

**Major Developments in Results-Based Financing (RBF)  
in OECD Countries:**

**Country Summaries and Mapping of RBF Programs**

**Brazil: Incentive Program for Family Health Performance Improvement (PIMESF)  
implemented in Piripiri Municipality**

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June 5, 2011



**THE WORLD BANK**

### **Acknowledgments**

The authors are grateful to Jorge Otávio Maia Barreto (Secretário Municipal de Saúde de Piripiri) for sharing his time and experience to make this case study possible. The authors also wish to thank Michael Borowitz (OECD Health Division), Caryn Bredenkamp (World Bank Health, Population and Nutrition Unit), and Anthony Measham (World Bank Health, Population and Nutrition Unit) for helpful comments and clarifications on earlier drafts of the case study. Any errors that remain are the responsibility of the authors.

## Introduction

Brazil has made significant strides in improving the organization and financing of its health system since the constitutional change establishing the right to health care in 1988. Government health financing was consolidated, the public delivery system was organized into a country-wide system (Unified Health System, or SUS), and programs such as the Basic Health Package (PAB) and Family Health Program (PSF) have shifted the focus from a hospital-heavy system to basic primary care. In 1994, the government further enhanced the provision of primary care by establishing family health teams - a doctor, a nurse, a nurse assistant, and a community health agent (and in some cases one dentist or dental assistant) - for every 800 to 1,000 families (Secretaria de Atenção à Saúde, 2006). Private health care providers are important partners in the public system and supplement public services through contracts with public funds.

In spite of these advances, however, many challenges remain in Brazil's health care system. Relatively high levels of health spending (nearly 8 percent of GDP) and the massive scale of SUS (87 million people served by 27,000 family health teams) are not supported by adequate governance and management structures, while inefficiencies and bottlenecks limit the achievement of the system (Instituto Brasileiro de Geografia e Estatística). Furthermore, Brazil's federal structure and the decentralized nature of the SUS make the financial flows difficult to track and monitor, thus limiting accountability. Concerns about inefficiency and poor performance, particularly in public facilities, have motivated new innovative management approaches, including a wide range of P4P schemes.

The largest P4P schemes in Brazil were initiated by UNIMED-Belo Horizonte (UBH), which is a private nonprofit health care organization. UBH initiated its first P4P program in 2005 to improve quality of inpatient care by providing incentives for UBH network of 45 hospitals to be accredited. UBH began its second P4P program in 2007 for primary care providers to improve quality and efficiency for priority conditions. Physicians in the UBH network receive a bonus for appropriate management of selected conditions, such as diabetes, cardiovascular disease, child asthma, and well-child care (Paulo Borem & Monica Monteiro De Castro, 2010). In the public health care system, São Paulo's use of a public-private partnership to manage public hospitals through pay-for-performance (P4P) contracts, known as São Paulo's Social Organizations of Health, rewarded doctors through performance bonuses (La Forgia & Couttolenc, 2008). In contrast to these larger, well-publicized schemes, the *Incentive Program for Family Health Performance Improvement* (PIMESF) implemented in Piri-piri municipality in the state of Piauí is representative of an initiative to implement P4P schemes in a smaller municipality targeted to primary health care.

PIMESF is a unique P4P scheme that is specifically designed to improve integration of basic primary health care services by rewarding family health teams as a group. Unlike several of Brazil's other more high-profile P4P schemes, PIMESF has received little attention from public authorities at the national or international level. The relatively small scale of the program compared to its other Brazilian counterparts partly explains this lack of visibility. Nonetheless, the commitment of public authorities to improving performance and the originality of the integrated health approach provide some valuable lessons.

## Health Policy Context

### *What were the issues that the scheme was designed to address?*

As a small municipality facing high rates of poverty, Piripiri has undertaken a number of different programs to integrate value for money in its health system. The population of the municipality of Piripiri is approximately 62,000 people, and its gross domestic product per capita in 2007 of US\$1,827 is well below the Brazilian average of US\$7,605 (Instituto Brasileiro de Geografia e Estatística, n.d.a). The poverty incidence was estimated at 54.43% in 2003 (Instituto Brasileiro de Geografia e Estatística, n.d.b). Despite its low income level, the municipality has made health a priority, with a per capita public health expenditure in 2008 of US\$120, a figure well above the Piauí state average, but still below the national average ((Prefeitura Municipal de Piripiri, 2010; Instituto Brasileiro de Geografia e Estatística, n.d.a).

