More than 60% of funding allocated to process development |

⁷⁰ The vision statement should be assessed in terms of their capacity to visualize the development of the network in an integrated manner. Nonetheless, it is expected that subprojects will plan and implement a subset of RHCN attributes presented in Figure 4.1.

⁷¹ Excepting information and communication technology.

Annex Table 3.4
Approval Criteria for Detailed Action Plan of RHCN Subprojects
(Round 2 of selection process)

| <i>Criteria</i> | Proposal Conformity | | |
|--|----------------------------|-------------------------------|-------------------------------|
| | Yes | Needs some adjustments | Needs significant work |
| Situation Analysis | | | |
| Situation analysis general conditions in the region | | | |
| Situation analysis is based on social and health needs | | | |
| Situation analysis includes organization of SUS network at regional level | | | |
| Situation analysis addresses the organization and quality of the integrated provider network. | | | |
| The situation analysis is analytical and properly identifies structural problems and process issues related to network failures, and places these in priority. | | | |
| Objectives | | | |
| Objectives are clearly stated and measurable | | | |
| Objectives are consistent with problems identified in diagnosis | | | |
| Strategies | | | |
| Subproject proposes clear and consistent implementation strategies | | | |
| The proposed strategies are consistent with the situation analysis and the subproject's objective | | | |
| Plan of Action | | | |
| Proposed actions are consistent with stated objectives and diagnosed problems | | | |
| The actions proposed bear a high level of coherence between proposed network attributes and the proposal's diagnosis and objectives | | | |
| Proposed actions are consistent with proposed budget | | | |
| Implementation plan and time schedule are feasible | | | |
| Arrangements for subproject management and implementation | | | |
| Arrangements proposed for subproject management are adequate (person responsible identified, available resources) | | | |
| Proposed team is adequate in size and qualifications | | | |
| Proposal for Monitoring and Evaluation is adequate | | | |
| Financial Management | | | |
| Proposed budget is consistent with subproject objectives and actions | | | |
| Financial programming is consistent with implementation plan | | | |
| Purchasing plan is specified and adequate | | | |
| Relation between process development (software) and physical investments and medical equipment (hardware) ⁷² | | | |

⁷² Information and communication technology goods are exempt from this consideration.

Annex Table 3.5

Eligibility Criteria for Fund Allocation to Approved Subprojects Under Component A

- Signed agreement or contract with MOH specifying responsibilities, implementation plan, performance indicators, and performance-based financing scheme.
- Management unit established by the state that includes a subproject coordinator, technical coordinator, and coordinator for monitoring performance formally constituted.
- All coordinators of the managing unit have received MOH training on subproject implementation.
- Subproject financial management system is in place according to parameters acceptable to the MOH and World Bank.
- Action plan for improving fiduciary processes agreed for states where such a plan is deemed necessary.⁷³

Annex Table 3.6

Exclusion Criteria for State Participation in APL Phase 2

- Evidence of irregular use of project funds, illegal, non-legitimate, or non-economic practices that lead to loss of public funds, including mis-procurement, as determined by acceptable governmental control/audit authority.
- Failure to furnish statement of expenses related to funds transferred by the Federal Government according to model and time line specified in the Operational Manual.
- Use of funds, goods and other public resources not for the intended purposes.
- Failure to implement fiduciary action plan (for states where such a plan was deemed necessary)
- Non-execution of 60% or less of project financing 36 months after receiving financing.
- Failure to provide the required information on the subproject performance indicators as specified in the subproject agreement with the MOH.

⁷³ For medium and high risk states; based on a fiduciary risk assessment that will be performed during subproject preparation.

Annex 3.1

Arrangements for Results Monitoring

A monitoring system and impact evaluation will assess performance of the proposed Project (and broader APL program). The monitoring system, complemented by the collection of baseline and ex-post data for the impact evaluation, will contribute to determining whether the Project achieved the desired outcomes and outputs as specified in the Results Framework. The monitoring and evaluation (M&E) system will assist the Government to monitor, assess and improve how project and government program resources are managed. Consonant with the project objectives the central idea of the M&E system supported by the Project is to focus on achieving outcomes and outputs rather than simply aligning annual plans, resources, tasks, activities and services. Although implementation monitoring will be part of the M&E system, the system will also aim to systematically collect performance information that links resources to performance targets. Table 3.7 below presents a framework for the monitoring systems and impact evaluation. The M&E system will collect, analyze, and act upon six sets of data:

1. QUALISUS-REDE performance indicators: These are included in federal-State agreements (see Table 3.2 above) and the Results Framework (outcome and intermediate indicators for Component A). The performance indicators mostly consist of indicators to establish the “fundamental” and “functional” features of networks which will improve effectiveness, efficiency, and quality of service provision (See Figure 1 of Annex 4). A subset of indicators focus on results in terms of effectiveness of service delivery related to specific health conditions identified by the participating RHCNs. Others indicators seek to directly impact quality of care at the facility level. Compliance with these indicators will determine level of financing according to the scheme illustrated in Figure 4.2 of Annex 4.
2. Performance indicators not included in federal-municipal agreements. Still under development by the MOH, these consist of a broader set of RHCN Program indicators that will be used by the MOH to monitor network performance in general. It is anticipated that most of these indicators will have less emphasis on fundamental and functional features and possess a stronger results orientation. However the final orientation will not be apparent until such indicators are in place.
3. MOH institutional capacity indicators: These indicators are included in the results framework for Component B and aim to measure MOH capacity to develop policies and plans, provide technical assistance to RHCNs, and monitor RHCN implementation and performance at the regional level.
4. Fiduciary indicators: These can include compliance with implementation plan; existence of investment monitoring and reconciliation system; existence of budget and bank account for project financing; registration of spending as a percent of transfers received. As observed in Table 3.2, a subset of fiduciary indicators will be included in the federal-state agreements.

5. Environmental indicators: These indicators aim to monitor the compliance with: (i) building and environmental protection legislation and guidelines; and (ii) medical waste management and disposal legislation and guidelines. One such indicator, establishing an organized and region-wide transport system for medical waste is a mandatory subproject activity (see Table 3.2).

6. Baseline and ex-post survey data for impact evaluation. These consist of broad set of output and outcome indicators collected through baseline management, provider and household surveys applied during QUALISUS-REDE APL phase 1. Follow-up data collection and analysis will take place in Phase 2.

Annex Table 3.7: Monitoring and Impact Evaluation Framework for Municipal Subprojects

| What data will be collected and monitored? | Who collects data? How and how often? | By whom and how often will data be assessed and what are the implications? | How will data be verified? | How is data processed and analyzed, and results determined. | How and to whom will results be disseminated? What will be follow-up actions? |
|---|--|--|---|---|---|
| <p>1. QALISUS-REDE Subproject performance indicators included in federal-state agreements and Results Framework for Component A. These include indicators of effectiveness, efficiency and quality. (see Table 3.2) Compliance is linked to levels of financing (See Figure 2 of Annex 4).</p> | <p>Subproject coordinating units in each state are responsible for data collection: entering data into web-based MOH information systems. Data is entered on weekly or monthly basis.</p> | <p>1. MOH/states health secretariats reviews data entry every six months.</p> <ul style="list-style-type: none"> Incomplete data entry results in warning from MOH. <p>2. MOH conducts in-depth assessment of compliance with QALISUS-REDE performance targets specified in federal-state agreements after two years.</p> <ul style="list-style-type: none"> Assessment will determine level of financing for next two years of project financing (see figure 2 of Annex 4) Assessment of subset on indicators every 6 months to identify potential risks | <p>1. State-based M&E units reviews data entries for inconsistencies</p> <p>2. State-based M&E units make site visits to review data for all municipalities under their jurisdiction;</p> <p>3. MOH makes site visits of sample of states.</p> <p>4. Annual Bank supervisory visits to sample of regions.</p> | <p>1. Results-based monitoring instrument assesses performance via-a-vis agreed targets, specified in federal-state agreements. Subprojects assessed in terms of technical and fiduciary performance.</p> | <p>Workshops with state and MOH authorities to discuss monitoring results after two-years.</p> <p>Based on analysis and risk classification targeted TA and training to strengthen technical, managerial and fiduciary capacity and will be provided to municipalities.</p> |
| <p>2. QALISUS performance indicators not included in federal-municipal agreements or the Results Framework.</p> | <p>management report: annual</p> | <p>MOH conducts in-depth assessment of institutional capacity indicators: annual</p> <ul style="list-style-type: none"> Assessment will determine level of TA and training required by states. | <p>1. State-based M&E units and MOH conduct site inspections and audits.</p> <p>2. STC and internal audits.</p> <p>3. Annual Bank supervisory visits to sample of</p> | | |
| <p>3. MOH “institutional” capacity performance indicators , included in results framework for Component B.</p> | <p>Subproject coordinating Units in each state are responsible for data collection Semester and annual reports</p> | <p>MOH conducts in-depth assessment of subproject fiduciary indicators: at two years.</p> <ul style="list-style-type: none"> Assessment will determine: (i) continued eligibility of subproject; (ii) level of TA and training required by states. | | | |
| <p>4. Fiduciary indicators (e.g., compliance with implementation plan; existence of investment monitoring and reconciliation system; existence of budget and bank account for project financing; registration of spending as % of transferred received)</p> | | | | | |

| What data will be collected and monitored? | Who collects data? How and how often? | By whom and how often will data be assessed and what are the implications? | How will data be verified? | How is data processed and analyzed, and results determined. | How and to whom will results be disseminated? What will be follow-up actions? |
|---|--|---|--|--|--|
| <p>5. Environmental indicators (e.g., to monitor the compliance with: (i) building and environmental protection legislation and guidelines; and (ii) medical waste management and disposal legislation and guidelines.</p> | <p>Subproject coordinating Units in each state are responsible for data collection Annual management report.</p> | <p>MOH conducts annual assessment of compliance using environmental checklist (under preparation). MOH compiles data.</p> | <p>municipalities. Environmental checklist (under preparation) will be used MOH and Bank supervisors to ascertain compliance. Annual review based on sample.</p> | <p>Data is compiled by MOH based on checklist. Single spreadsheet will have data on all new and rehabilitated units.</p> | <p>Workshops with municipal, state and MOH authorities to discuss monitoring results at two year intervals</p> |
| <p>6. Ex-post survey data for impact evaluation. Data to be collected in base line and follow-up survey according impact evaluation plan.</p> | <p>Research institutions under contract with MOH.</p> | <p>Baseline: during first 12 months of project implementation Follow-up: Near conclusion of APL phase 2 (conducted by research institution(s) contracted by MOH).</p> | <p>Review of evaluative design by MOH and Bank supervisory team</p> | <p>According to evaluative design and methodology approved by MOH</p> | <p>Final reports, workshops and publications.</p> |

Annex 4: Detailed Project Description

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

A. Lending Instrument, Program Objectives, and Phases

1. The Health Network Formation and Quality Improvement Project (QUALISUS-REDE) is a 10-year Adaptable Program Lending (APL) in two phases. The total cost of the APL Program is US\$1.4 billion with loan financing of US\$500 million across the two phases (See table 4.1 below). The total cost of the first phase (5 years) is US\$676.8 million, with loan financing of US\$235 million.

| Table 4.1 | | | |
|--|----------------|----------------|----------------|
| Brazil Health Network Formation and Quality Improvement Project | | | |
| QUALISUS-REDE | | | |
| | Phase 1 | Phase 2 | Program |
| Program Cost (US \$ million) | 676.8 | 763.2 | 1440.0 |
| Bank financing (US \$ million) | 235.0 | 265.0 | 500.0 |
| Implementation Period | FY10-14 | FY15-19 | FY10-19 |
| Supervision | Twice a year | Twice a year | -- |
| Triggers' assessment | Jun. 2014 | -- | -- |
| Appraisal | Jan. 2008 | Dec. 2013 | -- |

2. The overall APL Program objectives are:

(a) Improve the quality, efficiency and effectiveness of the SUS-financed delivery system, through the development of integrated regional health care networks (RHCNs),⁷⁴ with emphasis on the integration between basic health care and medium and high-complexity health care providers, support services (e.g., diagnostics), and logistical systems (e.g., transport); and

(b) Contribute to improving the continuity of care by strengthening the prevention, detection, and treatment of diseases and conditions with the greatest impact on the country's disease burden, including hypertension, diabetes, and cancer.

3. The second APL phase will build upon the accomplishments and lessons learned in the first phase and expand the development of RHCNs in the approximately 15 targeted regions through implementing additional fundamental and functional attributes (see below) related to network formation. The second phase will also extend implementation to additional regions and deepen support for quality and efficiency improvements at the facility level. Triggers for the second phase are presented in Table 4.2.

⁷⁴ See Box 1 of Annex 4 for a description of an integrated regional network.

Table 4.2
Triggers for APL Phase 2

1. Regional Network formation agreements are under implementation in at least 10 states in accordance with the approved subprojects.
2. The Ministry of Health (MOH) approves and disseminates a national policy on regional health care networks which is consistent with the RHCN attributes which are defined under the Project.
3. Plan for impact evaluation of regional health care networks supported under the Project has been prepared and the base line data collected in sample of participating and non-participating regions.
4. Results-based financing scheme implemented as part of subproject funding in at least 100 percent of the subprojects whereby the participating states gain or lose funding during subproject execution (Component A), according to audited performance levels.
5. System for monitoring of the Project under implementation by the MOH, consisting of: indicators envisioned under the Project (and specified in Annex 3), targets, data collection methods, data analysis, and feedback mechanisms to networks. A technical monitoring report is produced at project midterm and conclusion displaying and comparing the performance of regional health care networks supported under Component A.
6. An integrated health network accreditation system is developed and tested in at least two regional health care networks.

B. The Health Ministry’s QUALISUS-REDE Program

4. The Health Ministry (MOH) has affirmed that QUALSUS-REDE (formerly QUALISUS) will be the flagship health program of the current Lula Administration. The program focuses on improving the quality, effectiveness, and efficiency of the SUS-financed delivery system through the formation and implementation of organized and coordinated provider networks in defined regions with at least 250,000 inhabitants. A secondary objective is to reorient the delivery system away of acute, hospital-based care and toward coordinated care across providers and service levels. The latter is more appropriate for addressing chronic conditions, which represent over two-thirds of Brazil’s disease burden. The MOH is currently preparing a policy in support of the formation of integrated regional networks.⁷⁵

5. Consisting of both investment and recurrent financing, QUALISUS-REDE is an umbrella program that addresses a number of health and health system priorities including the following seven issues: (i) conforming regionalized networks; (ii) introducing coordinated care processes to enable the system to deal with challenge of chronic conditions; (iii) strengthening the effectiveness of referral systems; (iv) expanding organized emergency and non-emergency transport systems; (v) reducing waiting time for specialty care, elective admissions, and diagnostic tests; (vi) rationalizing supply through converting small hospitals to ambulatory units and shifting hospital care to alternative settings (e.g., day hospitals, ambulatory surgical units, home care, convalescent homes, etc); and (vii) improving the technical quality and patient

⁷⁵ Workshops on international experience with network formation as well as background documents prepared for the QUALIREDE Project have contributed to MOH policy formation on organized health networks.

satisfaction with medium and high-complexity care. States are responsible for the development and implementation of networks, and in many cases, the delivery of medium and high-complexity care.

| Box 1.1 |
|---|
| What is an organized and integrated regional network? |
| <p>The future trajectory of the Brazilian health system is away from acute hospital care and toward coordination or integration of service provision across a range of providers and practice settings. This transformation will be a long-term endeavor. There is increasing evidence that coordinated care results in better outcomes and improved efficiency (IOM, 2001:134). This is especially the case for chronic conditions. There is also growing consensus that care is best coordinated through the formation of some form of integrated networks. The latter involve more than one type of provider coming together in a formal and sometimes legal arrangement to manage health care delivery (hospitals, specialty ambulatory units, pharmacies, diagnostic units, emergency centers and mobile units, primary care units, etc.). This often occurs in accordance (or contract) with purchasers. There is no consensus on the “best” or even “right” way to configure or structure a health care network. It is highly dependent on institutional and market environments as well as systems’ characteristics. Similar to OECD countries, no single model of system integration will prevail in Brazil.</p> |
| <p>Ideally, an organized and regional delivery system such as a network should consist of the following elements: (i) focus on meeting the population’s health needs; (ii) matches services capacity to meet the populations’ needs; (iii) coordinates and integrates care across a continuum [of providers]; (iv) has information systems to link patients, provides and payers; (v) is able to provide information on cost, quality outcomes, and patient satisfaction to multiple stakeholders; (vi) uses financial incentives and organizational structure to align governance, management, physicians and other caregivers; (vii) is able to improve continuously the care that it provides; and is willing and able to work with others to ensure that the community’s health objectives are met (Shortell, et al, 2000:21)</p> |
| <p>From a more operational standpoint, at the very least any arrangement should allow for the following cross-provider functions: (i) facile exchange and sharing of patient-related information; (ii) use of clinical guidelines for disease management; (iii) application of standardized referral and counter-referral rules; (iv) defined roles and competencies of providers with a concern for achieving scale efficiencies; and (v) collection, analysis, tracking and sharing of performance, health, and cost data.</p> |

6. In 2004 and 2005 the MOH spent about US\$25 million in *additional* investments under the former QUALISUS program. This funding complements about US\$7 billion, representing 37% of the MOH budget, which the MOH spends annually on budgetary transfers to states and municipalities for payments for medium and high-complexity care, which is mostly delivered in hospitals.

7. Unlike the other federal health projects in the Brazil portfolio that are targeted to a specific set of interventions (VIGISUS: health surveillance and indigenous health; Family Health: basic care; AIDS III: HIV/AIDS), the proposed Project takes on a system-wide perspective. Both the Program and investment project are focused on engaging the health system in defining a vision of an effective and efficient health care delivery system, organized into regional networks, that is prepared and able to address the regional priority health problems.

C. Project Development Indicators and Key indicators (first phase APL – 5 years)

8. The first phase objectives establish the basic conditions for implementation of the QUALISUS-REDE strategy which are required to achieve the APL program objectives. The objectives of the proposed first phase project are:

(a) Improve the quality and efficiency of SUS' RHCNs with emphasis on secondary-level health care, specialty, diagnostic and emergency centers, and logistical systems serving the Project's targeted regions and populations.

(b) Improve the effectiveness of the SUS' RHCNs delivery system to prevent, detect and treat priority health conditions in the Project's targeted regions and populations.

9. To achieve these objectives, QUALISUS-REDE will support interventions at three levels: (i) system-wide investments implemented at the federal level to establish the national framework for integrated healthcare delivery systems and strengthen technical capacity to systematically motivate, support, measure, monitor, and evaluate the performance of regionalized service delivery networks, and the health care organizations that comprise it; (ii) regional investments implemented at the state level, to encourage, develop and test formalized networks in defined regions to facilitate coordinated and continuous care delivery across provider levels and municipalities; and (iii) facility-level investments to improve and sustain organizational performance in units located in defined regional networks. Also implemented by the states, facility-level investments will include financing to reform organizational arrangements in public facilities, foster stronger governance in private hospitals, and improve management practices in both.

10. ***Expected Impact and Performance:*** QUALISUS-REDE will strengthen SUS capacity to address the rising incidence of chronic diseases as well as persistent problems related to neonatal mortality, all at reasonable costs. It also aims to contain costs by increasing scale, allocation and productive efficiencies. Improving quality at the delivery level as well as coordinating care across different providers in a network arrangement will contribute to better outcomes and improved efficiency. QUALISUS-REDE will focus on the big cost drivers – medium and high complexity service providers (hospitals, specialty units, emergency centers) that account for over 75 percent of public spending on health. The Project will introduce or strengthen instruments to improve the effectiveness of spending (e.g., performance-based financing systems, efficiency-inducing provider payment mechanisms, strategic purchasing arrangements between government and providers; measurement and analysis of performance). Specific results are presented in the Project's Results Framework (Annex 3).

11. ***Project Components:*** The first phase will consist of three components: (A) development of regional health care networks and strengthening of health care facilities; (B) systems development for performance enhancement; and (C) project management.

Component A - Development of Regional Health Care Networks and Strengthening of Health Care Facilities (Estimated total cost US\$646.1 million or 95.5 percent of total project costs; estimated loan US\$205 million or 87.5 percent of total loan proceeds).

12. This component supports two related categories of activities. The first involves the development and implementation of regional and organized arrangements for coordinated or integrated care (regional health care networks – RHCN). The second consists of upgrading, quality enhancement, organizational reform, and strengthening of management practices in

facilities within the RHCNs. All facilities benefiting from investments in this component must be affiliated with a pre-defined RHCN. Both types of activities will be incorporated into a single type of subproject – Regional Health Care Network Development and Quality Improvement Subprojects, or RHCN subprojects. The subprojects will aim to develop and implement RHCNs in a subset of regions to raise the effectiveness of care provision as well as strengthening the performance (efficiency, quality and responsiveness) of health and support services therein.

13. The component will finance works, goods, training and technical assistance. Works will include upgrading and equipping of existing health facilities, including the construction of ambulatory and diagnostic units, remodeling of health centers, polyclinics, and specific departments within hospitals, and procurement of medical and non-medical equipment (including basic communications equipment), furniture and patient transportation vehicles. The component will not finance the construction or equipping of new hospitals, and all investments shall be in connection with the RHCNs.⁷⁶

14. The configuration of network relationships will be based on development and implementation of “fundamental” and “functional” attributes typically found in organized integrated delivery networks according to international and Brazilian experience.⁷⁷ Investments in both fundamental and functional features of RHCNs seek to coordinate care and raise the performance of facilities and service provision within the networks that will be established.⁷⁸ It is important to note that in some cases these features are intricately linked, and a subset of characteristics is considered essential to network design. Figure 4.1 depicts the relationship among these elements.

15. Fundamental attributes are the essential building blocks for the establishment of integrated care. They create the enabling institutional and systems environment for developing and implementing integrated or coordinated functions. They can consist of policies and strategies, institutional responsibilities and competencies, laws and regulations, data and systems to track and evaluate performance, governance and management structures, services and activities, and financing and resource allocation systems. Network structures build on or are extensions of existing structures in a targeted region.