Piripiri has suffered from the fragmentation and inefficiencies that are characteristic of the healthcare system in Brazil. Health care provision is decentralized, with the Federal Ministry of Health delegating responsibilities to the State Health Secretariats (Secretaria Estadual de Saúde – SES), and from these to the Municipal Health Secretariats (Secretaria Municipal de Saúde – SMS). Financing of health care is provided by these three entities, which has led to considerable inequalities of resources, and thus quality and access to care. These inequalities are exacerbated by the emergence of public-private partnerships in only some specific regions, which has led to higher coverage rate in the South and urban wealthier regions and much lower coverage in other regions.

In an attempt to address these structural problems in the health sector at the local level, the Municipal Health Secretariat - Secretaria Municipal de Saude- (SMS) of Piripiri has been particularly proactive and innovative in implementing P4P mechanisms in recent years. For example, the municipality implemented two dental health P4P schemes prior to PIMESF. In 2008 the municipality launched a program in oral health aimed at improving dentists' performance through financial rewards conditional on their average achievement of a set of performance targets. Building on the 2008 experience a new P4P program covering all dentists, PIMESF was designed in 2009 to enhance quality of primary care rewarding family health teams. The implementation of this program coincided with the achievement of the best oral health indicators in the state of Piauí, and the scheme was nominated for the *Smiling Brazil National Prize* in 2008 and 2010 (Barreto J. O., 2010e).

The new PIMESF scheme builds on the previous experiences in implementing P4P schemes, but it includes some innovations that meet particular objectives related to improving primary health care. The Health Secretary of the P4P scheme in Piripiri identified three specific problems targeted by the scheme (2010a):

- a salary structure for health care providers based on seniority that does not reward productivity or other aspects of performance
- poor integration within the family health team
- lack of self-monitoring and self-evaluation among health care providers
- disparities in health outcomes

### *Stakeholder involvement*

The program has involved a diversity of stakeholders, including government agencies, purchasers (public or private), and providers. The Piripiri Health Ministry Secretariat meets with the state and federal government annually to define the set of performance targets for the scheme (Pact for Health). This agreement includes a large set of indicators, but only six were selected into the P4P scheme after consultation with all the health care teams (Barreto J.O, 2010b). The Pact for Health represents a long-term commitment by all of the actors to remain involved in the program and ensure its sustainability.

## **Technical Design**

### ***How does the scheme work?***

#### *Performance Domains and Indicators*

Some elements in the design of PIMESF are drawn from previous experience in P4P schemes, including in the municipality itself. The final design, however, was adapted to Piripiri's health situation, with six health indicators tailored to meet the specific health gaps in the municipality (Table 1).

PIMESF provides an incentive payment to health teams based on an assessment of the individual team members' work against six targets. The reward of the individual team members is contingent upon the performance of all of the other individuals on the team. The objective of this new program is to enhance cooperation between different health workers through teamwork and peer review and promote an integrated approach to healthcare.

**Table 1. Targets for Piripiri Family Health Teams**

<b>Targets</b>
70% of women 25-59 years of age covered by the family health team are screened for cervical abnormalities.
90% of live births from mothers covered by the family health team had 7 or more pre-natal consultations
The average number of doctor consultations per inhabitant per year covered by the family health team is at least 1.5
30% of population covered by the family health team that have had one dental consultation
100% of infants under 1 covered by the health team have been vaccinated with tetravalent vaccine.
The monthly average of home visits made by the Community Health Agent at least 1.5

Some of the teams do not have the full range of health professionals and are permitted to exclude indicators that they do not have the capacity to address:

- Absence of a doctor on the team – the indicator “Average number of doctor consultations per inhabitant per year covered by the family health team” is excluded
- Absence of a dentist on the team– the indicator “Share of population covered by the family health team that have had one dental consultation” is excluded
- Absence of a nurse on the team –the indicator “Share of 25-59-years old women covered by the family health team screened for cervical abnormalities” is excluded

The incentive scheme also directly aims to prevent or address problems with absenteeism. The absence of two or more members of the team for more than 15 days excludes the whole team from receiving the award.

#### *Incentive Payments*

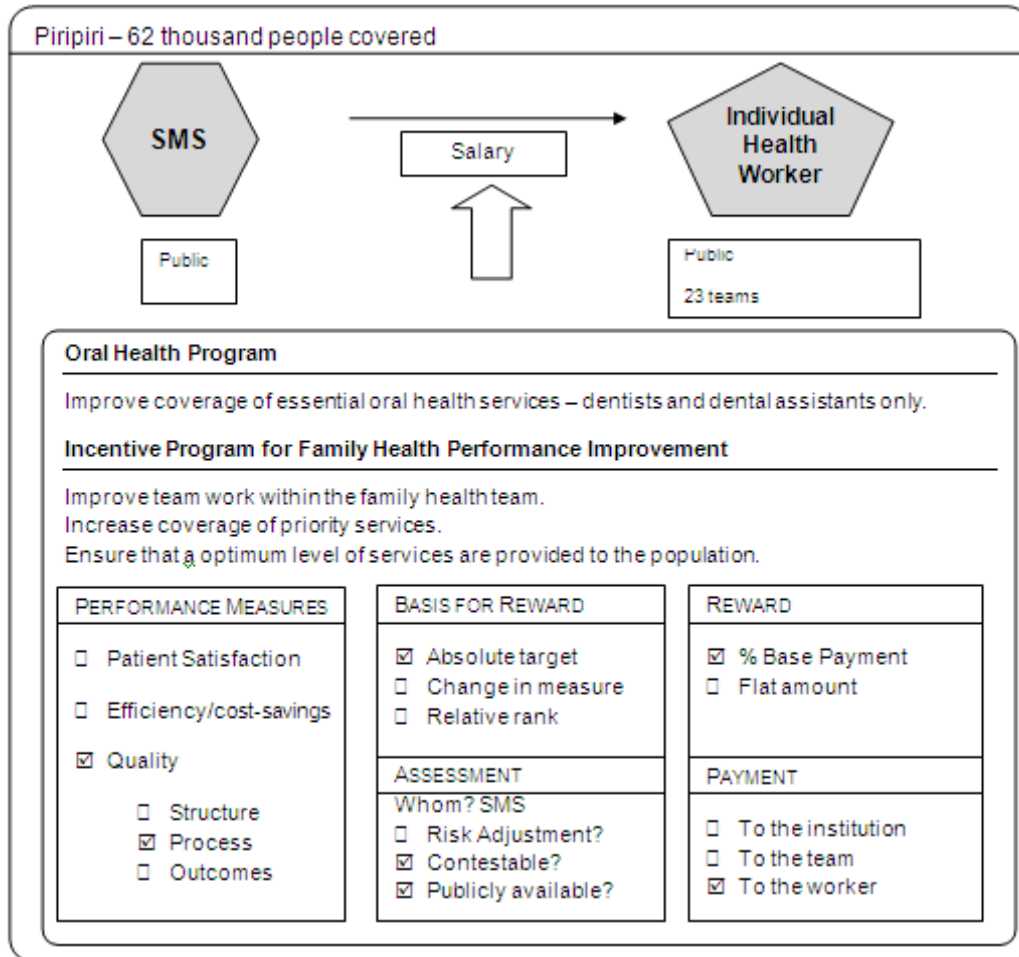
The incentive payment is significant, amounting to up to 20 percent of individual salaries (Table 2). It is an “all or nothing” payment, made only to health care workers whose team achieved all six targets and met the attendance criteria. Payments are made monthly, in order to support close monitoring and rapid feedback, and they are conditional on the necessary data being sent to the SMS by the deadline. It remains unclear how the timeframe of payment and of performance are related, as some indicators are yearly and others monthly. According to the SMS (Barreto J. O., 2011), yearly indicators are broken down into monthly indicators (divided by 11) for payments. In addition, at the end of the year, a compilation of data collected is used to assess the yearly performance and confirm payments.

**Table 2. Absolute Bonus Levels for Different Types of Health Care Workers in Piripiri**

<b>Job Title</b>	<b>Salary (US\$)</b>	<b>Reward (US\$)</b>
Doctor	2903.30	557.62
Nurse	2028.09	382.58
Dentist	1633.96	929.24
Dental Assistant	380.29	64.54
Nurse Assistant	431.68	74.82
Community Health Agent	346.41	57.76

The reward system was designed to avoid target distortion and gaming behaviors witnessed during the previous experience in the oral health program – namely, under-achievement of one target being compensated by over-performing on another indicator. There were anecdotal reports, for example, of over-provision of supervised brushing instead of achieving the procedure targets, which demanded more effort and resources. Also, the collective dimension of target achievement was introduced as a response to the fragmented health care issue, in an effort to encourage health workers to work together. The scheme is summarized in Figure 1.

**Figure 1. Summary of the Piripiri PIMESF P4P Scheme**



**Reach of the Scheme**

***Which providers participate and how many people are covered?***

Piripiri’s medical structure is relatively small, with 23 health teams covering the whole population of the municipality. To date, there are 23 family health teams enrolled in the scheme, which represents a 100 percent take-up of the program (Barreto J. O., 2011). All 23 health teams joined the program at a different point in time. The typical health team in Piripiri consists of one family doctor, one nurse, four auxiliary nurses, one dentist, two dental auxiliaries, a dental hygiene technician and four community health agents, but some of the teams are incomplete (Sheperd, 2010).