16. Closely linked to fundamental features, functional attributes are actions, mechanisms, and functions that support coordinated and affordable care delivery. They can consist of managerial techniques, accountability mechanisms, performance-based incentive schemes, operational arrangements, care practices, purchasing and contracting arrangements, information technologies, and human resource management and training practices.

⁷⁶ It is important to note that selection criteria will strongly favor proposals that de-emphasize investments in infrastructure and medical equipment. See Table 3.3 of Annex 3.

⁷⁷ Coordination involves the development of structures and mechanisms (processes) to improve communication, continuity of care, and information sharing among the different components, facilities and sectors of a health delivery system. The team conducted an exhaustive literature review on formation and implementation of organized delivery networks, hosted an international seminar to present findings to the MOH, and visited network initiatives in Minas Gerais State. Documentation reviewed by the team is presented in Annex 12.

⁷⁸ Annex 3 contains indicators of structures, processes, and results supported by the proposed project.

17. The component will support up to 15 demand-driven subprojects through investments in establishing or strengthening fundamental and functional features of RHCNs outlined below. These areas represent a menu of interventions. Each participating state will select a subset of interventions for a defined region based on a diagnosis of population needs, local conditions, and implementation capacity.⁷⁹ It is important to note that investments in these areas will not occur all at once. Rather, they will be phased out over the eight-year APL cycle. The team estimates that during the first APL phase each subproject will finance 3-6 “fundamental” interventions and 3-6 “functional” interventions. The first phase is expected to include 10 subprojects in highly-urbanized metropolitan regions and 5 in non-metropolitan regions.

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Fundamental attributes to be supported through subprojects:

(i) *Network and facility policies:* This set of activities consists of the development of policies, plans and strategies and corresponding legal and regulatory framework to establish RHCNs at the state level as well as to support performance improvement at the facility level. Policies and plans will specify the model and approach to integrated care, including the fundamental and functional elements of the proposed network, anticipated results, coordination and implementation strategies, and asset management or capital investment strategies. Consistent with component objectives, at the facility level the Project will also support the development of policies, plans and regulations to introduce alternative governance arrangements, provider payment systems, and performance-based contracting to raise performance of hospitals and specialty units.

(ii) *Network configuration:* This area entails defining the overall structure or configuration of the network in terms of territorial (regional) demarcation, population definition, assessment of the population’s health needs and disease priorities, establishing the delivery units (primary, secondary, tertiary, diagnostic, etc.), service types (promotional, preventive, diagnostic, curative, etc.) and competencies at which care will be delivered, and specifying the connections between these units and services. Network configuration also includes the rationalization of service supply through conversions, mergers, and closures of duplicate and underutilized services and units, strong emphasis on primary care, and the establishment of non-traditional or extramural units (ambulatory surgery, convalescent homes, day hospitals, home care, etc.) This area of intervention will be mandatory for all selected subprojects.

(iii) *Network and facility governance arrangements:*⁸⁰ Governance may be defined as the structures and functions of an organization that set and enforce policies and exercise the ultimate

⁷⁹ See Table 3.3 of Annex 3 for selection criteria and procedures.

⁸⁰ Governance refers to the means by which a network or an organization (such as a hospital), its managers and staff are held accountable for their behaviors (such as resource management, planning, service monitoring, financial management, etc.) to deliver services with quality and efficiency. Theoretically, governance authority includes oversight of administrative practices and fiscal performance, planning and policy making, and accountability to individuals, communities, payers and governments. Accountability is a key concept that captures the responsibilities of actors and the consequences they face based on performance.

authority for decisions made in or on behalf of the organization. A governance structure is a formalized organizational arrangement with representation of key stakeholders, and is responsible for policy and strategy development and for overseeing, measuring and judging performance. The subprojects will test regional governance arrangements to oversee network development, implementation, and performance monitoring. The subprojects aim to build on successful experiences of regional boards, “*colegiados*,” consortia, and agencies consisting of municipal and state health authorities. Subprojects will also support the introduction of alternative governance arrangements in hospitals, granting greater autonomy (and accountability for results) to facility management.⁸¹

(iv) *Network and facility management structures*: This area involves building institutional capacity to manage the network – to select, deploy, and supervise resources in the most efficient way possible to achieve network objectives. To accomplish this, establishing a managerial body and corresponding systems to administer the network is warranted. Ideally, any management structure should be the executive arm of a governance structure. Management involves building an organizational culture in which network functions and coordination becomes each participant’s core business. The subprojects will support the development of key managerial functions, including:⁸² (a) information management, (b) human resource management; (c) contract and results management; (d) performance monitoring; (e) planning, budgeting, and resource allocation; (f) communication with clients and stakeholders; (g) integrated procurement and materials management; and (h) conflict resolution.⁸³ Subprojects will also support strengthening managerial practices at the facility level for areas such as procurement, personnel, information, public relations, materials and finance.

(v) *Network and facility financing systems and payment mechanisms*: The subprojects will seek to organize and test pooled financing arrangements to fund service delivery. They will also support the introduction of payment mechanisms to fund networks and facilities. The former will involve securing and merging heretofore separate (and fragmented) financial flows originating from federal, state and municipal governments.⁸⁴ Achieving pooled financing will be a gradual process and will at least initially relate to mingling resource to achieve economies of scale through consolidating support services and logistics across municipalities within a RHCN. The subprojects will also support the development of provider payment systems such as capitation for primary care and global budgets for hospitals that will include incentives for efficiency. Finally, subprojects will finance the introduction of cost accounting systems at the facility level.

⁸¹ Recent federal legislation creating Social Organizations and Social Organizations in the Public Interest provide two vehicles to establishing alternative governance arrangements in Public hospitals. A bill before Congress seeks to establish “State Foundations” as another governance form for public hospitals.

⁸² Due to their importance in terms of network design, some of these functions are presented as separate processes (e.g., information management and contracting). See Figure 4.1.

⁸³ It is important to note that these functions will be developed in an incremental fashion during the ten-year program cycle. The introduction of managerial arrangements will be aligned with the overall development of other network structures and processes.

⁸⁴ Any consolidation of financing will require a governance structure with representation from federal, state, and municipal authorities. It will also require a network management structure to conduct budgeting and financial management functions.

(vi) *Monitoring and evaluation systems*: The subprojects will finance the design of a monitoring system to measure assess and raise performance of health services at both the regional (network) and facility level. This process will allow network management to measure the performance of the integrated healthcare delivery system. The monitoring system consist of data tracking and collection, data aggregation and analysis, identification of desirable and undesirable trends, comparison of facility performance, benchmarking, and dissemination of information from analysis to improve performance. Monitoring will focus on the following areas: health outcomes, health surveillance, patient access, service production, productivity and efficiency, appropriateness and quality of care, utilization (including over utilization, underutilization and inappropriate utilization), preventive services and health promotion activities, and patient satisfaction. Subprojects will also support impact evaluation of specific initiatives and programs.

(vii) *Support systems*: Subprojects will support the consolidation, horizontal integration, and efficient management of support service, including, pharmaceutical purchasing and supply, diagnostics, pathology, and therapeutic services.⁸⁵ Particular care will be given to rationalizing access to and use of expensive high-technological equipment. Based on clinical pathways or guidelines (see below) and a review of the cost-effectiveness of proposed technologies, a related intervention will involve defining the package and location of support services (including therapeutic formularies) that will be supplied in the network.

(viii) *Logistics*: Logistics involves the organization and vertical integration of patient flows to facilitate timely access and efficient utilization. Investments will support systems such as electronic patient identification cards, appointment call centers (for diagnostic exams, specialty consultations, and elective surgery), emergency dispatch systems, emergency and non-emergency patient transport systems, medical waste transport systems, and patient or family communication systems such as call centers.

Functional attributes to be supported through subprojects:

(i) *Evidenced-based care pathways or clinical guidelines*:⁸⁶ The subprojects will support the development and application of clinical pathways for priority conditions or care processes such as hypertension, diabetes mellitus, cancer, and neo-natal care.⁸⁷ Taken together, these conditions represent a significant share of Brazil's disease burden as well as the potential to improve outcomes and reduce costs.

⁸⁵ Currently, the supply of these services is inefficiently fragmented across many providers within a given region.

⁸⁶ According to the Institute of Medicine (1992) clinical pathways or guidelines can be defined as "systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances." Clinical pathways are an important means to achieving network cohesion and improving both cost-effectiveness and quality through adapting best practices and standardizing practice patterns across the network. Pathways describe the entire care path for patients with specific conditions, including support functions such as laboratory, radiology, and pharmacy. It is a tool for care management that facilitates the measurement of effects, elimination of problems, benchmarking, and quality comparison. In more advanced networks, pathways are seen as the basis for network configuration and asset management. They also challenge existing and often deficient medical practice patterns by controlling practice variation.

⁸⁷ However, any single subproject will focus on one or two conditions.

(ii) *Disease and care management*: Care management for any network responds to the population's epidemiological profile and system affordability. The subprojects will support a care management model with the following features: (a) emphasis on primary care as the entry point and case manager of the delivery system, (b) management of chronic care; (c) strengthening of health promotion, home care, and patient self-care; (d) use of population-based risk assessment and classification methods to tailor patient-centered promotion, prevention and treatment programs; and (e) use of multidisciplinary teams across provider levels.

(iii) *Organized management of referrals, bed assignment, diagnostic exams, specialty consultations, and urgent/emergency care*. Since the late 1990s the MOH has sought to establish a system to organize and manage patient flows, referrals, and counter-referrals among SUS-financed facilities that provide basic, diagnostic, specialty, emergency, and inpatient care. The main mechanism for setting up the system involved the creation of municipal screening and appointment centers (*Centros de Regulação*, CRs).⁸⁸ Implementation has been slow and uneven. Although CRs have the potential to contribute to greater vertical and horizontal coordination of health care, in practice most CRs serve as appointment or emergency call centers, suggesting that CRs simply match supply with demand rather than assessing, screening, and managing requests for higher-level services. The subprojects will aim to strengthen the CRs to fulfill their potential to: (a) receive, review, authorize, and monitor requests for specialty outpatient appointments, diagnostic exams, referrals, and emergency care among all facilities located in the *regional* network, and (b) follow-up on each case, tracking patient progress while reducing unnecessary inpatient stays and subsequent specialty visits.

(iv) *Information and communication systems*: The subprojects will support investments in information and communication technologies to strengthen information management required for the coordination of care across an integrated network and to support decision-making and contract management, evidenced-based practice patterns, monitoring and evaluation, patient communication, logistics, and quality and efficiency enhancement. Robust information management underlies all RHCNs fundamental and functional elements, and will include collecting, processing, aggregating, storing, retrieving and disseminating information on patient health, quality, and efficiency. More specifically, it is expected that the subprojects will invest in the following electronic systems: population registration, medical records, management information, standardized cost accounting, medication reminder systems, and knowledge retrieval.⁸⁹ The Project will also finance communication and logistics information technologies, which will support referrals, call centers, telemedicine, emergency dispatch systems, emergency and non-emergency transport systems, complaint and grievance lines, and provider contacts with patients and families.

(v) *Contracting and contract management arrangements*: Contracting is an important accountability mechanism for specifying performance in return for funding, thereby creating incentives to improve production, quality, and efficiency. Contracts are also an important

⁸⁸ Staffed by physicians, phone operators, and information technology (IT) personnel, these centers are located in predefined macro- and microregions and usually serve a number of municipalities. Most are managed by the states or large, urban municipalities.

⁸⁹ The latter includes access to electronic databases and journals on best practices, standards, protocols, practice guidelines, clinical trials and other research.

instrument of governance, transforming policies, plans, and models into desired actions and behaviors. Subprojects will seek to craft contracts at two levels: (a) between the state/municipalities and network management; and (b) between network management and facilities comprising the network. Contracts will set priorities, responsibilities, production and performance targets, and mechanisms and processes for coordinating care with among providers.⁹⁰ However, robust contracting requires robust contract management by the purchaser. Subprojects will also invest in establishing capacity to prepare, negotiate, monitor, evaluate, and financially manage contracts.

(vi) *Patient communication and health promotion:* Education and communication processes have a wide variety of goals within a health system. They can aim to promote health behavior; facilitate patient and family participation in treatment, involve patient in health care decisions; facilitate patient understanding of network services and how to access them; inform patients of their rights and responsibilities, and establish mechanisms to survey patient satisfaction and register complaints and grievances. Subprojects will support the development and implementation of systematic processes to: (a) communicate health and network information to patients in an understandable manner; and (b) receive feedback from patients on their health status and perceptions of care received.

(vii) *Continuous quality improvement (CQI):*⁹¹ This set of activities aims to design and implement a network-wide CQI program that also addresses specific quality issues at frontline service providers. Establishing such a program involves setting specific clinical and service improvements that are expected across settings and providers. Specific interventions supported by the subprojects will include: facility licensure and accreditation (for hospitals and diagnostic units) and quality certification (for ambulatory medical units), strengthening of hospital quality control commissions, improving systems for the identification, prevention and correction of medical errors, adverse events and facility-acquired infections, redesign of care processes based on protocols, and the continuous monitoring of care processes. This area of intervention will be mandatory for all selected subprojects.

(viii) *Efficiency enhancement:* Focusing on the facility level, subprojects will support the implementation of managerial processes to enhance efficiency of services and support functions.⁹² Efficiency improvement measures can strengthen systems and methods for: inventory and stock control, intra-facility resource allocation, purchasing and procurement, human resource management, pharmaceutical distribution (e.g., unit dose systems), utilization review, organization of work processes and patient flows, control of intra-hospital transfers, financial and budgetary management, planning, maintenance and contract management

⁹⁰ The federal government and many states are instituting performance-based contracts with municipalities as well as with SUS-financed public and private facilities.

⁹¹ CQI is an organizational approach for upgrading quality through identification, prevention, and correction of errors via continuous assessment, monitoring and strengthening of care delivery processes. Although usually applied at the facility level, CQI is increasingly used to create a facilitating environment for quality improvement among facilities comprising an organized network. It is a systematic approach to quality improvement that aims to ensure consistency of standards, quality of treatment, and continuity of care across the settings and providers throughout the network and in accordance with the evidence base.

⁹² These interventions should be part of a broader, network-wide plan to combat inefficiencies.

(outsourced services). In combination with investment in appropriate information technology, another important area of investment involves standardized cost accounting systems.

(ix) *Continuous education for professional and auxiliary staff:* This area involves structuring and implementing a program to assess competencies; upgrade skills and continuously improve the performance of personnel and clinical staff in communicating with and providing services to patients. Continuous education also involves creating an environment of horizontal communication and exchanges among professionals and para-professionals across care levels.

(x) *Change management:* The implementation of RHCNs involves changing provider behaviors, work schedules, and clinical practices. Such a wide scope of change invariably generates resistance particularly among health professionals who fear loss of autonomy. Introducing RHCNs requires change management strategies to engender the participation and support of key stakeholders, especially physicians, nurses and other health workers. It also requires buy-in from municipal health authorities to enable resource pooling and establishing functional governance and management structures. The subprojects will finance consultant services to formulate and implement change management strategies.

Component B - Systems Development for Performance Enhancement (Estimated total cost US\$26.3 million or 3.9 percent of total project costs; estimated loan US\$26.3 million or 11 percent of total loan proceeds).

18. This component supports the creation of an enabling institutional and systems environment to support the implementation of RHCNs, improve quality and care management, promote alternative payment systems, and strengthen monitoring and impact evaluation. This component will have a national focus and will be implemented directly by the MOH. Consisting of studies, consultancy services, goods (information technology), training (including materials and logistics), and travel expenses, the Project will support a series of activities that are divided into six areas as follows:

(i) *Support for Network Formation:* This area will support the development of policies, strategies, instruments, and systems to support the implementation of networks nationwide. Specific activities will include: (i) development and testing of structures for RHCN governance; (ii) formation of a national policy in support of RHCNs; (iii) development and testing of a accreditation system of RHCNs; (iv) development and implementation of continuing education program on care coordination; (v) development and testing of information systems for patient identification cards, electronic medical record systems, and appointment and referral centers; (vi) evaluation and strengthening of monitoring and auditing systems, and planning and management instruments used in SUS with a focus on supporting RHCNs; and (vii) support for change management practices to create an enabling institutional environment for subproject implementation.

(ii) *Disease and Care Management:* The main focus of this area is the development, testing, and implementation of clinical pathways in support of care coordination for high priority diseases and conditions. This will involve an in-depth analysis of international and national experiences on designing and implementing clinical pathways. It will also support development

of risk classifications systems for these same conditions as well as for urgent and emergency care.

(iii) *Quality Enhancement*: This area consists of a number of activities to support quality improvement at both the RHCN and facility levels, including: (a) preparation of a national quality improvement strategy; (b) development of an incentive program to stimulate facility licensure and accreditation; and (c) establishment of national quality benchmarking and public reporting systems.

(iv) *Technological innovation and assessment*: This area will support a series of studies assessing the properties, clinical effects (intended and unintended), and economic impact of selected technologies such as drugs, biologics, medical devices, equipment and supplies, medical procedures, and support systems. It is expected that these technologies will be a part of care processes for the priority conditions supported by the subprojects.

(v) *Health Financing and Performance*: This set of activities will consist of: (a) development of payment mechanisms for RHCNs; (b) development of payment mechanisms for hospitals that provide clear incentives for efficiency (including the migration from the AIH-based hospital payment system to DRGs); (c) implementation of national cost accounting systems for health care facilities; and (d) development and implementation of purchasing arrangements (and corresponding instruments) that link financing to performance.

(vi) *Monitoring and Impact Evaluation*: This area will support the MOH in providing technical assistance, monitoring performance, and designing an impact evaluation of the RHCNs implemented under Component A, including the collection of base line data. It will also involve training of technical personnel that will support RHCN implementation at the regional level.

Component C: Project Management (Estimated total cost US\$3.8 million or 0.6 percent of total project costs; estimated loan US\$3.1 million or 1.5 percent of total loan proceeds).

19.. The Component C aims to strengthen MOH capacity to implement and supervise project implementation and results. To this end, it will finance a group of full-time consultants that will support the MOH's staff to conduct procurement, financial management, and administrative tasks associated with the Project's daily implementation. It will also finance facility upgrading (rehabilitation, office furniture and computer equipment), consulting and non-consulting services and costs such as printing, training, and travel expenses.

D. Subproject Implementation (Component A)

20. This section describes two main features of implementation arrangements for Component A:⁹³ (i) demand-driven and demonstration approach to RHCN subproject implementation and (ii) subproject performance-based financing scheme.

21. Demand-driven, demonstration approach: Implemented by participating states, this component will finance RHCN subprojects on a demand basis. The literature demonstrates that

⁹³ Other implementation arrangements are described in Annex 6.

there is no one-size-fits-all approach to designing, implementing, managing, and financing RHCNs. The best configuration is dependent on local conditions, capacities, and leadership. In Brazil, as elsewhere, introducing RHCNs represents a paradigmatic shift in the orientation of the health care system away from its traditional emphasis in acute care, filled beds and service volume and toward emphasis in covered lives and the affordable management of cases and care processes. Also, a minority of states have already initiated a subset RHCN features. The proposed Project will build upon these experiences. For these reasons, the Project adapts a demand-driven approach in which the participating states select structures and processes to be developed according to local conditions. States will craft interventions and activities drawn from a menu of structural-institutional and process features as described above and illustrated in Figure 1.⁹⁴

22. In order to avoid dispersion of project funds and ensure that subprojects have a sufficient scale to generate impact, the Project will fund up to 15 RHCN subprojects in defined regions in Component A.⁹⁵ Also, the Project will select regions in which sufficient service supply and infrastructure already exists, and allowing the Project to focus on investments that will coordinate or integrate care processes, raise quality and efficiency, and generate results, rather than building and equipping new facilities. The idea is to establish a limited number of functional, regional networks that can serve as demonstration projects for future expansion in APL Phase II. In addition, subprojects will focus on establishing network or care coordination arrangements for at least one of the MOH disease priorities (e.g., cancer, hypertension, diabetes, and neonatal conditions). All subprojects will be part of a state-sponsored plan focusing on improving performance in specific and pre-defined regions (metropolitan and non-metropolitan). *No facility outside of the targeted regions will receive project financing.*

23. Performance-based Financing: Component A will incorporate a performance-based financing scheme for RHCN subprojects in which MOH allocations to participating states are tied to performance.⁹⁶ Through the pooled financing mechanism (described below) in which Bank financing is mingled with federal grant transfers, the arrangement will aim to reward states for achieving agreed benchmarks related to results and implementation at specified intervals while reducing (or even cancelling) financing for non-performers. The scheme is illustrated in Figure 4.2 below.

24. Each state will sign an agreement with the MOH that will specify structure, process and result indicators at two-year intervals (approximately the mid- and end-points of the Project cycle). Achievement of these indicators during the first two years will determine the level of financing for the second two-year interval of APL Phase I. Moreover, compliance with the indicators during the second two-year interval of APL Phase I will determine eligibility and levels of financing for participation in the second APL phase. States will be required to comply with a subset of “mandatory” indicators and can also negotiate a set of optional “elective”

⁹⁴ Nevertheless, a subset of these features are considered critical to the successful implementation of RHCNs and therefore will be included in all subprojects. These include: (i) development of network and facility policies; (ii) network configuration; (iii) definition of disease and care management approach; and (iv) implementation of clinical pathways.

⁹⁵ Each selected state will execute one subproject.

⁹⁶ This is NOT a performance-based disbursement scheme in which disbursement for loan proceeds are tied to results.

indicators.⁹⁷ Consisting of technical and fiduciary indicators, both types are presented in Table 3.2 of Annex 3.

25. “Unsatisfactory” compliance with the mandatory indicators will result in reduced or delayed financing for the subsequent two-year interval. However, states receiving this ranking will receive additional technical assistance from the MOH to improve performance. The Project will finance an agreed action plan during the subsequent two-year interval to raise performance. Only persistent poor or non-performance will result exclusion from further financing.⁹⁸ “Satisfactory” compliance will result in financing for the second interval according to the original subproject plan. However, states can earn additional financing (e.g., a bonus payment beyond the planned allocation). To receive the bonus, states will need to demonstrate “Excellent” compliance with the mandatory indicators and comply with a percent of selected elective indicators. The bonus will represent approximately 10 percent of the value of the funding during the previous two-year period. Performance will be verified through a technical audit.

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⁹⁷ Both types of indicators will be specified in MOH-state contracts.

⁹⁸ Based on experiences of REFORSUS and the Family Health Extension Project, it is important to have an exit strategy for persistent low and non-performance. See Annex Table 3.6 for exclusion criteria for State participation in APL Phase II.

Annex 5: Project Costs

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

| Project Cost By Component and/or Activity | Local US \$million | Foreign US \$million | Total US \$million |
|---|--------------------------|----------------------------|--------------------------|
| 1. Development of Regional Health Care Networks and Strengthening of Health Care Facilities | 487.4 | 20.4 | 507.8 |
| 2. Systems development for performance enhancement | 13.7 | 8.0 | 21.7 |
| 3. Project Management | 2.9 | 0.0 | 2.9 |
| Total Baseline Cost | 504.0 | 28.4 | 532.4 |
| Physical Contingencies | 0.3 | 0.1 | 0.4 |
| Price Contingencies | 141.9 | 1.5 | 143.4 |
| Total Project Costs | 646.2 | 30.0 | 676.2 |
| Front-end Fee | | 0.6 | 0.6 |
| Total Financing Required | 646.2 | 30.6 | 676.8 |

Annex 6: Implementation Arrangements

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

1. Overview

1. The first phase of the Health Network Formation and Quality Improvement Project (QUALISUS-REDE) will be implemented over a five-year period. The Project's expected Effective Date is July 1st, 2009, and the expected Closing Date is June 30, 2014. The Project comprises three components (i) Component A - Development of Regional Health Care Networks and Strengthening of Health Care Facilities; (ii) Component B - Systems Development for Performance Enhancement, and (iii) Component C - Project Management.

2. The total project costs are US\$676.8 million, with a loan amount of US\$235 million. The Project will be coordinated by the Ministry of Health (MOH) through its Executive Secretariat (SE).⁹⁹ Most project activities – 87.5 percent of total loan proceeds, will be implemented by the States (Component A), and the remaining 12.5 percent by the MOH (Components B and C).

3. The 26 States and the Federal District will be eligible to participate in Component A of the proposed Project through their Secretariats of Health. To this end, States will present Regional Health Care Network Development and Quality Improvement Subprojects (the RHCN subprojects), and will be subject to a two-step selection process, as described below. The MOH will approve up to 15 subprojects to be financed under the Project, which will be deemed technically qualified by a panel of experts, with qualifications acceptable to the Bank, as described below.

4. The Component B, which includes financing of goods (information technology), technical assistance, consulting services, studies, training and monitoring and evaluation activities will be implemented by the MOH using its line Secretariats and Departments for technical definitions and oversight, and its *Coordenação Geral de Recursos Logísticos* (CGRL) for procuring related goods, consulting and non-consulting services. Given the complexity of establishing health care networks, and based on the lessons learned from other Bank-financed projects (REFORSUS, Family Health I, VIGISUS I and II), this component will finance a group of full-time consultants to provide technical assistance to the participating States¹⁰⁰ and support on the daily implementation of subprojects under Component A. It will also finance consultants to provide technical assistance to the MOH on the formulation and implementation of health networks.

5. The Component C aims to strengthen MOH capacity to implement and supervise the project implementation and results. To this end, it will finance a group of full-time consultants that will support MOH's staff to conduct procurement, financial management, and administrative tasks associated to the Project's daily implementation. It will also finance facility upgrading

⁹⁹ A proposal for restructuring the MOH is under preparation. Thus, it is possible that Project coordination be transferred to another unit within the MOH during its implementation.

¹⁰⁰ Approximately 15 consultants (ratio of 1 consultant per subproject).

(rehabilitation, office furniture and computer equipment), consulting and non-consulting services such as printing, training, and travel expenses; all procured and selected through the CGRL.

6. Project implementation will be supported by a detailed Operational Manual, containing all relevant information for the executors - MOH and States. Given the complexity, and the substantial amount of resources involved in Component A, special attention will be given to the subproject-related sections of the Operational Manual.

2. The Implementing Agency¹⁰¹

7. The MOH will be responsible for coordinating and implementing part of the proposed Project. Because of the strategic and sector-wide characteristics of QUALISUS-REDE, the Project will be located under the Executive Secretariat (SE). The SE's roles and responsibilities encompass: (i) assisting the Minister of Health in the coordination and supervision of the activities carried out by MOH Secretariats and related-institutions; (ii) supporting the definition of national health policies and activities; (iii) coordinating the planning and financing of health activities and services; (iv) coordinating and monitoring health programs and projects; and (v) coordinating policies and activities related to the SUS decentralization.

8. The SE will be in charge of coordinating QUALISUS-REDE, promoting the Project at the federal and State levels to ensure time and proper project implementation; maintaining the political and technical dialogue with Governmental agencies (inter and intra MOH) and the Bank; reviewing and approving State subprojects; providing technical and fiduciary assistance to States; monitoring project's indicators and results; and overseeing project's implementation and legal obligations.

9. In addition, the SE will be responsible for implementing a range of activities aimed at supporting formation of health care networks; strengthening governance; promoting a culture of performance-based financing; improving the monitoring and evaluation capacity of the federal and State levels; carrying out strategic studies and promoting human resources' development.

10. To properly develop its role, the SE will be supported by (i) a Technical Consulting Committee (*Comitê Técnico Consultivo*), (ii) a Project Coordinator, (iii) the technical Departments within the MOH, and (iv) a group of operational consultants with defined roles and responsibilities.

(i) The Comitê Técnico Consultivo will be in charge of conducting project-related strategic decisions and technical oversight. It will be formed by representatives of all MOH's Secretariats - *Secretaria de Atenção à Saúde (SAS)*, *Secretaria de Gestão do Trabalho e da Educação na Saúde (SGTES)*, *Secretaria de Gestão Estratégica e Participativa (SGEP)*, *Secretaria de Vigilância em Saúde (SVS)*; and *Secretaria de Ciência, Tecnologia e Insumos Estratégicos (SCTIS)*.

(ii) The Project Coordinator will be responsible for the Project's overview and monitoring. The Coordinator will be in charge of following-up on the implementation of State

¹⁰¹ The proposed arrangements are based on the current MOH's structure.

subprojects and centralized-activities, and keeping the SE informed on project implementation progress. The Coordinator will also monitor any bottlenecks in project implementation, and propose mitigating and corrective measures, as well as serve as the focal point in the dialogue with the Bank.

(iii) The technical Departments within the MOH are located in each Secretariat (mentioned above) responsible for different areas of the Brazilian health sector and services. These departments will be supported by consultants to provide technical assistance on the implementation of health networks and other needed areas.

(iv) The group of operational consultants will be supporting MOH staff on the Project's daily operational activities, including procurement and financial management. Their main responsibilities will be to: (i) provide fiduciary assistance to the States; (ii) prepare bidding documents for procuring goods and selecting consulting services under Components B and C, and coordinate procurement processes with CGRL; (iii) manage administrative and financial resources; (iv) provide information for the auditing of project accounts and enable the carrying out of reviews of MOH and States' procurement actions; (v) adapt and operate project information system, as well as provide training to end-users; (vi) organize the monitoring of project performance indicators; (vii) keep project-related documents organized and filed; and (viii) prepare periodic reports and participate in Bank's supervision missions.

11. These full-time consultants will be organized in three sub-groups: (i) Procurement; (ii) Financial Management; and (iii) Information Technology.

(i) Procurement: This team of consultants comprising a Procurement Specialist and two Procurement Analysts will work closely with the CGRL in order to procure activities under Components B and C. They will be in charge of providing guidance to States and MOH Secretariats on bidding documents and processes, especially regarding the selection of consulting services¹⁰², which will follow Bank's Guidelines. The consultants will also approve the procurement plans, and monitor the implementation of the action plans for improving States and MOH capacity on procurement.

(ii) Financial Management: The FM consultants will include a Financial Management Specialist and up to two Financial Management Analysts. They will be in charge of (i) supporting the preparation of the annual implementation plan and budget; (ii) providing guidance to the executing agencies on financial management rules and procedures, (iii) tracking project's funds - *liaison* with the *Fundo Nacional de Saúde* (FNS) - and monitoring disbursements; (iv) monitoring the implementation of the action plans for improving States and MOH capacity on financial management; (v) consolidating of accounts and reports (Intermediate Financial Reports - IFRs and annual financial statements); (vi) reviewing expenditures of subprojects; (vii) ensuring Project asset control; and (viii) supporting internal and external auditors.

(iii) Information Technology: At least one Information System Analyst will be hired to adapt, refine and maintain the project information system during the implementation period, as well as to provide training to end-users on Project data and information.

¹⁰² The technical staff and technical consultants are responsible for preparing the Terms of Reference.

12. The Bank shall review and approve the Terms of Reference and the proposed candidates, at least for the key positions under this implementation scheme. In order to avoid significant turn-over of personnel during project implementation, consultants will be hired for the whole project implementation period, following the same procedures (or similar ones) used in VIGISUS II for hiring long-term consultants.

3. Implementation Arrangements for Component A – State Subprojects

13. This section describes three implementation arrangements related to RHCN Subprojects: (i) Subproject selection; (ii) eligibility criteria for MOH allocations of Subproject funds; and (iii) pooled financing approach.

14. Subproject Selection: As previously stated, Component A accounts for a majority of project costs and financing.¹⁰³ Works, goods, training and technical assistance will be implemented by the States through Regional RHCN subprojects. The 26 states and Federal District will be eligible to participate in the proposed Project. Subproject selection will consist of a two-step process.¹⁰⁴ It is expected that the selection of Subprojects and States' preparation for implementation will occur during the first year of the project implementation period – the pre-investment stage. Thus, the States will have at least four years to implement their activities.

15. The first step involves State submission of a 20-25 page proposal containing a short diagnosis, identification and description of targeted region, including service supply, technical and financial proposal for network implementation and facility quality improvement, implementation plan, and description of implementation capacity as well as prior experience with region-wide initiatives. Based on criteria presented in Table 3.3 of Annex 3, the proposals will be scored and ranked. The MOH will select the winning proposals from a subset that will have been deemed qualified by an independent panel of experts. Only technically qualified proposals will be selected for project financing.

16. The second step consists of the presentation of a complete, detailed subproject plan which will include at a minimum the following elements: diagnosis, technical plan, implementation plan, organizational arrangements, procurement plan, monitoring system and corresponding indicators, and financial management arrangements. The MOH will review and approve the subprojects according to criteria specified in Table 3.4 of Annex 3. It is possible that upon review, the MOH may recommend modifications and request resubmission of a revised proposal.

17. If a state does not submit the detailed plan before the due date, or fails to modify and submit a revised plan prior to a specified date, the plan will be excluded from project participation. In this case, the MOH will select the proposal (from step 1) with next highest ranking score, and solicit the state to prepare a detailed subproject (step 2).

¹⁰³ US\$646.1 million or 95.5 percent of total costs; US\$205 million or 87.5 percent of Bank Loan.

¹⁰⁴ The Operational Manual will include detail descriptions of the process, including rules, procedures, and guidelines for proposal preparation and selection.

18. Given the demonstration approach expected from the health networks to be formed, the Project will support up to 15 demand-driven subprojects. Because each State can only have one subproject financed by loan proceeds, there are 15 potential implementation agencies represented by the State Secretariats of Health. Once selected, the State Health Secretariats will be subject to Procurement and Financial Management Capacity Assessments. Based on these assessments, action plans aimed at strengthening the Secretariats' fiduciary capacity will be agreed. Drawing on the experience drawn from other projects, the MOH will have a group of consultants, financed under Component B, to assist and monitor the subprojects implementation.

19. Allocation of Funds to Subprojects - eligibility and exclusion criteria: Once a subproject plan has been approved by the MOH, the "winning" states will be eligible to receive MOH allocations to finance approved RHCN Subproject activities upon compliance with the following criteria (See Table 3.5 in Annex 3): (i) signed MOH-state agreements; (ii) establishment of subproject coordinating unit; (iii) training of subproject coordinators; (iv) existence of approved financial management system; and (v) agreed fiduciary action plan.¹⁰⁵

20. States that do not initiate financial execution of the subproject six months after receiving MOH allocations will lose eligibility for further funding until the issue is solved. Technical assistance will be provided to the State to solve the financial or technical issues that impede execution. Low financial execution after two years (e.g., at the mid-term of subproject execution) can result in reduction and delay in further financing during the remainder of the subproject cycle (See below for performance-based financing scheme).

21. Criteria for exclusion from APL phase 2 financing include: (i) irregular use of project funds, (ii) failure to furnish required financial and performance information; (iii) low execution of project financing; and (iv) failure to implement fiduciary action plan (for states where such a plan was deemed necessary based on fiduciary assessments) (Table 3.6 in Annex 3).

22. Pooled Financing: All Component A financing will be channeled to States through a pooled funding (SWAp) approach.¹⁰⁶ Loan proceeds will be pooled with federal grant transfers for medium and high complexity health care or facilities and channeled from the National Health Fund (FNS) to a bank account in each state, known as the State Health Fund (FES). These grants are the main financial conduit for supporting a very large and on-going government budgetary program for specialty and hospital care.¹⁰⁷ These grants are transferred to states and municipalities, which are responsible for service delivery.

¹⁰⁵ For medium and high risk states based on fiduciary risk assessment that will be performed prior to Subproject execution

¹⁰⁶ The pooled financing model is similar to the one pioneered in Brazil Family Health Extension Project (PROESF I, II), and applied to the second APL phase of the Brazil Disease Surveillance Project (VIGISUS II).

¹⁰⁷ These funds are incorporated into two grant transfers, *teto de média e alta complexidade* (MAC) and *Ações Estratégicas* (AC) to states and municipalities that directly manage hospitals and specialty units or contract out these services to private providers. Loan proceeds will be pooled with federal grant transfers for medium and high complexity. In 2006, the MOH transferred about US\$8.8 billion, 47 percent of its US\$18.7 billion budget, through grant transfers for medium and high-complexity care. The States received US\$4.1 billion. Assuming 15 states will execute subprojects, on average QUALISUS-REDE will represent about 2 percent of MAC and AC transfers. Finally, such transfers are enough to account for all counterpart funds allocated in the project (US\$441.1 million).

23. To enable the Bank's financial support RHCN subprojects through the existing federal-to-state grant system, the Government has requested that the proposed Project incorporate a special pooling arrangement together with innovative fiduciary features. To satisfy the government's request regarding Bank participation in the above-described State financing system, the Project applies innovative fiduciary features, such as:

- (i) Disbursement against Customized Statements of Expenditures (from National Health Fund to State Health Funds); and
- (ii) Application of selected procurement methods under national laws, as acceptable methods for NCB, for the procurement of goods, works and non-consulting services (details in Annex 8).

24. The pooling feature offers a number of advantages to both the Government and the Bank. For the government, the feature permits the Bank to mingle its funds with established grant transfers to facilitate the smooth flow of funds to a relatively large number of States. It also creates a single reporting system for the grants rather than parallel and redundant systems for government and Bank purposes. Bank assistance is refocused to strengthen the fiduciary framework for the MOH programs, which contributes to improved health services management. Finally, the feature reorients the partnership between the government and Bank, permitting the Bank to assist the MOH realigning federal-state relations to focus on performance and results. For the Bank, pooling of funds affords the opportunity to: (i) form a long-term partnership with the government in the health sector since grant transfers are the only method used by the federal government to finance medium and high complexity care at the sub-national level; and (ii) participate in the most important reforms in the sector.

4. Operational Manual

25. The Project's Operational Manual will describe the rules and procedures for the Project's implementation and monitoring, including detailed selection criteria for subprojects. It will clearly instruct States to develop and submit subprojects, implement eligible activities, monitor project performance indicators, and comply with project's fiduciary framework. The Operational Manual will incorporate the lessons learned from other projects and be divided in specific sections covering the relevant technical and fiduciary aspects. Presentation of a draft Operational Manual will be a condition for Negotiations.

Annex 7: Financial Management and Disbursement Arrangements
BRAZIL: BR HEALTH QUALITY PROJECT (QUALISUS)

1. SUMMARY

1. The financial management assessment was conducted in accordance with OP/BP 10.02 and the Financial Management Practice Manual (issued by the Financial Management Sector Board in November 2005). The scope of the assessment included: (i) an evaluation of existing financial management systems in place to be used for program monitoring, accounting and reporting, taking prior Bank work in the Ministry of Health (MOH) into account; (ii) review of staffing requirements; (iii) review of the flow of funds arrangements and disbursement methodology; (iv) review of internal control mechanisms in place; (v) discussion in regard to reporting requirements, including the format and content of Intermediate Financial Reports (IFRs); and (vi) review of internal and external audit arrangements.

2. The MOH has had extensive experience in implementing Bank financed projects, including the recently prepared Family Health II project (P095626). Although some aspects of the FM arrangements are still under development (for example, strengthening MOH staff capacity for project implementation), the primary issue is the lack of detailed knowledge of financial management performance of the states that may potentially participate in the Project. However, in order to mitigate certain aspects of this risk, established criteria, including specific issue related to financial management, will be applied to evaluate states selected to receive funding under this program (this is similar to the criteria that had been developed under the Family Health II project). The risks identified in the FM risk matrix in large part will be mitigated through the corrective actions the MOH has agreed to implement under the Family Health II project as the risks are similar in nature.

3. Given the Bank's extensive experience in the health sector in Brazil, the overall Financial Management Assessment conclusion is that the project has satisfactory financial management arrangements in place to meet the Bank's minimum requirements (although areas for improvement have been identified and will be adequately followed up). The financial management risk associated with the project has been assessed as *moderate*. The project's financial management system will be able to provide relevant and reliable financial information, in a timely manner, and to support project management in the control, planning, implementation and monitoring of the project, towards the achievement of its objectives.

Country Issues

4. Since 2003, the Bank has used the government's management systems (SIAFI, SIAFI *Gerencial*, and SIGMA) in connection with Bank supported operations. Specifically: (i) the Bank utilizes project financial reports generated by these systems; (ii) the Bank uses the same mechanisms that the government uses for its own sub-national fiscal allocations, to support loan disbursement applications; and (iii) for most operations the Bank relies on the audit work of either the *Secretaria Federal de Controle* (SFC) or the *Tribunal de Contas da União* (TCU). Moreover, the Bank, in the May 2007 Policy Note on Enhancing the Performance of Federal

Public Financial Management Systems (Report No. 39780-BR), found that the main public financial management systems in Brazil continue to perform well and to be reliable for the purposes of utilizing them in Bank-financed projects.

Financial Risk Assessment

5. Both the overall inherent and control risks have been assessed as *moderate*. At the country level, findings of Bank analytical work (including the 2007 Policy Note on Federal PFM Systems, Report No. 39780-BR) and experience with the existing country portfolio in the areas of financial accounting, reporting, audit quality and compliance, and the quality of the FM profession, indicate that country risk is *low*. At the entity level, the MOH has traditionally operated acceptable financial management arrangements, based on federal and state control norms and it is staffed with satisfactory level professionals with good capacity in planning, budgeting and financial management. However, due to some uncertainty regarding the FM staffing for the project implementation, the Entity level risk is therefore assessed as *moderate*.

6. At the project level, the risk profile is *moderate*, due to (i) the lack of knowledge of PFM performance in states that may potentially participate in the program, (ii) weak performance of reporting and monitoring of federal allocations at the state level as the Bank has seen in previous projects.

| Risk | H | S | M | L | Identified Risks & Mitigation Measures |
|----------------------------|---|---|---|---|--|
| <u>Inherent Risks:</u> | | | | | |
| Country specific | | | | X | Brazil's system provides reliable information. Adequate systems exist to manage and track the receipt and use of funds and there is a high level of fiscal transparency, both of which will support any program of adjustment lending. The risk to both Bank and country funds is low. |
| Sub-national (state) level | | | X | | Despite the strong PFM requirements of the LRF, simply due to the lack of knowledge of PFM performance in enough states, there is a slightly increased level of FM risk. |
| Entity specific | | | X | | Uncertainty regarding FM staffing of the project team. |
| Overall Inherent Risk | | | X | | |
| <u>Control Risks:</u> | | | | | |
| Implementing Agency | | | X | | Uncertainty regarding FM staffing of the project team. |
| Internal/External Audit | | X | | | Weak oversight of sub-national program execution - strengthened internal controls of MOH (see Family Health II program). |
| Reporting & Monitoring | | X | | | Weak performance of reporting and monitoring of federal allocations at the state level as seen in previous projects – capacity assessments undertaken by MOH fiduciary consultants. |
| Overall Control Risk | | | X | | |

H-High S-Substantial M-Moderate L-Low

Description and Assessment of Financial Management Arrangements

7. The project will be implemented by the MOH (Executive Secretariat) and up to 15 States (Health Secretariats). The total cost of the first phase (5 years) is US\$676.8 million, with loan financing of US\$235 million.

8. The selected States will implement Component A: Development of Regional Health Care Networks and Strengthening of Health Care Facilities. (Estimated total cost US\$646.1 million or 95.5 percent of total costs).

9. The MOH, through the Executive Secretariat will implement: (i) Component B: Systems Development for Performance Enhancement. (Estimated total cost US\$26.3 million or 3.9 percent of total costs), and (ii) Component C: Project Management. (Estimated total cost US\$3.8 million or 0.6 percent of total costs). It will finance the Project's group of operational consultants¹⁰⁸.

10. Even though, the participating states have not yet been selected, their FM capacity will be part of eligibility criteria for fund allocation to approved subprojects under Component A. The eligibility FM criteria are similar to those applied in the Family Health II project and include (See Table 3.5 of Annex 3): (i) establishment of management unit in the State Health Secretariat; (ii) Subproject financial management system established according to parameters acceptable to the MOH and Bank; and (iii) action plan for improving FM processes agreed and under implementation (for states where such a plan is deemed necessary based on a risk assessment). Regarding the latter criterion, the MOH and Bank FM teams will make an *in situ* evaluation of the states, after selection and before the first transfer of funds. For any FM weaknesses, a FM action plan will be agreed. Agreement to this action will be a condition for allocation of subproject financing (for the states for which it is deemed necessary).