Enrollment in the scheme was left to the decision of each provider, and there are no other prerequisites to participate other than being part of an eligible family health team that has chosen to participate. The consent of all team members is required to participate, thus encouraging team work. Individual effort is valued as a way to achieve collective targets through the mechanism of ongoing assessment of performance. The failure to achieve one of the targets results in the failure of all other team members

to receive the reward. The design of the scheme (team work in order to achieve all targets) requires that all the members cooperate, at the very least, to keep track of individual effort and work.

#### *Data Sources and Flows*

Each team sends data documenting each of the indicators and the activities carried out the previous month to the SMS on a monthly basis. The SMS cross-checks this data with the information in other databases, and if there are discrepancies, SMS asks the team to review and/or justify the results submitted.

Achievement of the targets is evaluated and verified by the Department of Attention to Health (DAH) and the Department of Health Surveillance (DHS), both of which are part of the SMS. The DAH and DHS analyze the reports presented by the health teams and provide direct and indirect supervision of the activities carried out. The health teams are randomly selected for monthly supervision. (Barreto J. O., Saúde e qualidade de vida: desafios para a melhoria permanente da qualidade do SUS em Piripiri, 2009). The supervision report is analyzed by the SMS Cabinet. The assessment of performance can be contested by under-performing teams by filing a claim or providing a justification for not meeting the target. The SMS then decides whether the justification is valid or not, and thus if the reward is granted or not.

In order to avoid misreporting, the SMS cross-checks each reported indicator with other databases. For example, the results achieved for the indicator “70% of 25-59-years old women covered by ESF screened for cervical abnormalities” are cross-checked with data from the demographic database (IBGE), with the cytological collection database (SIASUS) and with the exam results database (SISCOLO). This is a safeguard against gaming, making it difficult for an individual team to inflate their results, since they do not have access to the other databases (Barreto J.O., 2010a).

#### **Improvement Process**

##### ***How is the program leveraged to achieve improvements in service delivery and outcomes?***

A quarterly report is published by the DAH and the DHS, consisting on information about: (1) the number and share of teams who adhered to the P4P program; (2) global results by indicator; and (3) teams ranked by best quarterly results. Every six months, an evaluation workshop is held with each team to present and discuss the evolution of their performance indicators, address difficulties, and provide feedback. An annual evaluation seminar requiring participation of all SMS departments is held in order to assess the yearly achievement and discuss the possible implications for the program in the future.

#### **Results of the Scheme**

##### ***Has the scheme had an impact on performance, and have there been any unintended consequences?***

#### *Program Monitoring and Evaluation*



There is no ongoing monitoring of the scheme, but an evaluation is being carried out by an independent researcher, with the first results of an overall evaluation of the scheme published in 2011. So far, a consensus has emerged that there has been improvement in data collection and use of information by the teams, which has helped in understanding better their performance achievement. There is no clear evidence of a large impact on overall performance, however. Aside from this annual evaluation seminar, the SMS also conducts on-site evaluation on a bi-annual basis, interviewing patients and providers about quality of care.

#### *Performance Related to Specific Indicators*

Analysis of the performance indicators has shown an overall improvement in the PIMESF indicators since the scheme began, with for instance a sharp increase in cervical screening procedures. In November 2010, twenty health teams received the incentive, which represents 80 percent of the total of participating teams at that time (Barreto J.O., 2011).

#### *Equity*

Equity has not been an objective included in the design, implementation or evaluation of the PIMESF scheme. Given the high level of poverty in the municipality, however, any increase in coverage of basic services is likely to benefit vulnerable groups.

#### *Provider Response*

Initial resistance to the introduction of the scheme resulted in no team signing up on the first month. Providers complained about the monitoring and evaluation of their work, as teams were not familiar with reporting. They also resisted the additional workload involved in data reporting, especially for a level of incentives considered 'low' for most of the teams. Although the providers were not entirely enthusiastic about PIMESF initially, there are anecdotal reports that team members have been more motivated in their work, have tried to coordinate better the work within teams, and have accepted better the idea of close monitoring and evaluation of their performance. In addition, teams have benefitted from the bi-annual and annual meetings to discuss their performance and share their experience with the program. This is an important contribution to the improvement process and can potentially enhance the dissemination of good practices.

#### *Costs and Savings*

The program is funded by the municipality, which itself gets funds from federal, state and municipal taxes. There is no clear break-down of expenditures between the three entities, so the total cost of individual programs is sometimes difficult to determine. Municipalities draw revenues mainly from taxation to fund the project, but very little is known about the budget dedicated yearly to financial rewards.