11. The Financial Management consultants for this project will be located within the Ministry of Health. The group of operational consultants will coordinate project Planning and Budgeting, Reporting and M&E functions. The Project Accounting, Treasury and archives will be handled by the *Fundo Nacional de Saúde* (FNS). Upon instructions from the MOH, the FNS will make the transfer of funds (RHCN Subproject Allocations) to the selected states, into a State Health Fund (*Fundo Estadual de Saúde* - FES). FES is a specific bank account established in each state to receive federal grant transfers. This procedure follows the established protocol for fund-to-fund transfers.

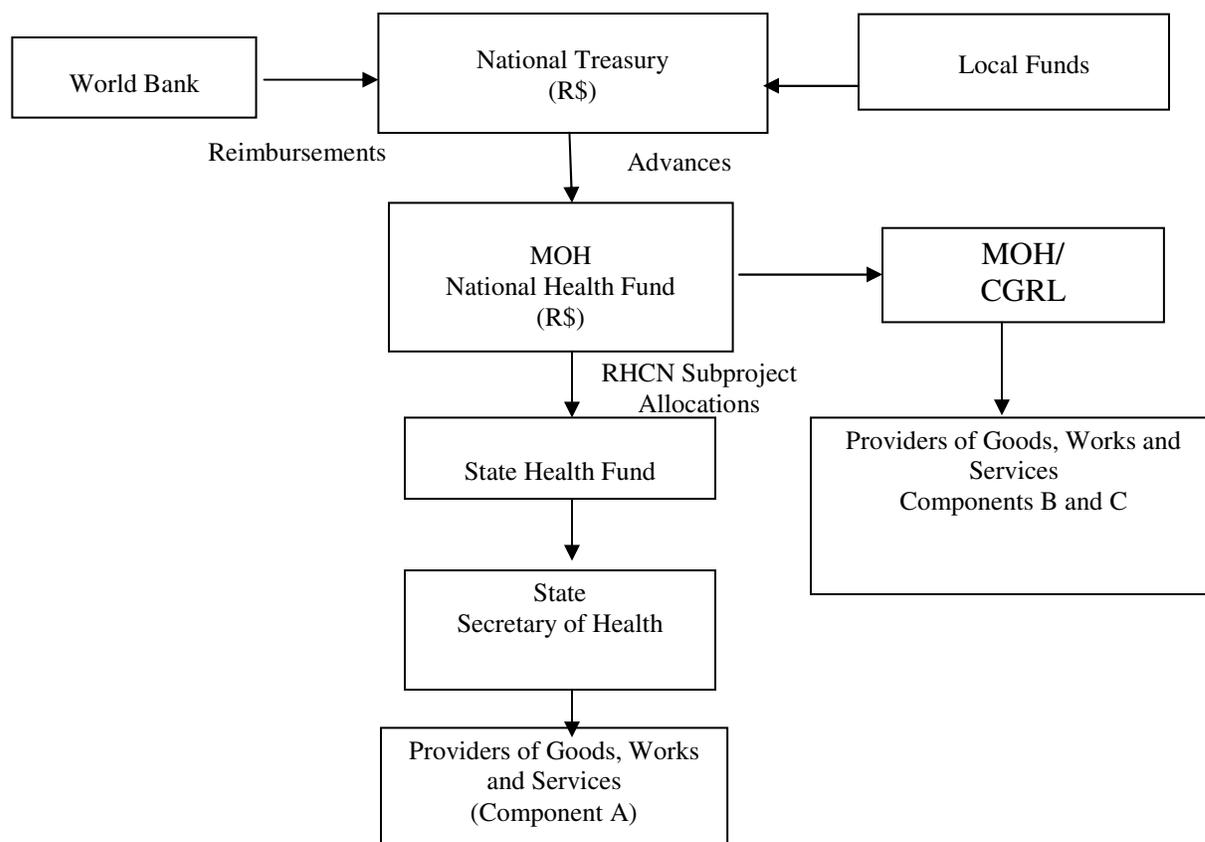
12. Although the MOH has extensive experience in implementing Bank financed projects, (particularly with project design involving allocations to sub-national governments), the Project's operational group, including the financial management consultants, has not been officially constituted, and current project staff is composed of one long term and one short term consultant, without clear task distribution within the financial management team, increasing the risk of high rotation and slow implementation. These staffing arrangements, once finalized, should be documented in the Operational Manual.

¹⁰⁸ Financial Management consultants, Procurement consultants, and Information Technology consultant.

Flow of Funds and Disbursement Arrangements

| Category | Amount of the Loan Allocated (Expressed in Dollars) | % of Expenditures for which Loan Account withdrawals can be made |
|--|---|---|
| 1. Goods, Non-consultant Services and Training and Incremental Operational Costs (other than those under Category (3) below) | 10,000,000 | 100% |
| 2. Consultant Services (other than those under Category (3) below) | 19,000,000 | 100% |
| 3. RHCN Subproject Allocations disbursed by MOH's Fund under each RHCN Subproject Agreement | 205,000,000 | 100% |
| 4. <i>Premia</i> for Interest Rate Caps and Interest Rate Collars | 0 | Amount due under Section 2.07 (c) of this Agreement. |
| 5. Front-end fee | 587,500 | Amount payable pursuant to Section 2.03 of this Agreement in accordance with Section 2.07(b) of the General Conditions. |
| 6. Unallocated | 412,500 | |
| Total | 235,000,000 | |

13. **Flow of Funds.** Federal level operations financed by multilateral development agencies follow, since February 2004, standardized and straightforward procedures. *Secretaria do Tesouro Nacional* (STN) commits funds and upon instruction from the relevant executing agency, makes advances for the implementation of project activities. These procedures have to be recorded and processed through SIAFI and follows the below funds flow:



With the Federal Government pre-financing project expenditures, the Bank will reimburse the Borrower against withdrawal applications.

14. **Disbursement Arrangements.** The Project will have access to funds advanced by the Treasury (STN) in *Reais*. A retroactive financing not to exceed \$6,000,000 equivalent may be made for payments made for Eligible Expenditures under the Project for the disbursement categories 1 and 2, within twelve months before signature, but after July 1, 2008. During project implementation, disbursements will be supported by: (i) Statements of Expenditures (SOEs) for disbursement categories 1 and 2 of the Project, and (ii) Customized Statements of Expenditures for category 3. The funds flow and disbursement arrangements for the second phase may be adjusted, based on the lessons learned from the first phase and the Family Health Project. The Minimum Value of Applications for Reimbursement is US\$250,000. The draft withdrawal application supporting documentation is attached to the Disbursement Letter.

15. **Performance-based financing of subprojects.** After each subproject plan approval, the MOH will make advances to the participating States (upon instructions from the Executive Secretariat, amounts will be transferred from the *Fundo Nacional de Saúde* (FNS - National Health Fund) to the State Health Funds, according to the implementation/procurement plan throughout the two-year interval (first parcel), already budgeted and registered in the State SIAFEMs. See Figure 4.2 of Annex 4 for an illustration of the scheme. Transferring amounts for

long periods presents a high risk that loan proceeds may finance expenditures after the closing date of the project, rendering the expenditure ineligible. Therefore, it will be best for the MOH allocations to cover the projected expenditures for the upcoming implementation period, up to three months. The OM should establish procedures so that expenditures are not incurred after the closing date or that the closing date be extended and monitoring of expenditures, prior to the closing date, should be increased.

16. At the end of the each two-year period, a technical audit will be performed, in order to determine the completion of the performance indicators. The subsequent parcel will be disbursed according to the conclusions of the technical audit: (i) Satisfactory performance: subsequent parcel disbursed; (ii) Excellent performance: subsequent parcel disbursed with a bonus, and (iii) Unsatisfactory performance: subsequent parcel cancelled, reduced or delayed. As shown in Table 3.2 of Annex 3, the scheme includes an FM performance indicator that is based on percent accounting of expenditures over the previous interval: (Low: <70%, good: 71-89%; excellent: >90%). Unused funds will be refunded to the MOH or be deducted from the next parcel.

ACCOUNTING POLICIES AND PROCEDURES

17. Project financial statements will be prepared (quarterly and annually), utilizing the cash-basis of accounting. These statements will be prepared in accordance with consistently applied accounting standards as per relevant Brazilian legislation - Law 4.320.

18. All project budgeting and accounting transactions will utilize federal and state FM systems and therefore all transactions will run through the public federal and state accounting systems – [federal] SIAFI and [state] SIAFEMs. All payments will follow the official commitment (*empenho*) and payment (*liquidação*) routine. These functions are carried out by the Administration and Finance Department of each spending entity or level of government. Individual project transactions are usually processed through a Work Plan (PT - *Programa de Trabalho*), which is a cost center specifically designated for the given project, and which will be utilized by the MOH and each participating state. All project costs are recorded according to the Federal and State Code of Accounts, which enables a comparison and reconciliation with the project's own records. As is customary in federal projects involving allocations to sub-nationals governments, an exclusive project cost center (or PT) will be established in SIAFI and in SIAFEMs.

19. The project Operational Manual will contain detailed procedures and guidelines for disbursements, payments, approvals, commitments and payments. The draft inter-institutional agreement between the DER and the Municipalities will also be annexed to the Operations Manual.

20. **Safeguard over Assets.** Based on project design, investment in fixed assets is expected to be relatively high at the state level. The states will be responsible for the management of the assets under control. All the fixed assets to be acquired under this project should be registered in the MOH and states fixed assets inventory system. The existence of such system may be a FM selection criterion. The fixed asset management procedures will be based on national norms,

with subsidiary records of fixed assets and stocks kept up to date, reconciled with control accounts and annual physical inventories and sufficiently covered by insurance policies, according to the Article 70 of the 1988 Federal Constitution and the State Audit Institutions Constitutional Laws (*Leis Orgânicas dos TCEs*).

21. **Financial Reporting.** The format of project interim financial reports (IFRs) will essentially follow the format and design that has been utilized in other similar projects that have involved allocations of funds to selected sub-national governments. The description of the IFRs is indicated below, and the final format of the reports shall be included in the Operational Manual.

IFR IA – Sources and Uses of Funds, by disbursement category, cumulative (project-to-date; year-to-date) and for the period, showing budgeted amounts versus Customized SOEs and SOEs reported to the Bank, including a variance analysis; a breakdown by funding source is recommended.

IFR IB – Sources and Uses of Funds, by disbursement category, cumulative (project-to-date; year-to-date) and for the period, showing budgeted amounts versus actual expenditures, (i.e., expenditures documented from states and SOEs), including a variance analysis;

IFR IC – Uses of Funds by Project Activity or Component, cumulative (project-to-date; year-to-date) and for the period, comparing budgeted with actual expenditures, by financing source, including a variance analysis;

IFR ID - Customized SOEs for each State.

22. It is important to note that for disbursement purposes, the project will use Customized SOEs and SOEs that do not provide detailed information regarding the expenditures paid using project financing. However, the annual audit of the project will review documented eligible expenditures. Therefore it is very important that the Ministry Operating Group monitors the overall project performance from a financial management point of view:

- planned/budgeted figures;
- amounts transferred to states;
- actual expenditures reported by states;
- re-allocation of unspent balances;
- reconciliation between amounts transferred, actual expenditures reported by states, and eligible expenditures (e.g., procurement plans and positive lists)

Oversight, Control and Audit

23. **Internal Audit.** The internal auditor of the MOH follows the following principles in exercising its responsibilities: (i) ensure that internal controls are aligned with legal and constitutional statutes; (ii) implement preventive actions that assure the correct utilization of public resources and to advise internal departments about compliance with the law; (iii) control and follow the execution of conventions, contracts and other formal agreements with public or

private organizations; (iv) analyze and review accounting processes; (v) attend to recommendations from public inspecting entities and from financing organizations and to watch over the fulfillment of their recommendations; and (vi) obey standards and regulations of internal control/audit as issued by the CGU (Controller General, Federal Internal Audit Agency).

24. Under the Family Health II project, the MOH has agreed to implement a component to strengthen its internal control framework and system. In particular, the focus of the institutional development is meant to improve: (i) the MOH's ability to monitor project execution and reporting from the sub-national level, and (ii) through the early engagement of the *CGU's Secretaria Federal de Control (SFC)*, to improve the design and scope of internal audit work to be undertaken within the ministry (including at the sub-national level). This approach was well accepted and is aligned with MOH's ongoing capacity strengthening; in practice, this project will provide support to the ongoing capacity building in the MOH.

25. **External Audit.** Annual project financial statements, covering the whole project, will be audited by independent auditors, satisfactory to the Bank, in accordance with acceptable auditing standards. In principle, the *Secretaria Federal de Controle* will undertake the project annual financial audits. The external audit will be conducted in line with Terms of Reference acceptable to the Bank; the auditors will be required to issue a single opinion on project's financial statements, including the fulfillment of the covenant in the Loan Agreement stipulating that no disbursements will be made to the subprojects if the MOH fails to furnish to the Bank, by a date of six months after the end of the fiscal year.

26. Auditors will also have to produce a management letter, where any relevant internal control weaknesses will be identified and properly followed up by the MOH, contributing to the strengthening of the control environment, by focusing on processes related to the monitoring and reporting from sub-national implementing agencies. The auditor's report will be submitted to the Bank no later than six months after the closing of the Government of Brazil's fiscal year.

27. The fourth quarter's IFR will be used for auditing purposes and should include notes to the financial statements, disclosing any additional information. The auditors should have access to all supporting records and make on site examination. The auditors will perform at least one interim inspection per year in order to promptly identify areas that require attention of project management. Such reviews will timely identify problems related to accounting or/and internal control. After each interim visit a memorandum on internal controls (management letter) should be produced to ensure that corrective actions are addressed prior to year end.

28. Based on the Bank's experience with the MOH, and especially given the institutional strengthening under the Family Health II project, including the improved internal control framework and monitoring of sub-national performance/implementation, at this time, there is no need to require Operating or other special audits/reviews.

1.1 Financial Management Supervision during implementation

29. During the first year of implementation, supervision intensity will be increased to be carried out at least twice per year, considering the overall risk profile, and will take the form of technical assistance to the project, review of the compliance with the signed aide memoire, the

FM Action Plan and other controls and transactions, as appropriate. This will be complemented by desk reviews of the Interim Financial Reports and annual audit. Thereafter, and as long as the FM risk is deemed to be moderate or lower, the supervision intensity may be reduced to an annual supervision mission, with the exception of the period prior to project closing which will be monitored closely to ensure that expenditures are not incurred after the closing date. However, interim visits may be scheduled to follow up on the findings to the desk reviews, as appropriate.

30. Every quarter, immediately after receiving the quarterly IFRs, the Bank and MOH will jointly review the reports and along with inputs from the independent review of sub-national implementation of projects activities, agree on any corrective measures to be taken or implemented. During the IFR and audit reviews, the FM team will monitor the fulfillment of the covenant in the Loan Agreement stipulating that no disbursements will be made to the subprojects if the MOH fails to furnish to the Bank, by a date of six months after the end of the fiscal year. As a result, the action plan that follows was proposed by the Bank FM team to strengthen institutional capacity. The action Plan measures were agreed with the Recipient and included in the signed aide memoir, during the FM Assessments. In the discussions with the Project preparation task team, it was decided that all important considerations for Financial Management should be included in the upcoming loan Operational Manual. The form and index for the loan manual will be agreed upon during the technical discussions, leading up to negotiations. A draft Operational Manual will be submitted for the Bank's review. The status at the end of the negotiations will be reflected in the table below. Where as FM conditions of effectiveness are not being proposed, as part of fiduciary due diligence leading up to effectiveness, the Financial Management team may visit the project and confirm that financial management capacity is in place and the Operational Manual can be effectively implemented.

**Financial Management Action Plan
As of December 4, 2008**

| Activity | Responsible | Target Date |
|---|--------------------|---|
| Flow of Funds | | |
| Final Flow of Funds design | MOH | Completed |
| Operating Manual | | |
| Submission of draft Manual to the Bank for review including institutional arrangements, flow of funds design, staff functions, accounting policies and procedures, basis of accounting, chart of accounts tailored to include project components (if needed), disbursement categories and financing source, internal controls, segregation of duties, fixed assets and records management procedures. | MOH | Completed |
| External Audit | | |
| Appointment Letter to CGU. | MOH | Within three (3) months after effectiveness |
| Internal Controls | | |
| FM Matrix model to the Project | WB | Within three (3) months after effectiveness |
| Financial Reporting and Monitoring | | |
| Submission of IFR format and procedures for data collection and report generation of same, for the Bank to provide its no-objection. | MOH | Completed |

Annex 8: Procurement Arrangements

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

A) General

1. Procurement for the proposed Project will be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004, and revised in October 2006; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, and revised in October 2006, and the provisions stipulated in the Legal Agreement. The general description of various items under different expenditure category is described below. For each contract to be financed by the Loan/Credit, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank project team in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

2. **Brazil's Procurement Legal Framework and Procurement Practices:** Project administration and monitoring will be the responsibility of the MOH. The MOH follows the Brazilian Procurement Law, Law 8,666/93, which provides the legal framework on procurement and is complemented by other procurement laws. The 2004 Country Procurement Assessment Report (CPAR) reviewed Law 8,666/93, and concluded that the Law provides a sound legal framework to carry out procurement. Law 8,666/93 has specific provisions that allow the application of the Bank's procurement regulations (the Guidelines). In addition, Law 10,520/02 (the *Pregão* Law) provides for an additional procurement method (*pregão*) widely used for the procurement of goods and services.

3. Consequently, National Competitive Bidding (in respect of goods, non-consultants services and works) will mean *convite, tomada de preços* and *concorrência* set forth in the Borrower's Law No. 8.666 of June 21, 1993, and *pregão eletrônico* set forth in the Borrower's Law No. 10520 of July 17, 2002, subject to the following additional procedure, namely that the bidding documents shall be acceptable to the Bank.

4. For ICB and direct contracting for procurement of goods and works, as well as, for the selection of consultants, the Bank Guidelines would apply.

5. **Procurement of Works:** Works procured under Component A of this Project, will include: upgrading and equipping of health facilities, including the construction of ambulatory and diagnostic units, remodeling of health centers, polyclinics, and specific departments within hospitals. The procurement for all ICB contracts will be done using the Bank's Standard Bidding Documents (SBD) and for NCB contracts National SBD agreed with (or satisfactory to) the Bank will be used. Smaller works contracts could be procured following shopping procedures.

6. **Procurement of Goods:** Goods procured under Component A of this Project will include medical and non-medical equipment (including basic communications equipment), furniture and vehicles. Under Components B and C, goods procured will include IT equipment and software and office furniture. The procurement for all ICB contracts will be done using the Bank's Standard Bidding Documents (SBD) and for NCB contracts National SBD agreed with (or satisfactory to) the Bank will be used. Smaller goods contracts could be procured following shopping procedures.

7. **Procurement of non-consulting services:** Non-consulting services procured under Components A and C of this Project include logistics for events, travel costs (hotels and air tickets), and printing. The procurement will be done using National SBD agreed with (or satisfactory to) the Bank. Smaller contracts could be procured following shopping procedures.

8. **Selection of Consultants:** Consultants for the Project will be required to provide a wide range of services in the following areas: (i) Technological innovation and assessment; (ii) Support for Network Formation; (iii) Quality Enhancement; (iv) Disease and Care Management; (v) Health Financing and Performance; and (vi) Monitoring and Impact Evaluation. Short lists of consultants for services estimated to cost less than \$500,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. Individual consultants will be required to provide assistance in procurement, financial management, subproject supervision, information systems, and in several health sector areas.

9. **Training.** Several types of training (from universities, government training institutions, and NGOs) are expected to be required under the Project. For post-graduate courses, scholarships to cover tuition fees will be awarded to selected professionals based on criteria that are acceptable to the Bank, to be described in the Operational Manual. These scholarships, however, will be paid directly to the university, which will be selected similarly. There will be a predefined list of eligible courses.

10. **Incremental Operational Costs.** These costs include equipment, office furniture and maintenance; communication costs; and travel expenses (per diem, lodging and transportation). The procurement of operational costs will follow the execution agency's administrative procedures, which have been reviewed and found acceptable by the Bank.

B) Assessment of the agency's capacity to implement procurement

11. Procurement activities under Component A will be carried out by each state, as subproject implementing agencies. A maximum of 15 states will be selected competitively, and the capacity assessments of each one will be carried out after the selection. The assessment of states to implement procurement under Component A will be carried out in sufficient time to produce (i) customized action plans to mitigate risks and strengthen capacity and (ii) customized procurement plans. The states will only be eligible to receive MOH allocations to finance approved RHCN Subproject activities if they have an agreed fiduciary action plan¹⁰⁹ (Table 3.5

¹⁰⁹ For medium and high risk states based on fiduciary risk assessment that will be performed prior to Subproject execution

in Annex 3). The Operational Manual should include instructions to carry out states-level capacity assessments. The Bank's Task Team might need to be complemented with consultants to support this task.

12. Under Component A, the performance indicators include a mandatory procurement-related indicator: annual procurement audits carried out by the states (see Annex 3 for details).

13. Procurement activities under Component B and C will be carried out by the CGRL of the MOH. Procurement documents will be prepared by the SE of the MOH. With more than 15 procurement officers, CGRL is adequately staffed to carry out procurement required for the Project. The SE's staff capacity will need to be strengthened by hiring specialists.

14. An assessment of the capacity of the CGRL of the Ministry of Health to implement procurement actions for the Project has been carried out by the Bank's procurement specialist on November 19-21, 2007. The assessment reviewed the organizational structure for implementing the Project and the interaction between the Project's staff responsible for procurement and the Project's relevant central unit for project administration and finance.

15. Most of the issues/risks concerning the procurement component for implementation of the Project have been identified and include (a) decentralized procurement execution to 15 states that will be selected after project preparation; (b) lack of staff capacity at the SE; (c) limited familiarity of CGRL's officers with procedures to select consultants; (d) participation of several technical secretariats in project coordination. The corrective measures which have been agreed are (i) conduct an assessment of the states after they are selected and to detail procurement workflow (including no-objection requests) coming from states in the Operational Manual, for risk in "a"; (ii) hire 3 procurement specialists to prepare documents, supervise and train states and CGRL, for risks "a", "b", and "c"; and (iii) prepare a detailed procurement plan, for risk "c".

The overall project risk for procurement is average.

C) Procurement Plan

16. The Borrower has developed a Procurement Plan for the implementation of Components B and C, covering the first 18 months of Project implementation, which provides the basis for the procurement methods. This plan has been agreed between the Borrower and the Project Team during negotiations and will be available at the Executive Secretariat of the MOH. It will also be available in the Project's database and in the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. Each selected state will prepare specific Procurement Plans for their respective subproject.

D) Frequency of Procurement Supervision

17. In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment has recommended annual supervision missions to visit the field to carry out post review of procurement actions.

18. Post reviews of procurement under Component A could be supported or even substituted by procurement audits carried out by the federal or state government, provided the terms of reference and qualifications of the auditors are satisfactory to the Bank.

ATTACHMENT 1

DETAILS OF THE PROCUREMENT ARRANGEMENT INVOLVING INTERNATIONAL COMPETITION UNDER COMPONENTS B AND C.

1. **Goods and Works and non consulting services.**

(a) List of contract Packages which will be procured following ICB and Direct contracting:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----------|------------------------|----------------|--------------------|-----|------------------------------|-------------------------------|---------------------------|
| Ref. No. | Contract (Description) | Estimated Cost | Procurement Method | P-Q | Domestic Preference (yes/no) | Review by Bank (Prior / Post) | Expected Bid-Opening Date |
| 1 | IT equipment | 1,290,000 | ICB | No | No | Prior | Jan 2011 |

(b) ICB Contracts estimated to cost above US\$5mi per contract and all Direct contracting will be subject to prior review by the Bank.

2. **Consulting Services.**

(a) List of Consulting Assignments with short-list of international firms.

| 1 | 2 | 3 | 4 | 5 | 6 |
|----------|---|----------------|------------------|-------------------------------|------------------------------------|
| Ref. No. | Description of Assignment | Estimated Cost | Selection Method | Review by Bank (Prior / Post) | Expected Proposals Submission Date |
| 1 | RHCN care regulation system development | 2,390,000 | QCBS | Prior | Jan 2010 |
| 2 | Health situation functional assessment tool development | 600,000 | QCBS | Prior | Jan 2010 |
| 3 | SUS quality management system development | 1,200,000 | QCBS | Prior | Jan 2010 |
| 4 | Evaluation of technologies in health | 1,380,000 | QCBS | Prior | Jan 2010 |

(b) Consultancy services estimated to cost above US\$100,000 per contract and all Single Source selection of consultants (firms) will be subject to prior review by the Bank.

(c) Short lists of consultants for services estimated to cost less than US\$500,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

Annex 9: Economic and Financial Analysis

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

- 1. Introduction:** This annex presents the results of the cost-benefit analysis of the proposed Project based on its costs and the measurable economic benefits flowing from its successful. The Project aims to establish regional health care networks as a key strategy for improving the quality, effectiveness and efficiency of health care delivery within the Unified Health System (SUS). During this first APL phase a limited number of pilot subprojects will be selected and implemented as described in the main project document, with a focus on establishing disease-specific guidelines and protocols and organizing structural enabling conditions for the regional network to function effectively.
2. The Project will be implemented over a five-year period between 2009 and 2013. It is expected that 15 subprojects will be selected, each covering a micro-region with a population of 250,000 or more. In the most likely scenario which makes the basis for this analysis, ten subprojects will be implemented in metropolitan areas, with a total population of 14.5 million¹¹⁰; 5 subprojects in other typical micro-regions will have a smaller area and target population, covering a total population of approximately 2.2 million. However, once the actual subprojects are selected, the final target population may be significantly different from this base case.
3. This Project has a flexible nature by design: the exact project implementation areas and scope of interventions will be defined from the subprojects proposals that are received and selected. Therefore, the figures given here are approximations based on the expected mean values for key variables, and the assumptions presented in the next section. Alternative scenarios and their effect on the Project's economic performance will be presented in the sensitivity analysis.
4. Additional variables that will only be known once the subprojects are selected for funding are the scope and volume of the actual interventions. The Project as a whole targets six priority diseases and health conditions, mostly non-communicable diseases (NCDs) which require intermediate to high-complexity services, and are sensitive to the effectiveness of health care networks. These include: hypertension, diabetes mellitus, breast, uterus and prostate cancer, and peri-natal conditions. However, each subproject will focus on only one or two of these priority conditions. Focusing on one or the other of these conditions will certainly affect the level of impact any subproject is expected to have since these conditions have different prevalence levels.
5. The Project is expected to save over 10,000 lives from the targeted conditions alone, representing 281,000 years of life, over the 10 year horizon. Direct benefits during this period include a reduction of hospital admissions for these conditions on the order of 31,000, generating savings of US\$44.2 million. The costs and benefits of the Project are estimated over a horizon of

¹¹⁰ Due to their extreme size and complexity, the metro areas of São Paulo and Rio de Janeiro are assumed not to host any subproject.

10 years, including the 5 years of project implementation. As shown in Table 1, during the implementation period the Project has a negative Net Present Value (NPV), but over the full period of analysis and under the most likely scenario, the Project breaks even, resulting in an NPV of nearly US\$97.5 million, which further increases as the time horizon extends. "Mandava, Usha (CDC/CCEHIP/NCEH) (CTR)" <uam2@cdc.gov>

6. The two main factors that contribute to the observed economic performance of the Project under this scenario are the scale of the subprojects and the definition of outcome variables directly related to the target conditions. The pilot feature of the subprojects implies that a substantial amount of resources will be invested upfront in establishing or strengthening structural, organizational and/or informational conditions necessary for a health care network to function adequately. These investments, and the establishment of the networks themselves, will have a far-reaching impact beyond the disease-specific indicators used in this analysis, but any additional impacts are difficult to identify and measure at this point.

| | 5 years | 10 years |
|---|----------------|-----------------|
| NPV (US\$ millions) | - 278.32 | + 97.55 |
| IRR (%) | - | 6.5 |
| Benefit: Cost Ratio | - | 1.18 |
| Note: NPV Benefits is equal to the direct and indirect benefits, minus total project costs (in US\$ millions) | | |
| Benefit: Cost is equal to total benefits divided by total costs | | |

IRR was calculated based on net benefits over 10 years

7. **Assumptions:** Based on available data and given the flexible nature of the Project, the calculations of costs and impacts are based on the assumptions outlined below. These assumptions are aligned with the Project objectives and content specified in this PAD:

- 1) The subprojects target mid-size metropolitan areas (excluding the two largest, São Paulo and Rio de Janeiro, and with a mean population of 1.45 million); the other micro-regions are also assumed to be of intermediate size (with a mean population of 438,000);
- 2) All subprojects will focus on two of the six priority NCDs/disease guidelines targeted in the Project: diabetes, cancer of the uterus, breast and prostate, hypertension, and perinatal conditions;
- 3) The expected impact of the Project is estimated by the reduction in disease-specific mortality and hospital admissions for these diseases, and based on the literature¹¹¹; mortality and admission rates are assumed to decrease through the 5 year project duration, and then remain stable until the end of the period of analysis (10 years);
- 4) Base year is 2008, estimated from most recent data and projected to 2008;
- 5) Disbursement of project funding is distributed as follows: 5% in first year, 20% in second year, and 25% for each of the remaining years;
- 6) Investment in infrastructure and equipment constitute 40% of project costs, with no investment in construction of new facilities;

¹¹¹ The literature reviewed for that purpose includes World Bank, 2005 (*Addressing the Challenge of Non-communicable Diseases in Brazil*. Report n° 32576-BR. Washington, DC: World Bank.); Macinko J, FC Guanais, MdeFM de Souza, 2006, *An Evaluation of the Impact of the Family Health Program on Infant Mortality in Brazil, 1990-2002*. New York University, pending publication; Sulamis Dain et al.; Jamison and Feacham's seminal work on "Disease Priorities in Developing Countries". Ministério da Saúde, 2006: *Saúde da Família no Brasil – Uma análise de indicadores selecionados, 1998-2004*

- 7) Additional recurrent costs generated by the Project are likely to be small during project implementation, and can be covered by state and municipal funding; for that reason they have not be taken into account;
- 8) Mortality and hospitalizations rates at base year in the Project areas are the same as for the general population.
- 9) Cost of hospitalizations – estimated at US\$1,552 – is the mean cost (not MOH payment) for the conditions considered, estimated from a hospital procedure costs study¹¹² and projected to the base year and;
- 10) Economic benefits are based on expected productive years saved, adjusted for disability (DALY), and mean earnings for the economically active population¹¹³.

8. The values at base year and the expected change over the Project duration are displayed in Table 2. The rates are for the Brazilian population at large, and are assumed to apply to the Project's target population. These expected reductions in mortality and hospital admissions are well in line with the international literature, and fill only part of the gap existing between Brazil and North America with respect to these rates.

| Table 2 – Base and target rates for mortality and morbidity related to the target conditions | | | | |
|---|-------------------|---------------------|-----------------|---------------------|
| | Base: 2008 | Target: 2013 | % Change | Gap to AMR-A |
| Mortality Rates /100,000 | | | | |
| Hypertension | 18.2 | 15.5 | - 15 | (- 40)* |
| Ischemic Heart Disease (IHD) | 46.1 | 41.5 | - 10 | - 55 |
| Cerebro-Vascular Diseases | 48.9 | 44.0 | - 10 | - 55 |
| Diabetes mellitus | 21.9 | 18.6 | - 15 | - 75 |
| Cancer of the uterus | 2.4 | 2.2 | - 10 | - 13 |
| Cancer of the breast | 5.6 | 5.0 | - 10 | - 13 |
| Cancer of the prostate | 5.5 | 5.0 | - 10 | - 13 |
| Peri-natal conditions | 16.2 | 12.1 | - 25 | - 80 |
| Hospitalization Rates /100,000 | | | | |
| Hypertension & related diseases | 89.7 | 76.3 | - 15 | |
| Ischemic Heart Disease (IHD) | 106.7 | 96.0 | - 10 | |
| Cerebro-Vascular Diseases | 76.2 | 68.6 | - 10 | |
| Diabetes mellitus | 66.2 | 63.2 | -15 | - 50 |
| Cancer of the uterus | 15.5 | 14.8 | -15 | |
| Cancer of the breast | 20.4 | 19.4 | -15 | |
| Cancer of the prostate | 7.7 | 7.4 | -15 | |
| Peri-natal conditions | 114.7 | 97.5 | - 15 | |

Sources: MOH/Datasus (Tabnet online database); World Bank, 2005; and sources referenced in footnote 2
*Gap in last column refer to the difference between Brazil's rates at base year and rates in the AMR-A region of the Americas (which includes United States, Canada and Cuba). * Estimated effectiveness of hypertensive treatment.*

¹¹² Based on Planisa's study on the cost of 107 hospital procedures, 2002 (De Matos A. et al. 2002. Relatório do projeto REFORSUS 003/99. *Apuração dos custos de Procedimentos hospitalares: Alta e média complexidade.* Ministério da Saúde. Consultants report). Mean cost for hospital admissions for conditions similar to those considered here were adjusted for inflation for 2006.

¹¹³ Economic Active population data is obtained in IBGE, Pesquisa Nacional por Amostragem Domiciliar, 2006. Mean earnings were US\$4,188, comparable to GDP per capita at US\$4,730 (World Bank, WDR 2008).

9. **Summary of Costs and Benefits:** The analysis takes into account the costs of the Project and its expected direct and indirect economic benefits. Project costs include all investment expenditures allocated to infrastructure and process improvement in the three components of the Project: Component A (Development of Regional Health Care Networks and strengthening of health care facilities); Component B (Systems development for performance enhancement); Component C (Project management). Additional recurrent costs arising from the Project are assumed to be covered by Project funds, and complemented by funds from participating states and municipalities. Total costs amount to US\$676.8 million at current values.

10. Direct benefits are the savings arising from the decrease in hospital admissions relating to the conditions targeted by the Project. Such decreases flow from improved prevention and disease management prior to hospitalization (e.g., prevented hospitalizations), and improved treatment during hospitalization which avoids readmissions. Possible reductions in length-of-stay during hospitalizations are not taken into account for lack of data. Additional reductions in hospitalizations flowing from the impact on admissions relating to non-targeted conditions are not included in the estimation. Overall, the Project is expected to avoid 31,331 hospital admissions over the 10 year period in the targeted subproject regions, resulting in a total saving of US\$44.2 million (before discounting).

11. Indirect benefits relate to reductions in production losses due to premature death and incapacity associated with the targeted conditions. They are estimated from the number of deaths averted, adjusted for disability¹¹⁴. The Project is expected to save 10,014 lives over the 10 year period, resulting in 281,025 years of life saved. Adjusting for disability increases this estimate by 30%. The corresponding productive years of life amount to 164,013, which generate economic benefits in the amount of nearly US\$687 million (before discounting). Table 3 summarizes these results.

| Year | Present Value of Total Project Costs | Present Value of Direct Benefits | Present Value of Indirect Benefits | Net Present Value |
|--------------------|---|---|---|--------------------------|
| 2009 | (31.92) | 0.98 | 19.84 | (11.11) |
| 2010 | (120.47) | 1.87 | 37.90 | (80.70) |
| 2011 | (142.06) | 2.68 | 54.30 | (85.09) |
| 2012 | (134.02) | 3.41 | 69.11 | (61.50) |
| 2013 | (126.44) | 4.07 | 82.44 | (39.93) |
| SUBTOTAL | (554.92) | 13.01 | 263.58 | (278.32) |
| 2014 | 0 | 3.88 | 78.64 | 82.52 |
| 2015 | 0 | 3.70 | 74.99 | 78.70 |
| 2016 | 0 | 3.53 | 71.49 | 75.02 |
| 2017 | 0 | 3.36 | 68.14 | 71.50 |
| 2018 | 0 | 3.20 | 64.92 | 68.13 |
| TOTAL | (554.92) | 30.70 | 621.77 | 97.55 |
| IRR | | | | 6.5% |
| Benefit/Cost Index | | | | 1.18 |

¹¹⁴ The adjustment for quality of life, resulting in the QALY (Quality-Adjusted Life Years) measure, was estimated from a recent World Bank study on non-communicable Diseases in Brazil (World Bank, 2005).

12. The Net Present Value (NPV) of the Project is negative during the implementation phase and positive after that. Over the full period, the Project generates a NPV of US\$95.5 million.

13. **Sensitivity Analysis:** The above estimates are subject to uncertainty with respect to several key variables. As mentioned in the introduction, the flexible nature of the Project and the selection process for the subprojects imply that several variables will be known only after the subprojects are selected. The sensitivity analysis performed considered various alternative scenarios, which are summarized in Table 4 along with their impact on the NPV of the Project.

- i) Expanded coverage: the Project performance is sensitive to the size of the covered population; if the subprojects target larger metropolitan areas and micro regions than assumed in the base case, the Project NPV will increase significantly. An increase in the mean subproject size to 1.5 million people will increase direct and direct benefits by 35%, and the NPV to US\$326.8 million.
- ii) Expanded impact: the Project impact can be more sizeable if more outcome indicators are taken into account to reflect the effects of the Project on non-priority conditions; it can also increase if the subprojects are able to implement guidelines for additional conditions, resulting in more lives saved and hospitalizations avoided. Finally, if the Project interventions prove more effective than expected or the impact demonstrated above is underestimated, the performance of the Project will improve sizably. For instance, if the reductions in mortality and admissions are in fact sufficient to reduce the gap between Brazil and North America by one-half, the direct and indirect benefits will double, and the NPV will increase to US\$750.0 million.
- iii) As usual, the discount rate strongly affects the result. Applying a discount rate of 10% instead of 6% reduces the NPV to 29 million because most of the costs are concentrated in the first years while the benefits grow gradually during the implementation period.
- iv) Implementing guidelines and interventions targeting one condition only instead of two will reduce the NPV on average to a loss of US\$229 million because it will reduce the measured impact.
- v) Delaying implementation by one year will also reduce the NPV, producing a net loss of US\$3.7 million.
- vi) Finally, reducing the measured impacts by 20% will reduce the NPV to a loss of nearly US\$33 million.

| Scenario | NPV (US\$ million) |
|--|-------------------------------|
| Base case | 97.55 |
| Expanded coverage (by 35%) | 326.79 |
| Expanded impact (by 100%) | 750.01 |
| Discount rate 10% | (28.96) |
| Reduced focus (1 guideline/target condition) | (228.68) |
| Delay of 1 year in implementation | (3.66) |
| Reduced impact (by 20%) | (32.95) |

14. The sensitivity analysis indicates that due to the uncertain and variable scope of each subproject the economic performance of the Project shows significant variation depending on the particular scenario that will be implemented. It also illustrates the pilot nature and the structural characteristics of the Project, which generate important upfront investments for an initial narrow focus of health care related interventions.

15. **Fiscal Impact and Sustainability:** Over the 5 years of project implementation, MOH financing is expected to increase by 17% in real terms, mostly following the expected growth in GDP. During the same period, MOH transfers to states and municipalities for medium and high-complexity services (MAC), which account for 35.6% of the MOH budget, are assumed to grow in the same proportion. These transfers will be the main source of counterpart financing for the Project, and will contribute to finance any additional recurrent costs arising from the Project; the remaining is assumed to be covered by expected increase in health spending by participating state and municipalities. The fiscal impact of the Project during project duration and the subsequent 5 years is demonstrated in Table 5. Implementation of the QUALISUS-REDE project is clearly within the financial capacity of the MOH and the SUS at large.

| Table 5 - Fiscal Impact of the QUALISUS-REDE Project (in constant 2007 million dollars) | | | | | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| MOH expenditure | 25,352 | 26,366 | 27,421 | 28,518 | 29,659 | 30,845 | 32,079 | 33,362 | 34,696 | 36,084 |
| MOH MAC transfers ¹ | 9,048 | 9,409 | 9,786 | 10,177 | 10,584 | 11,008 | 11,448 | 11,906 | 12,382 | 12,878 |
| Project investment costs | 135 | 135 | 135 | 135 | 135 | 0 | 0 | 0 | 0 | 0 |
| Project recurrent costs (incremental) | * | * | * | * | * | * | * | * | * | * |
| Increase in MOH expenditure | 975 | 1,014 | 1,055 | 1,097 | 1,141 | 1,186 | 1,234 | 1,283 | 1,334 | 1,388 |
| Total costs as % of total MAC transfers | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Total costs as % of increase in MAC transfers | 39 | 37 | 36 | 35 | 33 | 0 | 0 | 0 | 0 | 0 |

* Covered by on-going MOH transfers and state and municipal funds

¹ MOH block transfers for medium & high complexity care

Annex 10: Safeguard Policy Issues

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

Part 1: Key Social Issues in the Health Sector

1. **Background:** During the last 20 years, Brazil has implemented major health reforms under the umbrella of the *Reforma Sanitaria* that have transformed the organization, financing and provision of health services, and created the SUS, an institutional milestone in the country's social policy framework. This process has been mostly successful in terms of transferring responsibility to the sub-national levels with the commendable accomplishment of the decentralization of the financial buy-in, now a process from states and municipalities. The Bank has supported this reform since its commencement through a series of analytical studies and health investment projects aiming at both improving health status and addressing health system issues. Among those investments are VIGISUS 1 and 2 and the Family Health Extension Project, 1 and 2, and AIDS, 1, 2 and 3. All of these projects have provided financing to enhance the health status of the most vulnerable groups, using a community-based and ownership approach at the same time that they proposed innovative institutional procedures.

2. SUS has contributed to improving health outcomes over the last decade, increasing life expectation to 72.3 years in 2007 and reducing infant mortality from 48 per 1,000 births in 1990 to 25 in 2004. Despite these achievements, Brazil continues to under-perform other countries with similar income levels. This situation results in part from low managerial capacity, especially at the municipal level and the lack of performance orientation compromising which comprises the ability to achieve greater progress.

3. Important demographic changes since the end of last century have resulted in new challenges to the health system. The fall in mortality and the increase in life expectancy have resulted in a population that is aging rapidly. In 2000, Brazilians under 14 years old represented 30% of the Brazilian population while those over 65 years old accounted for only 5% of the population. By 2050, each group will represent 18 percent of the population. By that same year, average life expectancy in Brazil is expected to increase to 81.3. This is similar to life expectancy today in Japan. An older population increases the demand for more continuous and increasingly costly care, which if poorly managed, could apply significant cost pressure to SUS.