The overall cost of the scheme solely consists in the financial rewards paid to the health workers, as the data collection processes are part of the SMS routine operations. Currently, payment of the incentive represents an eight percent increase over total SMS personnel costs, amounting to R\$64,768 or about

US\$ 38,400 monthly (Barreto J. O., 2011). The cost of the scheme is thus relatively low. Under the scenario in which all teams received bonus payments, the scheme would lead to an increase of 15 percent in personnel costs. The scheme did not aim to achieve a net savings, but rather to use the resources in a more efficient way. Nonetheless, there may be savings in other parts of the health system of the municipality that could at least be partially attributed to the PIMESF scheme. For example, Barreto (2010e) notes a reduction in hospitalization due to diarrhea since the implementation of the scheme. Although there is no real evidence on causality, there is a plausible link between implementation of P4P scheme, improved delivery of primary health care services, and reduced avoidable hospitalization for diarrhea.

The SMS staff has noted an increase in the amount of time spent on administrative tasks related to performance evaluation and monitoring of the project, which is not included in the assessment of the costs of the program. If no additional resources are dedicated to the process of these additional tasks, then there is a risk of other programs being neglected due to the attention that PIMESF requires during its implementation (Barreto J.O., 2010e). Despite the efficient planning of funding, the municipality bore the entire cost of the initiative and it was necessary to shift resources from other programs to fund the initiative. Whether this shift in resource use within the municipality's health sector improved efficiency or crowded out more effective programs is unknown.

## **Overall Conclusions and Lessons Learned**

### ***Has the scheme had enough of an impact on performance improvement to justify its cost?***

An evaluation of the scheme has not yet been completed, so it is difficult to fully assess the impact of the program. In addition, the evaluation that is currently in progress may not yield conclusive evidence, as it was not integrated into the program design in the initial implementation stage and rigorous impact indicators were not selected and measured. The lack of comparable data across the state or region (between data collected by teams and the municipal data usually reported) also may make a proper evaluation difficult.

Analysis of the indicators does show that performance improved overall. There is some doubt, however, about whether the targets were set too low. For example, the target of 1.5 consultations per household per year does not require much increase in productivity of the health teams given current staffing structure. In 2010, financial rewards represented about ten percent of the total personnel costs, which was an additional burden for municipal budget if low targets did not provide value for money.

Overall, despite an initial reluctance on the part of providers and a currently unclear impact, the program has been welcomed both by providers and public authorities such as the SMS. Several factors facilitated the implementation and acceptance of the program. First, the municipality was relatively poor and demographically homogeneous, with only two percent of the population covered by private health insurance. As a result, changes in payment of the health workers were relatively easy to implement by the municipal government (Barreto J.O., 2010b). Also, the previous experience with P4P schemes in oral health prepared health care workers to welcome performance monitoring and evaluation schemes. The success of the oral health program (with the municipality having the best oral

health indicators in the state) served as a demonstration of the potential positive impacts of P4P schemes for the population.

Nonetheless, there was initial resistance to the program, which may have been overcome through better communication with health professionals. Little is also known about the scheme at the national level. Enhancing information about the project and its impact on the delivery of primary health care could potentially increase its visibility nationwide and contribute to its sustainability in the future, as the scheme is co-funded between municipalities and at the federal and state level.

An important lesson of the PIMESF experience is related to the commitment of public authorities to a long-term vision for the project. The Health Secretariat of the Municipality exhibited a strong will to innovate and experiment with management strategies in health. In addition to the oral health scheme, the SMS recently created a nucleus of professionals in support of evidence-based practice, which produces systematic reviews of health topics relevant for Piripiri's health workers (Barreto J. O., 2010e). This highly visible political involvement could also have negative effects for the future of the program. The legal framework supporting the scheme allows for it to be easily dismantled if the current SMS team loses the next elections (Barreto J.O., 2010e). The Federal Government also has announced increases in the salary of health workers, which together with the incentive scheme may put excessive pressure on the municipal health budget (Barreto J. O., 2010e). The lack of budget information makes it difficult to project the future costs of the program, but the municipality may not have the required funds to meet the increased pressure on its budget.

Piripiri's PIMESF is a small-scale program being implemented in a context that is relatively homogeneous in terms of the provider network and population served. In this respect, the innovation provides the opportunity to a unique test of a P4P model, identify the appropriate drivers and channels of performance improvement, and make refinements relatively easily. Such a contained experiment lends itself to the identification and diffusion of good practices in pay-for-performance.

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