4. **The Challenge of Non-communicable diseases (NCDs).** The mortality profile in Brazil is primarily based on NCDs and external causes. Whereas 50 years ago, communicable diseases represented the prime cause of death in the country, today diseases of the circulatory system represent the chief cause of mortality. These are followed by external causes and cancer.. The association between NCDs and poverty is strong in Brazil as elsewhere (World Bank, 2005). Some risk factors, such as smoking, are markedly higher among the poor. Also, mortality is higher because the poor are not as likely to have timely detection and proper (or continuous) care management. *The proposed project addresses the NCD challenge through strengthening SUS's capacity to detect, prevent, and treat NCDs through organized regional network arrangements.*

5. **Inequality in Health Status** - In Brazil, inequities persist related to disparities in access, use, and quality of care. Substantial disparities exist among regions, states and municipalities, income groups, and between urban and rural areas. Although in most regions the poor have improved their access to and make use of basic care, this is not the case for medium and high complexity care, and after-hours care. Place of residence, waiting lists, queues, and lack of transport limit the poor's access to these services. Variations in quality of care are also a main driver of inequalities of outcomes. Facilities that tend to service the poor tend to have unknown or low quality. *The proposed Project responds to this challenge by seeking the improvement in the quality, efficiency and effectiveness of SUS delivery services, through the development of regional health care networks (RHCNs), integrating basic health care with medium and high-complexity care providers, support services (e.g., diagnostics), and logistical systems (e.g., transport) in order to provide integrated quality health care, specially to the poor.*

6. **Patient Satisfaction with SUS.** A major user's survey (*A Saúde na Opinião dos Brasileiros*)¹¹⁵ validates the Project's approach of working through SUS and its focus on services of medium and high complexity. The survey found that 28 percent of the population use SUS exclusively, and 8 percent use the private sector exclusively. The remainder use SUS irregularly, but mainly for medium and high-complexity care. In relation to more complex health care, including cancer, 61 percent of those who sought care, obtained the care through SUS, with 80 percent of those evaluating the services as good or excellent. However, the survey also found a number of shortcomings as voiced by the respondents (table 4.1). *The proposed Project aims to address number of these issues, including quality, waiting time, transport, pharmaceutical supply, and access to specialized care.*

| Main Problems | Percent |
|--|---------|
| Lack of physicians and nurses | 19.4 |
| Lack of medicines | 9.5 |
| Waiting time to see a doctor | 8.3 |
| Insufficient number of hospitals | 8.3 |
| Waiting time to schedule an appointment | 7.0 |
| Lack of primary health care facilities | 5.1 |
| Bad quality of attention | 5.0 |
| Lack of specialized services | 4.5 |
| Insufficient medical equipment | 4.0 |
| Precarious attention | 3.7 |
| Lack of investments in the qualification of physicians | 3.0 |
| Lack of dentists | 2.0 |
| Lack of dental treatment | 1.9 |
| Low salaries | 1.2 |
| Lack of ambulances | 1.0 |
| Others | 9.0 |
| Do not know/do not answer | 6.0 |

Indigenous Peoples

7. **Background:** The Indigenous peoples in Brazil (*Povos Indígenas*) are made up of a large number of ethnic groups that speak 170 different languages. Ancestors of today's indigenous groups lived in the Brazilian territory long before the existence of the Brazilian State. Brazil probably has the largest Indigenous population in the world that still lives in isolation. At the time of European discovery, Indigenous peoples were semi-nomadic and subsisted on hunting, fishing, gathering and migratory agriculture. Many of the estimated 300 nations and tribes that existed before 1500 died from diseases brought by European settlers or from subsequent contact with other groups. Many were also assimilated into the wider mixed society. The Indigenous

¹¹⁵ The survey was conducted in 2002 in 3,000 households with a 2 percent margin of error. It was sponsored by the National Council of Health Secretariats - *Conselho Nacional de Secretários de Saúde* (CONASS).

population has decreased from an estimated four to six million before European contact to 734,000 in 2000, according to IBGE.

8. Migration between urban settlements and rural, isolated hamlets is common. In some cases, movement is temporary to seek work or health care. In other cases, settlements are permanent resulting from the disintegration of tribal life, culture and livelihood.

9. Changes in the health profile of Indigenous groups have occurred over a relatively short period of time. Medical anthropologists hypothesize that Amazonian Indians suffered a reversal of the epidemiological transition with the arrival of Europeans. Forensic data suggests that prior to colonization, Indians' health problems resulted mainly from chronic and degenerative disease. With colonization came the arrival of "induced" transmissible disease such as tuberculosis, smallpox, malaria and yellow fever. Currently, Indian populations suffer from all phases of the epidemiological transition combining infectious diseases with degenerative illnesses. The latter are associated with an increasingly sedentary lifestyle. Communities also suffer from problems such as alcoholism and suicide caused by disruption of social networks, environmental pollution and diminishing natural resources that are detrimental to subsistence activities.

10. Institutional Framework: Since 1999, the National Health Foundation (FUNASA) has been responsible for Indigenous health through oversight and financing of a parallel indigenous health subsystem. Mandated through Law 9836 (1999) and supported by the government's Indigenous Health Policy (Regulation No. 254: 2002), FUNASA established 34 Special Indigenous Sanitary Districts (DSEI) based on geographic, socio-cultural, and epidemiological criteria. DSEI is the equivalent of a territorial-defined delivery system. It is headed by a director (*chefe*), who represents FUNASA and is responsible for health services as well as for developing a district health plan with the participation of District Councils. The latter consist of indigenous and NGO representatives. DSEIs are organized by catchment areas where a health center (*polo base*) is located. There, health teams consisting of doctors, nurses and technical staff provide basic care through outreach services to villages in the area. About half of indigenous villages have an indigenous health agent, usually a community member. Higher-level care is provided through referrals to SUS facilities in towns and cities.

11. Three types of delivery models are used: (i) direct delivery: consists of "in-house" personnel hired by FUNASA through Regional Units (CORE); (ii) indirect contracting: contracting of "administrative" NGOs who hire health personnel, procure supplies and equipment, but service provision is directly managed by the DSEIs; and (iii) direct contracting: this mainly consists of contracting of NGOs to provide services and procure all works, goods and services. (FUNASA has also entered into a limited number of "agreements" with municipalities to provide care). DSEIs are responsible for supervision.

12. In metropolitan regions, according to the 2000 Census, the proportion of Indigenous peoples in cities over 100,000 inhabitants is statistically negligible: 0.3 percent (0.50 percent in the Northeast; 0.37 percent in the North; 0.37 percent in the Southeast; 0.32 percent in the South; and 0.45 percent in the Midwest). This does not mean that Indigenous health should not be addressed but, as described below, the Bank-financed VIGISUS II project provides financing to FUNASA's Indigenous health program. Assuming that urbanized indigenous peoples reside in

the poorest areas of large cities and given the fact that QUALISUS-REDE targets these areas, these indigenous peoples are indirect beneficiaries of the proposed Project.

13. VIGISUS II finances a slice of the Federal government's Indigenous Health Program. The Bank's value added relates more to contributions of technical know-how and experience related organizational arrangements and financial instruments to improve quality and effectiveness of indigenous health services, establishment of community-driven development initiatives and the introduction of a performance-based financing scheme for supporting disease surveillance and control activities in states and municipalities.

14. Through VIGISUS I, the Bank and the Government acquired considerable technical expertise in strengthening disease surveillance and control systems at both regional and central levels, working together with over 50 NGOs that deliver services to Indigenous peoples' communities. Key results of VIGISUS II include: (a) full health coverage of indigenous populations with an integrated package of preventive and curative services; (b) all providers under contract with FUNASA operating under performance-based contracting arrangements; and (c) protocols for mother-infant care implemented in all Special Indigenous Peoples Sanitary Districts (DSEI). Among others, measurable outcomes expected for Indigenous peoples include that: (a) 50 percent of indigenous pregnant women in targeted districts receive at least 3 prenatal consultations according to FUNASA protocols – (the proportion has reached 67 percent in 2005); (b) 100 percent of Indigenous mothers with children less than two years of age that are identified with inadequate weight gain receive nutrition education and counseling on feeding practices that are also culturally appropriate; (c) all modules of indigenous information systems are functioning in all DSEIs; (d) 70 percent of health teams in targeted DSEIs are providing integrated, benchmark service plan; (e) one-third of new Community Health Agents hires are indigenous women; and (f) the Indigenous nutritional surveillance system is fully operational in 10 DSEIs. Therefore, through financial support to FUNASA, the Government's constitutional mandate for Indigenous health care and support to these populations as well as to *quilombolas* is financed under another ongoing Bank's operation that is also implemented by the Ministry of Health.

15. Additionally, the eleven DSEIs with greater malaria incidence are receiving laboratories that are able to process more complex tasks, including serology of leishmaniose, dengue and other endemic diseases. At the same time, the findings of the first nutrition survey in Indigenous areas financed under the VIGISUS project will allow authorities to diagnose the incidence of anemia, the most recurrent disease among Indigenous peoples in Brazil. Finally, five DSEIs (Interior South, Mato Grosso do Sul, East Roraima Coastal South and Yanomani) were defined as priorities for cervical cancer prevention campaigns for Indigenous women.

Conclusions and Indigenous Framework for Non Metropolitan Regions

16. Considering the issues described in this social assessment, the social development objectives to be included in QUALISUS-REDE are: (a) alleviation of inequalities in health status; (b) improve access to and use of medium and high-complexity care among poor populations. (c) address the NCD challenge; and (d) improve patient satisfaction of SUS-financed care.

17. Framework for the Proposed Project: The safeguard on Indigenous Peoples (OP/BP: 4.10) is triggered by the Project. Given the nature and geographical reach of Regional Health Care Networks (RHCNs), it is possible that indigenous peoples can be beneficiaries of QUALISUS-REDE *in non metropolitan areas* where approximately five demonstration subprojects will be implemented. As those health regions will be selected during the first year of project execution, the development of an IPP is not yet possible given the uncertainty whether the selected regions contain Indigenous populations, including their numbers and characteristics. If non-metropolitan regions are selected and Indigenous groups (as defined by MOH's *Portaria*. 2656 of October 17, 2007 or any subsequent regulation) are identified in such municipalities, they will be involved not only as beneficiaries but also will participate in advisory activities, in the formulation of plans and policies, and in the monitoring and evaluation of Project-financed activities¹¹⁶. Following the overall demand-driven design, one or more region- and RHCN-specific IPPs will be developed for RHCNs in non-metropolitan with Indigenous groups, observing the following framework:

Subprojects' Diagnosis:

- a) General background on Indigenous peoples in the selected region, including historical, social, economic, demographic, and gender background. It will also include a list of Indigenous groups and organizations, whether they are bilingual or not, and the health status of males, females, children, youth and the elderly. This description will demonstrate the anticipated needs of the target population and will guide the possible interventions from the Project in the target areas;
- b) Brief description of land tenure issues that may concern the targeted areas;
- c) Analysis of main infrastructure, access, and utilization issues, with special focus on medium- and high-complexity care, which may impact the key Project's goals;¹¹⁷
- d) Detailed description of the consultation process and the results thereof, including consultations with Indigenous organizations and key stakeholders; and

Subprojects' Design

- e) Specification of the plan for Indigenous peoples in that region which will aim to: (i) improve their access to the services provided by the Project in a culturally appropriate way; (ii) adjust RHCN design features (such as sanitary transportation, referral systems, etc.) to accommodate indigenous peoples' characteristics; (iii) improve their public representation capacity by recognizing their role as social actors; and (iv) build social capital and advance the appreciation for local knowledge and appropriate solutions for local problems.

¹¹⁶ The MOH's *Portaria* 2656 has attached the list of Brazilian municipalities with indigenous population and the headcount of the respective population. If one or more of the five RHCNs include some of this municipalities the IPPs for the correspondent RHCNs will be elaborated and implemented during the project execution.

¹¹⁷ That section will need to consider that Indigenous Lands are Federal Government property and only federal agencies, as FUNAI and FUNASA, have mandates to conduct policy actions in their interior; that any legal acts that affect this right of possession are declared null and void, except those of relevant public interest to the Federal Government; and that the exploitation of water resources and research may only be carried out [on indigenous lands] with the authorization of the National Congress after hearing the concerns of the affected communities and assuring their participation in the benefits of such exploitation.

Part 2: Summary Environmental Assessment

18. QUALISUS-REDE received a B classification. An Environmental Assessment (EA) was prepared to identify potential environmental impacts in compliance with World Bank Safeguard Policy (OP/BP 4.01). EA proposes activities to enhance environmental management, particularly under RHCN Subprojects of Component A. This annex describes the EA findings and recommendations. It also includes key issues of an Environmental Framework (EF) for rehabilitation, expansion and/or construction of health facilities as well as the key items included in an environmental checklist which will be completed prior to initiating works financed with loan proceeds

19. The Project EA draws on an analysis of the legal and regulatory framework for health facility construction and medical waste management, a review of guidelines and procedures with respect to health unit construction and medical waste management; an environmental assessment performed by the MOH, and on interviews with MOH and project personnel responsible for the project design and implementation. EA findings suggest that any adverse impacts are expected to be localized and reversible. However, since project-supported interventions will aim to improve medical waste management in all units in targeted regions, the proposed Project will have beneficial environmental impacts.

Safeguard Policies

20. OP 4.01 Environmental Assessment. Following Bank policy, an EA and an EF were prepared to guide selection, screening, construction and monitoring of new health unit construction. The EF defines actions by which the Project mitigates environmental risks, including: (i) an environmental screening and monitoring of construction sites; (ii) environmental licensing of all construction; (iii) environmental supervision of construction process; and (iv) development and implementation of environmental training.

21. OP. 412: Involuntary Resettlement. QUALISUS will not finance activities that may lead to involuntary resettlement (physical relocation, loss of assets or access to assets). However, since the Project may finance new construction, the policy could be triggered through land acquisitions for construction purposes. Although all sites will be located on public lands, *the Operational Manual will stipulate that any new construction that may result in resettlement will not be eligible to receive funding.*

22. P 4.11: Physical Cultural Resources. Given that new construction of ambulatory units is an eligible project activity, the environmental framework includes “chance find” rules and procedures as well as screening processes to identify any know cultural resources requiring special attention during construction.

Overall Environmental Impacts

23. Risks related to facility construction: Works financed by the Project will take place in two types of regions: metropolitan areas with at least 500,000 inhabitants and non-metropolitan

areas with at least 250,000 inhabitants. It is anticipated that the former will involve highly urbanized areas while the latter will entail a combination of urban and rural areas. The Project will finance new construction and rehabilitation in basic care ambulatory specialty, and diagnostic units. It will also finance rehabilitation in specific hospital departments (e.g., emergency rooms) and ambulatory specialty units. New hospital construction is ineligible for project financing.

24. Potential environmental impacts from construction will generally be temporary, of low intensity and with well-known mitigation measures that can be easily implemented. Negative impacts could result from inadequate site selection, terrain movements, dust, and noise contamination of superficial water supplies and inadequate disposal of garbage and construction waste. However, the potential impact is low because all new works are relatively small scale (300m² to 500m²). Environmental guidelines that are aligned with Brazilian legislation as well as MOH basic unit construction guidelines will be included in the Operational Manual.

25. Risks related to facility operation: The main possible internal negative impacts relate to inadequate management and disposal of medical waste generated from patient diagnosis and medical care. This risk will be mitigated through strengthening the system for management and disposal of medical wastes, per government environmental regulations and MOH guidelines. Other external negative impacts are related mainly to waste generation and atmospheric pollution generated from equipment, sewage treatment and disposal, and treatment and removal of non-medical solid waste. These issues will be mitigated through the application in all health units benefiting from project financing processes and procedures specified in the MOH's hospital environmental safety and MOH/ANVISA's Manual for Medical Waste Management guidelines. The guidelines deal with each of the above mentioned issues.

26. Importantly, the Project will take an additional step toward achieving robust medical waste management. Assessments and site visits performed by the MOH and Bank project preparation team found that one of the main obstacles to vigorous management of medical waste was the lack of organized sanitary transport and disposal systems in many municipalities. Even though specific facilities may apply MOH norms for collection and separation of medical wastes *within the facility*, collection, transport, and disposal by municipalities can be irregular and ad hoc. To mitigate this risk, establishing or strengthening organized sanitary and transport systems for medical waste that serves all municipalities and units within the targeted regions for RHCN subprojects will be a mandatory Subproject activity (See Annex 3).

Regulatory Framework and Construction Guidelines

27. The health sector possesses a vigorous legal and regulation framework related to facility construction. The legal and regulatory framework has been strengthened in recent years through the issuing of regulations of more detailed regulations and guidelines governing medical waste management and health facility construction (in 2004 and 2005). More recently (in 2006) the MOH produced basic health unit construction guidelines based on current legislation. Participating states will follow the guidelines in the planning, construction and operation of new facilities. The EF is based on the following regulatory and institutional instruments:

Medical Waste Management

28. National Environmental Board (CONAMA) 283/01 (2001) stipulates general procedures for the management and disposal of medical waste in health facilities, including mandating the preparation of a Management Plan for Medical Waste in Health Facilities.

29. ANVISA 306/04 (2004) and CONAMA 385/05 (2005) (i) sets a single and integrated regulatory framework for management of medical waste generated in health facilities, including separation, storage, transport, treatment and final disposal; and (ii) mandates the development and implementation of a Management Plan for Medical Waste in all health facilities.

30. ANVISA/MOH Guidelines (Manual for Medical Waste Management, 2004) provides detailed guidelines to local system and facility managers regarding the implementation of the above mentioned regulations including the development and execution of a Management Plan for Medical Waste in all health facilities.

Building Codes for Health Facilities

31. Federal Law 6.437/77 (1977) represents the basic sanitary legislation and mandates the essential structural features of health facilities according to type (hospital, diagnostic center, basic care unit, etc.). All health facilities are required to be licensed according to this law.

32. National Agency for Sanitary Control (ANVISA) RDC 50/02 (2002), drawing on Law 6.437/77, is the regulatory instrument for new buildings, rehabilitations, and expansions of health units. It details norms regarding potable water, electricity, collection and disposal of sewage, solid and medical waste disposal, etc.

33. CONAMA no. 297/97 regulates the criteria and processes to obtain an environmental license, requiring an environmental assessment and local consultations.

Consultations

34. The Unified Health System (SUS) is built upon consensus among health authorities, civil society and communities. An essential part of its structure is a set of formalized forums to discuss policies, plans and initiatives at all levels of government. In addition, Health Councils consist of representatives of civil society (universities, non-profit health organizations, NGOs and women groups), which are legally mandated in each sub-national government. Bipartite commissions consisting of municipal and state representatives as well as a Tripartite commission consisting federal, state and municipal authorities review and approve health policies. QUALISUS-REDE will be debated by both the State Councils and Bipartite and Tripartite Commissions. The implementation staff will not approve any plan until evidence is presented of consultations with and approval by civil society organizations and any affected communities.

Environmental Framework (to be included in the Operational Manual)

Proposed Procedures by Project Phase to Mitigate Potential Environment Risks Related to Construction of Basic Health Care Units.

| Major Activities | Specific Environmental and Safeguard Measures |
|--|--|
| Functional Analysis and Site Selection Stage | |
| <p>Functional analysis will: (i) assess accessibility of targeted population (traffic patterns, bus routes, etc.); (ii) establish the characteristics of the spaces according to number of personnel and planned activities in the building; (iii) verify public land ownership; (iv) assess soil and subsoil conditions of potential sites and their vulnerability to land slides, flash floods, natural disasters, etc. (v) assess site for contamination and from contaminated sites such as stagnant water, open sewers, polluted bodies of water; (vi) define specific spaces, activities, and basic equipment; (vii) integration of building into architectural style of surrounding neighborhood; and (viii) review national and local laws, regulations, building codes and guidelines that will be considered in design, construction and operation of the facility.</p> <p>The functional analysis will also include identification of any adverse impacts of “chance finds” on physical cultural resources.</p> <p>Based on the above, the local team prepares a Works Implementation Plan for the design and construction of the unit.</p> | <ul style="list-style-type: none"> • Conduct assessment of potential environmental impacts of proposed site, including endogenous and exogenous factors, according to CONAMA 237/97 and MOH Basic Care Unit Construction Manual • Prepare plan and process to secure compliance with CONAMA 237/97 environmental regulations • Conduct consultations with communities and representatives of civil society in the affected areas. • Verify that site will not involve involuntary resettlement • Verify that site is not located in protected area or one with fragile environment • Establish the likelihood that historical and archaeological sites are present in any proposed construction site drawing on local knowledge, published field surveys and other secondary sources; • Assess scale and cost of possible “chance find” impacts; • Ranking of sites according possible cultural impacts. |
| Design | |
| <p>Engineering designs and technical specifications to consider (i) connections to electric, water, sewerage network; (ii) water filtering system [potable water]; (iii) treatment of wastewater; (iv) systems for collection, separation, storage and transport of wastes (medical and non-medical); (v) spaces and access points for pedestrians, disabled persons and vehicles; (vi) emergency access points (if necessary); (vii) avoidance of toxic materials such as asbestos, lead-based paints, etc. and (viii) avoidance of non-certified wood.</p> <p>Designs will follow MOH/ANVISA standards specified in ANVISA code books as well as MOH Manual for Construction of Basic Care Units</p> | <ul style="list-style-type: none"> • Ensure design complies with ANVISA, RDC 50/02 and local or national environmental protection regulations such as CONAMA 237/97 • Secure sanitary and environmental permits to construct on selected sites. • Develop Works Supervision Plan (draft framework plan included in EF) to ensure that contractor is following design and technical specifications and following environmental regulations and guidelines. • Prepare terms of reference for contractors specifying that they are required to following environmental and sanitary regulations and that construction process will not adversely affect the surrounding vegetation, infrastructure, water and electrical connections. • Include chance find and mitigation measures in contract with construction to eliminate or reduce adverse impacts on physical cultural resources, including: relocation of site to avoid, salvage excavation and relocation of artifacts. |

| Major Activities | Specific Environmental and Safeguard Measures |
|--|--|
| Construction | |
| Includes construction and procurement of materials | <ul style="list-style-type: none"> • Implement Works Supervision Plan to ensure compliance with sanitary and environmental standards of ANVISA and MOH • Sanitary inspection is conducted by appropriate agency and specialists • Secure sanitary/operating license (prior to operation) • Environmental inspection is conducted by appropriate agency and specialists • Secure environmental license (prior to operation) |
| Operation | |
| Once operating and environmental licenses are obtained, the facility commences operations according to: (i) provisions in place for equipment and plant maintenance; and (ii) implementation of solid and medical waste management system. | <ul style="list-style-type: none"> • Secure operating license according to ANVISA facility licensure norms; (alternative: use Level 1 accreditation standards set by the National Accreditation Organization) • Develop and Implement Medical Waste Management Plan based on ANVISA’s Manual for Medical Waste Management and MOH’s Hospital Environmental Guidelines, including processes classification of wastes, separation, storage, treatment and final disposal. The Plan should specify the following: • (i) Application of environmental monitoring checklist (see below) to obtain baseline and follow-up data on environmental situation of unit (EF contains model instrument); (ii) development and implement training program on management and disposal of medical wastes (EF contains course recommendations;¹¹⁸ and (iii) supervision plan to verify compliance with medical waste regulations and implementation of Medical Waste Management Plan. • MOH and Bank supervisory visits will include site visits to monitor implementation of Medical Waste Management Plan. |
| Operation: All facilities within defined targeted regions | |
| Design of organized sanitary transport system for medical waste in defined region comprising several municipalities | <ul style="list-style-type: none"> • Establish routes and intervals for collection • Establish disposal methods and site(s) • Secure vehicle (one truck) with project funds • Contract and train drivers (can be contracted out) • Establish pooled financing system in which each participating municipality contributes to system operation |

¹¹⁸ Training program will be financed through Project financing.

Checklist

35. Once receiving proposal for investment subprojects financing, the key questions to be addressed before subproject approval and detailed in a Checklist are:

- a) Is the subproject located in an environmentally fragile area?
- b) Is the subproject located in a protected area?
- c) Is the subproject located in an area rich in natural resources?
- d) Does the subproject produce impacts on the ecosystem?
- e) Does the subproject produce impact on land use?
- f) Does the subproject produce any kind of dangerous solid and/or medical waste?
- g) Does the subproject produce any air contamination?
- h) Is there a risk of using radioactivity or dangerous chemical substances involved?
- i) Does the subproject possess environmental licensing? Sanitary licensing?
- j) What are the features of the area's systems of electric, water, sewerage network, water filtering system [potable water], treatment of wastewater and medical and non-medical waste disposal?

36. Environmental impacts will be classified according to their *magnitude* and to their *importance*, where magnitude is related to their scale (quantitative or qualitative change of an environmental parameter) and importance is related to the degree that a certain impact relates to other impacts and impairs the environment. Subprojects will only be approved once the magnitude and the importance of their impacts are clearly foreseen and defined, in case they exist.

Final recommendations

37. The EA also recommends: (i) environmental training for the staff involved, with emphasis on the implementation of the above mentioned Plan; (ii) implementation of studies about the relationship among solid, liquid and gas waste for subprojects located in the area comprised by the Legal Amazonian; (c) a Mitigation Plan to be analyzed and approved by specialists accompanying proposals with negative impacts; and (d) studies about the relationship among air quality, water quality, sanitation and means to deal with solid waste in the Project's area.

Annex 11: Project Preparation and Supervision

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

| | Planned | Actual |
|---------------------------------|------------|------------|
| PCN review | 08/18/2004 | 06/28/2006 |
| Initial PID to PIC | 11/19/2004 | 07/08/2006 |
| Initial ISDS to PIC | 07/08/2006 | 08/28/2007 |
| Appraisal | 04/18/2005 | 01/21/2008 |
| Negotiations | 05/23/2005 | 12/04/2008 |
| Board/RVP approval | 01/22/2009 | |
| Planned date of effectiveness | 07/01/2009 | |
| Planned date of mid-term review | 12/01/2011 | |
| Planned closing date | 06/30/2014 | |

Key institutions responsible for preparation of the Project:

Ministry of Health, Executive Secretariat
Esplanada dos Ministérios – Bloco G – Brasília/DF – CEP: 70.058-900

Bank staff and consultants who worked on the Project included:

| Name | Title | Unit |
|-----------------------------|---------------------------------|-------|
| Gerard La Forgia | Task Team Leader | LCSHH |
| Andre C. Medici | Task Team Leader ¹¹⁹ | LCSHH |
| Daniela Pena de Lima | Operations Officer | LCSHH |
| Bernard Couttolenc | Consultant | LCSHH |
| James Cercone | Consultant | LCSHH |
| Eugênio Vilaça Mendes | Consultant | LCSHH |
| José Mendes Ribeiro | Consultant | LCSHH |
| Marcos Kisil | Consultant | LCSHH |
| Mariana Montiel | Sr. Counsel | LEGLA |
| Patricia de la Fuente Hoyes | Sr. Finance Officer | LOAFC |
| Trajano Quinhões | Public Health Specialist | LCSHH |
| Nicolas Drossos | Financial Mgmt. Specialist | LCSFM |
| Luciano Wuerzius | Procurement Specialist | LCSPT |
| Lerick Kebeck | Sr. Program Assistant | LCSHS |
| Carla Zardo | Program Assistant | LCC5C |
| Natalia Moncada | Program Assistant | LCSHH |
| Marize de Fatima Santos | Temporary | LCSHD |

¹¹⁹ TTL starting FY09.

Bank funds expended to date on project preparation:

- | | |
|--------------------|----------------------------------|
| 1. Bank resources: | US\$ 237,000,00 |
| 2. Trust funds: | US\$ 121,325.32 (TF 53758 – JPN) |
| 3. Total: | US\$ 358,325.32 |

Estimated Approval and Supervision costs:

- | | |
|---------------------------------------|-----------------|
| 1. Remaining costs to approval: | US\$ 81,000,00 |
| 2. Estimated annual supervision cost: | US\$ 130,000,00 |

Annex 12: Documents and References in the Project File

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

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Annex 13: Statement of Loans and Credits

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

| Project ID | FY | Purpose | Original Amount in US\$ Millions | | | | Cancel. | Undisb. | Difference between expected and actual disbursements | |
|------------|------|--|----------------------------------|------|------|-------|---------|---------|--|------------|
| | | | IBRD | IDA | SF | GEF | | | Orig. | Frm. Rev'd |
| P089929 | 2008 | BR RGN State Integrated Water Res Mgmt | 35.90 | 0.00 | 0.00 | 0.00 | 0.00 | 35.90 | 0.00 | 0.00 |
| P082651 | 2007 | BR APL 1 Para Integrated Rural Dev | 60.00 | 0.00 | 0.00 | 0.00 | 0.00 | 60.00 | 14.00 | 0.00 |
| P070867 | 2007 | BR GEF Caatinga Conserv. and Sust. Mngmt | 0.00 | 0.00 | 0.00 | 10.00 | 0.01 | 10.00 | 0.00 | 0.00 |
| P089011 | 2007 | BR Municipal APL1: Uberaba | 17.27 | 0.00 | 0.00 | 0.00 | 0.00 | 17.27 | 0.00 | 0.00 |
| P089793 | 2007 | BR State Pension Reform TAL II | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 0.00 |
| P095460 | 2007 | BR-Bahia Integr.Hway Mngmt. | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0.43 | 0.00 |
| P082523 | 2006 | BR HD Technical Assistance Loan | 8.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.98 | 6.60 | 0.00 |
| P066535 | 2006 | BR GEF Amazon Aquatic Res - AquaBio | 0.00 | 0.00 | 0.00 | 7.18 | 0.00 | 6.48 | 1.43 | 0.00 |
| P082142 | 2006 | BR-Ceara Multi-sector Social Inclus Dev | 149.75 | 0.00 | 0.00 | 0.00 | 0.00 | 35.09 | 35.09 | 0.00 |
| P081436 | 2006 | BR-Bahia Poor Urban Areas Integrated Dev | 49.30 | 0.00 | 0.00 | 0.00 | 0.00 | 45.34 | 26.29 | 0.00 |
| P081023 | 2006 | BR- Sugar Bagasse Cogeneration Project | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.27 | 0.00 | 0.00 |
| P089440 | 2006 | BR-Brasilia Environmentally Sustainable | 57.64 | 0.00 | 0.00 | 0.00 | 0.00 | 53.69 | 19.10 | 0.00 |
| P095675 | 2006 | BR-2nd Progr. Sustn.& Equit Growth | 601.50 | 0.00 | 0.00 | 0.00 | 0.00 | 601.51 | 601.51 | 0.00 |
| P050761 | 2006 | BR-Housing Sector TAL | 4.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.99 | 1.66 | 0.00 |
| P052256 | 2006 | BR-MG Rural Poverty Reduction | 35.00 | 0.00 | 0.00 | 0.00 | 0.00 | 21.27 | 1.80 | 0.00 |
| P090041 | 2006 | BR ENVIRONMENTAL SUST. AGENDA TAL | 8.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.92 | 5.65 | 0.00 |
| P092990 | 2006 | BR - Road Transport Project | 501.25 | 0.00 | 0.00 | 0.00 | 0.00 | 501.25 | 164.33 | 0.00 |
| P093787 | 2006 | BR Bahia State Integ Proj Rur Pov | 54.35 | 0.00 | 0.00 | 0.00 | 0.00 | 9.12 | -15.02 | 0.00 |
| P076924 | 2005 | BR- Amapa Sustainable Communities | 4.80 | 0.00 | 0.00 | 0.00 | 0.00 | 3.98 | 2.94 | 0.00 |
| P075379 | 2005 | BR GEF-RJ Sust IEM in Prod Landscapes | 0.00 | 0.00 | 0.00 | 6.73 | 0.00 | 5.72 | 2.87 | 0.00 |
| P082328 | 2005 | BR-Integ.Munic.Proj.-Betim Municipality | 24.08 | 0.00 | 0.00 | 0.00 | 0.00 | 2.37 | -6.61 | 0.00 |
| P069934 | 2005 | BR-PERNAMBUCO INTEG DEVT: EDUC QUAL IMPR | 31.50 | 0.00 | 0.00 | 0.00 | 0.00 | 23.58 | 17.65 | 0.00 |
| P083533 | 2005 | BR TA-Sustain. & Equit Growth | 12.12 | 0.00 | 0.00 | 0.00 | 0.00 | 10.28 | 6.36 | 0.00 |
| P087711 | 2005 | BR Espirito Santo Wtr & Coastal Pollu | 36.00 | 0.00 | 0.00 | 0.00 | 0.00 | 23.21 | 22.48 | 0.00 |
| P088009 | 2005 | BR GEF-Sao Paulo Riparian Forests | 0.00 | 0.00 | 0.00 | 7.75 | 0.00 | 5.13 | 3.23 | 0.00 |
| P083013 | 2004 | BR Disease Surveillance & Control APL 2 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 55.87 | 46.25 | 0.00 |
| P087713 | 2004 | BR Bolsa Familia 1st APL | 572.20 | 0.00 | 0.00 | 0.00 | 2.86 | 11.22 | 14.08 | 0.00 |
| P060573 | 2004 | BR Tocantins Sustainable Regional Dev | 60.00 | 0.00 | 0.00 | 0.00 | 0.00 | 51.14 | 41.04 | 13.61 |
| P080830 | 2004 | BR Maranhao Integrated: Rural Dev | 30.00 | 0.00 | 0.00 | 0.00 | 0.00 | 19.87 | 18.37 | 0.00 |
| P049265 | 2003 | BR-RECIFE URBAN UPGRADING PROJECT | 46.00 | 0.00 | 0.00 | 0.00 | 0.00 | 38.11 | 29.73 | 17.66 |
| P054119 | 2003 | BR BAHIA DEVT (HEALTH) | 30.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.02 | 13.02 | 0.00 |
| P058503 | 2003 | GEF BR Amazon Region Prot Areas (ARPA) | 0.00 | 0.00 | 0.00 | 30.00 | 0.00 | 12.51 | 30.00 | 0.00 |
| P074777 | 2003 | BR-Municipal Pension Reform TAL | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.07 | 4.07 | 4.07 |
| P080400 | 2003 | BR-AIDS & STD Control 3 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.88 | 15.88 | 0.00 |

| | | | | | | | | | | |
|---------|------|--|----------|------|------|-------|--------|----------|----------|--------|
| P076977 | 2003 | BR-Energy Sector TA Project | 12.12 | 0.00 | 0.00 | 0.00 | 0.00 | 9.43 | 9.43 | 0.00 |
| P066170 | 2002 | BR-RGN Rural Poverty Reduction | 22.50 | 0.00 | 0.00 | 0.00 | 0.00 | 22.50 | 0.00 | 0.00 |
| P043869 | 2002 | BR SANTA CATARINA NATURAL RESOURC & POV. | 62.80 | 0.00 | 0.00 | 0.00 | 0.00 | 15.63 | 12.43 | 0.00 |
| P060221 | 2002 | BR FORTALEZA METROPOLITAN TRANSPORT PROJ | 85.00 | 0.00 | 0.00 | 0.00 | 86.49 | 35.81 | 83.91 | 29.77 |
| P070552 | 2002 | GEF BR PARANA BIODIVERSITY PROJECT | 0.00 | 0.00 | 0.00 | 8.00 | 0.00 | 2.74 | 8.00 | 0.00 |
| P057653 | 2002 | BR- FUNDESCOLA IIIA | 160.00 | 0.00 | 0.00 | 0.00 | 0.00 | 37.66 | -34.52 | 0.00 |
| P073192 | 2002 | BR TA Financial Sector | 14.50 | 0.00 | 0.00 | 0.00 | 4.57 | 3.95 | 8.52 | -0.09 |
| P051696 | 2002 | BR SÃO PAULO METRO LINE 4 PROJECT | 209.00 | 0.00 | 0.00 | 0.00 | 0.00 | 44.53 | 44.53 | 44.53 |
| P073294 | 2001 | BR Fiscal & Fin. Mgmt. TAL | 8.88 | 0.00 | 0.00 | 0.00 | 0.00 | 5.11 | 4.81 | 5.11 |
| P050772 | 2001 | BR LAND-BASED POVRTY ALLEVATION I (SIM) | 202.10 | 0.00 | 0.00 | 0.00 | 58.13 | 69.94 | 55.55 | -12.92 |
| P050875 | 2001 | BR Ceara Rural Poverty Reduction Project | 37.50 | 0.00 | 0.00 | 0.00 | 0.00 | 14.75 | -22.75 | -22.75 |
| P050880 | 2001 | BR Pernambuco Rural Poverty Reduction | 30.10 | 0.00 | 0.00 | 0.00 | 0.63 | 27.00 | -2.37 | 1.05 |
| P050881 | 2001 | BR BR-PIAUI RURAL POVERTY REDUCTION | 22.50 | 0.00 | 0.00 | 0.00 | 0.00 | 22.44 | -0.06 | -0.06 |
| P059566 | 2001 | BR- CEARA BASIC EDUCATION | 90.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.20 | 4.20 | 4.20 |
| P039199 | 2000 | BR PROSANEAR 2 | 30.30 | 0.00 | 0.00 | 0.00 | 6.40 | 10.75 | 17.15 | 10.75 |
| P006449 | 2000 | BR CEARA WTR MGT PROGERIRH SIM | 136.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.88 | 11.88 | 7.64 |
| P038895 | 1998 | BR FED.WTR MGT | 198.00 | 0.00 | 0.00 | 0.00 | 40.00 | 50.00 | 40.00 | 3.33 |
| P043420 | 1998 | BR WATER S.MOD.2 | 150.00 | 0.00 | 0.00 | 0.00 | 125.00 | 10.18 | 135.15 | 5.63 |
| P006474 | 1998 | BR LAND MGT 3 (SAO PAULO) | 55.00 | 0.00 | 0.00 | 0.00 | 10.00 | 6.00 | 16.00 | 3.25 |
| Total: | | | 4,264.96 | 0.00 | 0.00 | 69.66 | 334.09 | 2,221.54 | 1,516.09 | 114.78 |

BRAZIL
STATEMENT OF IFC's
Held and Disbursed Portfolio
In Millions of US Dollars

| FY Approval | Company | Committed | | | | Disbursed | | | |
|-------------|---------------|-----------|--------|-------|---------|-----------|--------|-------|---------|
| | | IFC | | | | IFC | | | |
| | | Loan | Equity | Quasi | Partic. | Loan | Equity | Quasi | Partic. |
| 2005 | ABN AMRO REAL | 98.00 | 0.00 | 0.00 | 0.00 | 15.77 | 0.00 | 0.00 | 0.00 |
| 2005 | ABN AMRO REAL | 98.00 | 0.00 | 0.00 | 0.00 | 15.77 | 0.00 | 0.00 | 0.00 |
| 2001 | AG Concession | 0.00 | 30.00 | 0.00 | 0.00 | 0.00 | 30.00 | 0.00 | 0.00 |
| 2002 | Amaggi | 17.14 | 0.00 | 0.00 | 0.00 | 17.14 | 0.00 | 0.00 | 0.00 |
| 2005 | Amaggi | 30.00 | 0.00 | 0.00 | 0.00 | 30.00 | 0.00 | 0.00 | 0.00 |
| 2002 | Andrade G. SA | 22.00 | 0.00 | 10.00 | 12.12 | 22.00 | 0.00 | 10.00 | 12.12 |
| 2001 | Apolo | 6.04 | 0.00 | 0.00 | 0.00 | 3.54 | 0.00 | 0.00 | 0.00 |
| 1998 | Arteb | 20.00 | 0.00 | 0.00 | 18.33 | 20.00 | 0.00 | 0.00 | 18.33 |
| 2006 | BBM | 49.40 | 0.00 | 0.00 | 0.00 | 49.40 | 0.00 | 0.00 | 0.00 |
| 2001 | Brazil CGFund | 0.00 | 19.75 | 0.00 | 0.00 | 0.00 | 18.15 | 0.00 | 0.00 |
| 2004 | CGTF | 54.01 | 0.00 | 7.00 | 65.12 | 54.01 | 0.00 | 7.00 | 65.12 |

| | | | | | | | | | |
|------|-----------------|-------|-------|-------|--------|-------|-------|-------|--------|
| 1994 | CHAPECO | 10.00 | 0.00 | 0.00 | 0.00 | 10.00 | 0.00 | 0.00 | 0.00 |
| 1996 | CHAPECO | 1.50 | 0.00 | 0.00 | 5.26 | 1.50 | 0.00 | 0.00 | 5.26 |
| 2003 | CPFL Energia | 0.00 | 40.00 | 0.00 | 0.00 | 0.00 | 40.00 | 0.00 | 0.00 |
| 1996 | CTBC Telecom | 3.00 | 8.00 | 0.00 | 0.00 | 3.00 | 8.00 | 0.00 | 0.00 |
| 1997 | CTBC Telecom | 0.00 | 6.54 | 0.00 | 0.00 | 0.00 | 6.54 | 0.00 | 0.00 |
| 1999 | Cibrasec | 0.00 | 3.27 | 0.00 | 0.00 | 0.00 | 3.27 | 0.00 | 0.00 |
| 2004 | Comgas | 11.90 | 0.00 | 0.00 | 11.54 | 11.90 | 0.00 | 0.00 | 11.54 |
| 2005 | Cosan S.A. | 50.00 | 5.00 | 15.00 | 0.00 | 50.00 | 5.00 | 15.00 | 0.00 |
| | Coteminas | 0.00 | 1.84 | 0.00 | 0.00 | 0.00 | 1.84 | 0.00 | 0.00 |
| 1997 | Coteminas | 1.85 | 1.25 | 0.00 | 0.00 | 1.85 | 1.25 | 0.00 | 0.00 |
| 2000 | Coteminas | 0.00 | 0.18 | 0.00 | 0.00 | 0.00 | 0.18 | 0.00 | 0.00 |
| 1980 | DENPASA | 0.00 | 0.52 | 0.00 | 0.00 | 0.00 | 0.48 | 0.00 | 0.00 |
| 1992 | DENPASA | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 |
| | Dixie Toga | 0.00 | 0.34 | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 |
| 1998 | Dixie Toga | 0.00 | 10.03 | 0.00 | 0.00 | 0.00 | 10.03 | 0.00 | 0.00 |
| 1997 | Duratex | 1.36 | 0.00 | 3.00 | 0.57 | 1.36 | 0.00 | 3.00 | 0.57 |
| 2005 | EMBRAER | 35.00 | 0.00 | 0.00 | 145.00 | 35.00 | 0.00 | 0.00 | 145.00 |
| 1999 | Eliane | 14.93 | 0.00 | 13.00 | 0.00 | 14.93 | 0.00 | 13.00 | 0.00 |
| 1998 | Empesca | 1.33 | 0.00 | 2.67 | 0.00 | 1.33 | 0.00 | 2.67 | 0.00 |
| 2006 | Endesa Brasil | 0.00 | 50.00 | 0.00 | 0.00 | 0.00 | 50.00 | 0.00 | 0.00 |
| 2006 | Enerbrasil Ltda | 0.00 | 5.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2006 | FEBR | 12.00 | 0.00 | 0.00 | 0.00 | 12.00 | 0.00 | 0.00 | 0.00 |
| 2000 | Fleury | 0.00 | 0.00 | 6.00 | 0.00 | 0.00 | 0.00 | 6.00 | 0.00 |
| 1998 | Fras-le | 4.00 | 0.00 | 9.34 | 0.00 | 4.00 | 0.00 | 6.04 | 0.00 |
| 2006 | GOL | 50.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2005 | GP Capital III | 0.00 | 14.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.00 | 0.00 |
| | GP Cptl Rstrctd | 0.00 | 2.22 | 0.00 | 0.00 | 0.00 | 2.16 | 0.00 | 0.00 |
| 2001 | GPC | 0.00 | 0.00 | 9.00 | 0.00 | 0.00 | 0.00 | 9.00 | 0.00 |
| | GTFP BIC Banco | 44.91 | 0.00 | 0.00 | 0.00 | 44.91 | 0.00 | 0.00 | 0.00 |
| | GTFP BM Brazil | 4.22 | 0.00 | 0.00 | 0.00 | 4.22 | 0.00 | 0.00 | 0.00 |
| | GTFP Indusval | 5.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 0.00 | 0.00 |
| 1997 | Guilman-Amorim | 18.08 | 0.00 | 0.00 | 14.37 | 18.08 | 0.00 | 0.00 | 14.37 |
| 1998 | Icatu Equity | 0.00 | 5.46 | 0.00 | 0.00 | 0.00 | 4.16 | 0.00 | 0.00 |
| 1999 | Innova SA | 0.00 | 5.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 0.00 |
| 1980 | Ipiranga | 0.00 | 2.87 | 0.00 | 0.00 | 0.00 | 2.87 | 0.00 | 0.00 |
| 1987 | Ipiranga | 0.00 | 0.54 | 0.00 | 0.00 | 0.00 | 0.54 | 0.00 | 0.00 |
| 2006 | Ipiranga | 50.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2006 | Itambe | 15.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2000 | Itau-BBA | 12.86 | 0.00 | 0.00 | 0.00 | 12.86 | 0.00 | 0.00 | 0.00 |
| 2002 | Itau-BBA | 70.61 | 0.00 | 0.00 | 0.00 | 38.47 | 0.00 | 0.00 | 0.00 |
| 1999 | JOSAPAR | 7.57 | 0.00 | 7.00 | 0.00 | 2.57 | 0.00 | 7.00 | 0.00 |
| 2005 | Lojas Americana | 35.00 | 0.00 | 0.00 | 0.00 | 35.00 | 0.00 | 0.00 | 0.00 |
| 1992 | MBR | 0.00 | 0.00 | 10.00 | 0.00 | 0.00 | 0.00 | 10.00 | 0.00 |
| 2006 | MRS | 50.00 | 0.00 | 0.00 | 50.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2002 | Microinvest | 0.00 | 1.25 | 0.00 | 0.00 | 0.00 | 0.82 | 0.00 | 0.00 |
| | Net Servicos | 0.00 | 10.93 | 0.00 | 0.00 | 0.00 | 10.93 | 0.00 | 0.00 |
| 2002 | Net Servicos | 0.00 | 1.60 | 0.00 | 0.00 | 0.00 | 1.60 | 0.00 | 0.00 |
| 2005 | Net Servicos | 0.00 | 5.08 | 0.00 | 0.00 | 0.00 | 5.08 | 0.00 | 0.00 |
| 1994 | Para Pigmentos | 2.15 | 0.00 | 9.00 | 0.00 | 2.15 | 0.00 | 9.00 | 0.00 |

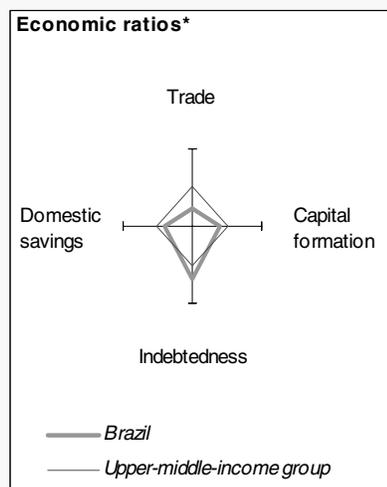
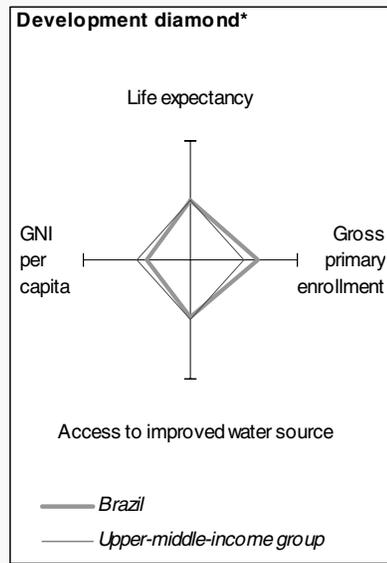
| | | | | | | | | | |
|------------------|------------------|----------|--------|--------|--------|--------|--------|--------|--------|
| 1994 | Portobello | 0.00 | 0.59 | 0.00 | 0.00 | 0.00 | 0.59 | 0.00 | 0.00 |
| 2000 | Portobello | 4.28 | 0.00 | 7.00 | 0.00 | 4.28 | 0.00 | 7.00 | 0.00 |
| 2002 | Portobello | 0.00 | 0.90 | 0.00 | 0.00 | 0.00 | 0.90 | 0.00 | 0.00 |
| 2000 | Puras | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| 2003 | Queiroz Galvao | 26.67 | 0.00 | 10.00 | 0.00 | 26.67 | 0.00 | 10.00 | 0.00 |
| 2004 | Queiroz Galvao | 0.60 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 |
| 2006 | RBSec | 22.83 | 1.51 | 0.00 | 0.00 | 0.00 | 1.51 | 0.00 | 0.00 |
| | Randon Impl Part | 2.33 | 0.00 | 3.00 | 0.00 | 2.33 | 0.00 | 3.00 | 0.00 |
| 1997 | Sadia | 2.55 | 0.00 | 2.33 | 3.28 | 2.55 | 0.00 | 2.33 | 3.28 |
| 1997 | Samarco | 3.60 | 0.00 | 0.00 | 0.00 | 3.60 | 0.00 | 0.00 | 0.00 |
| 1998 | Saraiva | 0.00 | 1.24 | 0.00 | 0.00 | 0.00 | 1.24 | 0.00 | 0.00 |
| 2000 | SePETIBA | 26.24 | 0.00 | 5.00 | 0.00 | 11.24 | 0.00 | 5.00 | 0.00 |
| 2002 | SuaPE ICT | 6.00 | 0.00 | 0.00 | 0.00 | 6.00 | 0.00 | 0.00 | 0.00 |
| 1999 | Sudamerica | 0.00 | 7.35 | 0.00 | 0.00 | 0.00 | 7.35 | 0.00 | 0.00 |
| 2006 | Suzano petroq | 50.00 | 0.00 | 10.00 | 140.00 | 39.50 | 0.00 | 10.00 | 110.50 |
| 2001 | Synteko | 11.57 | 0.00 | 0.00 | 0.00 | 11.57 | 0.00 | 0.00 | 0.00 |
| 2006 | TAM | 50.00 | 0.00 | 0.00 | 0.00 | 17.00 | 0.00 | 0.00 | 0.00 |
| 1998 | Tecon Rio Grande | 3.55 | 0.00 | 5.50 | 3.71 | 3.55 | 0.00 | 5.50 | 3.71 |
| 2004 | Tecon Rio Grande | 7.87 | 0.00 | 0.00 | 7.76 | 7.59 | 0.00 | 0.00 | 7.48 |
| 2001 | Tecon Salvador | 2.95 | 1.00 | 0.00 | 3.10 | 2.95 | 0.77 | 0.00 | 3.10 |
| 2003 | Tecon Salvador | 0.00 | 0.55 | 0.00 | 0.00 | 0.00 | 0.55 | 0.00 | 0.00 |
| 2004 | TriBanco | 10.00 | 0.00 | 0.00 | 0.00 | 10.00 | 0.00 | 0.00 | 0.00 |
| 2006 | TriBanco | 0.35 | 0.00 | 0.00 | 0.00 | 0.35 | 0.00 | 0.00 | 0.00 |
| 2002 | UP Offshore | 9.01 | 9.51 | 0.00 | 23.29 | 0.00 | 2.51 | 0.00 | 0.00 |
| 2002 | Unibanco | 16.89 | 0.00 | 0.00 | 0.00 | 16.89 | 0.00 | 0.00 | 0.00 |
| Total portfolio: | | 1,164.15 | 253.88 | 144.84 | 503.45 | 703.91 | 223.86 | 141.54 | 400.38 |

| | | Approvals Pending Commitment | | | |
|---------------------------|----------------|------------------------------|--------|-------|---------|
| FY Approval | Company | Loan | Equity | Quasi | Partic. |
| 2000 | BBA | 0.01 | 0.00 | 0.00 | 0.00 |
| 1999 | Cibrasec | 0.00 | 0.00 | 0.00 | 0.00 |
| 2006 | Ipiranga II | 0.00 | 0.00 | 0.00 | 0.10 |
| 2002 | Banco Itau-BBA | 0.00 | 0.00 | 0.00 | 0.10 |
| Total pending commitment: | | 0.01 | 0.00 | 0.00 | 0.20 |

Annex 14: Country at a Glance

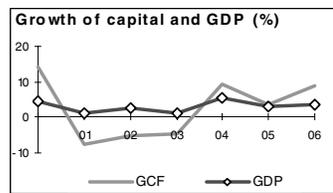
BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1

| | Brazil | Latin America & Carib. | Upper-middle-income | | |
|--|---------|------------------------|---------------------|--------|---------|
| POVERTY and SOCIAL | | | | | |
| 2006 | | | | | |
| Population, mid-year (millions) | 188.7 | 556 | 810 | | |
| GNI per capita (Atlas method, US\$) | 4,730 | 4,767 | 5,913 | | |
| GNI (Atlas method, US\$ billions) | 892.5 | 2,650 | 4,790 | | |
| Average annual growth, 2000-06 | | | | | |
| Population (%) | 14 | 13 | 0.8 | | |
| Labor force (%) | 18 | 2.1 | 13 | | |
| Most recent estimate (latest year available, 2000-06) | | | | | |
| Poverty (% of population below national poverty line) | 22 | .. | .. | | |
| Urban population (% of total population) | 85 | 78 | 75 | | |
| Life expectancy at birth (years) | 71 | 73 | 70 | | |
| Infant mortality (per 1000 live births) | 31 | 26 | 26 | | |
| Child malnutrition (% of children under 5) | .. | .. | .. | | |
| Access to an improved water source (% of population) | 90 | 91 | 93 | | |
| Literacy (% of population age 15+) | 89 | 90 | 93 | | |
| Gross primary enrollment (% of school-age population) | 140 | 118 | 112 | | |
| Male | 146 | 120 | 106 | | |
| Female | 135 | 116 | 104 | | |
| KEY ECONOMIC RATIOS and LONG-TERM TRENDS | | | | | |
| | 1986 | 1996 | 2005 | 2006 | |
| GDP (US\$ billions) | 268.1 | 839.7 | 882.5 | 1067.5 | |
| Gross capital formation/GDP | 19.1 | 17.0 | 16.0 | 16.8 | |
| Exports of goods and services/GDP | 8.8 | 6.6 | 15.1 | 14.7 | |
| Gross domestic savings/GDP | 21.6 | 15.2 | 19.6 | 19.7 | |
| Gross national savings/GDP | 17.1 | 14.1 | 15.8 | 17.3 | |
| Current account balance/GDP | -1.9 | -2.8 | 1.6 | 1.3 | |
| Interest payments/GDP | 2.4 | 1.0 | 1.2 | .. | |
| Total debt/GDP | 40.7 | 21.6 | 21.3 | .. | |
| Total debt service/exports | 46.8 | 42.6 | 45.5 | .. | |
| Present value of debt/GDP | .. | .. | 23.7 | .. | |
| Present value of debt/exports | .. | .. | 15.9 | .. | |
| | 1986-96 | 1996-06 | 2005 | 2006 | 2006-10 |
| <i>(average annual growth)</i> | | | | | |
| GDP | 16 | 2.4 | 2.9 | 3.7 | 4.6 |
| GDP per capita | 0.0 | 1.0 | 1.5 | 2.5 | 3.8 |
| Exports of goods and services | 6.5 | 9.5 | 10.1 | 4.6 | 3.3 |

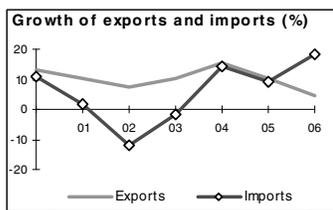


STRUCTURE of the ECONOMY

| | 1986 | 1996 | 2005 | 2006 |
|---|------|------|------|------|
| <i>(% of GDP)</i> | | | | |
| Agriculture | 11.2 | 5.5 | 5.6 | 5.1 |
| Industry | 45.2 | 26.0 | 30.3 | 30.9 |
| Manufacturing | 33.0 | 16.8 | 18.4 | 18.4 |
| Services | 43.7 | 68.5 | 64.0 | 64.0 |
| Household final consumption expenditure | 67.8 | 64.7 | 60.4 | 60.4 |
| General gov't final consumption expenditure | 10.7 | 20.1 | 20.1 | 19.9 |
| Imports of goods and services | 6.4 | 8.4 | 11.5 | 11.7 |



| | 1986-96 | 1996-06 | 2005 | 2006 |
|---|---------|---------|------|------|
| <i>(average annual growth)</i> | | | | |
| Agriculture | 2.3 | 4.3 | 10 | 4.1 |
| Industry | 0.1 | 1.9 | 2.1 | 2.7 |
| Manufacturing | 3.2 | 1.9 | 1.1 | 1.6 |
| Services | 2.9 | 3.5 | 3.4 | 4.1 |
| Household final consumption expenditure | 2.8 | 1.9 | 3.8 | 4.7 |
| General gov't final consumption expenditure | 1.8 | 2.4 | 1.9 | 3.6 |
| Gross capital formation | 1.8 | 0.3 | 3.6 | 8.7 |
| Imports of goods and services | 12.0 | 1.4 | 9.3 | 18.1 |



Note: 2006 data are preliminary estimates.

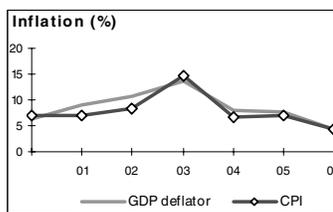
This table was produced from the Development Economics LDB database.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

Brazil

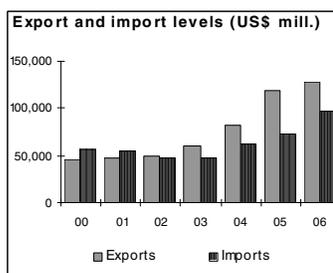
PRICES and GOVERNMENT FINANCE

| | 1986 | 1996 | 2005 | 2006 |
|--|-------|------|------|------|
| Domestic prices | | | | |
| <i>(% change)</i> | | | | |
| Consumer prices | 150.0 | 15.8 | 6.9 | 4.2 |
| Implicit GDP deflator | 145.3 | 17.1 | 7.5 | 4.3 |
| Government finance | | | | |
| <i>(% of GDP, includes current grants)</i> | | | | |
| Current revenue | 10.1 | 16.4 | .. | .. |
| Current budget balance | -0.4 | -0.6 | .. | .. |
| Overall surplus/deficit | -1.6 | 2.4 | .. | .. |



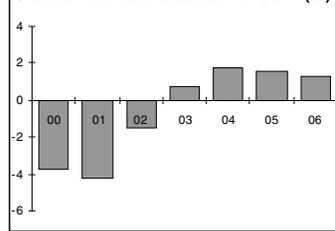
TRADE

| | 1986 | 1996 | 2005 | 2006 |
|-------------------------------|--------|--------|---------|---------|
| <i>(US\$ millions)</i> | | | | |
| Total exports (fob) | 22,394 | 46,925 | 118,308 | 127,305 |
| Iron ore, manganese | 1,722 | 2,695 | .. | .. |
| Soybeans | 1,562 | 1,018 | .. | .. |
| Manufactures | 11,839 | 35,025 | 71,112 | 79,904 |
| Total imports (cif) | 14,044 | 53,346 | 73,560 | 96,835 |
| Food | .. | 2,484 | 1,374 | .. |
| Fuel and energy | 3,541 | 5,929 | 11,925 | .. |
| Capital goods | 3,464 | 12,918 | 25,114 | 49,003 |
| Export price index (2000=100) | 74 | 106 | 117 | 106 |
| Import price index (2000=100) | 41 | 83 | 97 | 89 |
| Terms of trade (2000=100) | 182 | 128 | 120 | 120 |

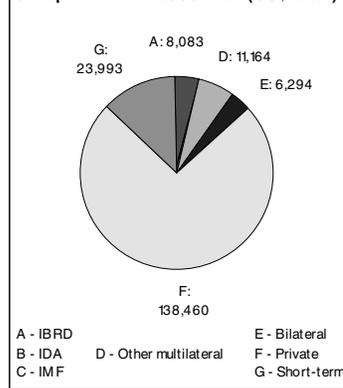


BALANCE of PAYMENTS

| | 1986 | 1996 | 2005 | 2006 |
|--|---------|---------|---------|---------|
| <i>(US\$ millions)</i> | | | | |
| Exports of goods and services | 23,870 | 52,785 | 134,403 | 156,908 |
| Imports of goods and services | 16,576 | 67,065 | 97,801 | 120,243 |
| Resource balance | 7,294 | -14,280 | 36,602 | 36,665 |
| Net income | -12,259 | -11,669 | -25,968 | -27,489 |
| Net current transfers | -26 | 2,446 | 3,557 | 4,307 |
| Current account balance | -4,991 | -23,503 | 13,985 | 13,621 |
| Financing items (net) | 1,759 | 31,899 | 2,161 | 18,419 |
| Changes in net reserves | 3,232 | -8,396 | -16,146 | -32,040 |
| Memo: | | | | |
| Reserves including gold (<i>US\$ millions</i>) | 6,760 | 60,110 | 53,799 | 85,839 |
| Conversion rate (<i>DEC, local/US\$</i>) | 4.97E-9 | 1.0 | 2.4 | 2.2 |

Current account balance to GDP (%)

EXTERNAL DEBT and RESOURCE FLOWS

| | 1986 | 1996 | 2005 | 2006 |
|---|---------|---------|---------|-------|
| <i>(US\$ millions)</i> | | | | |
| Total debt outstanding and disbursed | 109,051 | 131,338 | 137,994 | .. |
| IBRD | 7,546 | 5,876 | 8,083 | 9,694 |
| IDA | 0 | 0 | 0 | 0 |
| Total debt service | 11,618 | 25,217 | 62,762 | .. |
| IBRD | 1,164 | 1,638 | 1,335 | 1,174 |
| IDA | 0 | 0 | 0 | 0 |
| Composition of net resource flows | | | | |
| Official grants | 30 | 80 | 112 | .. |
| Official creditors | 1,168 | -751 | 34 | .. |
| Private creditors | -444 | 15,758 | 1,872 | .. |
| Foreign direct investment (net inflows) | 345 | 11,200 | 15,193 | .. |
| Portfolio equity (net inflows) | 9 | 5,785 | 6,451 | .. |
| World Bank program | | | | |
| Commitments | 1,620 | 858 | 852 | 205 |
| Disbursements | 1,619 | 1,500 | 773 | 2,203 |
| Principal repayments | 608 | 1,222 | 1,029 | 743 |
| Net flows | 1,011 | 278 | -255 | 1,460 |
| Interest payments | 556 | 416 | 307 | 432 |
| Net transfers | 455 | -138 | -562 | 1,028 |

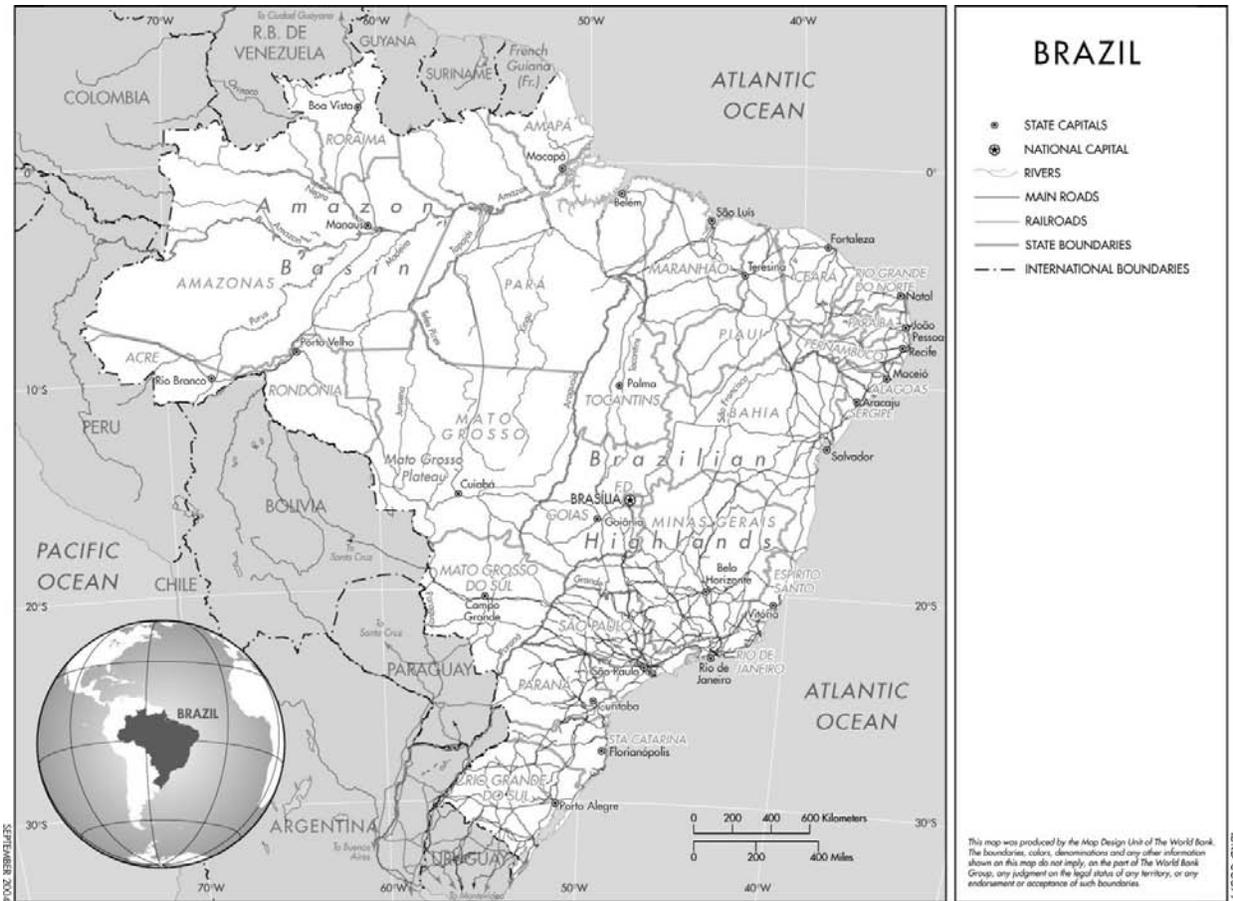
Composition of 2005 debt (US\$ mill.)


Note: This table was produced from the Development Economics LDB database.

10/1/07

Annex 15: Maps

BRAZIL: Health Network Formation and Quality Improvement Project (QUALISUS-REDE) APL PHASE 1



Natalia Moncada
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BRAZIL

- STATE CAPITALS
- ⊕ NATIONAL CAPITAL
- ~ RIVERS
- MAIN ROADS
- RAILROADS
- STATE BOUNDARIES
- - - INTERNATIONAL BOUNDARIES

This map was produced by the Map Design Unit of The World Bank. The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.