



Health Reform Monitor



Pay-for-performance for primary health care in Brazil: A comparison with England's Quality Outcomes Framework and lessons for the future

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ABSTRACT

Pay-for-performance (P4P) has been widely applied in OECD countries to improve the quality of both primary and secondary care, and is increasingly being implemented in low- and middle-income countries. In 2011, Brazil introduced one of the largest P4P schemes in the world, the National Programme for Improving Primary Care Access and Quality (PMAQ). We critically assess the design of PMAQ, drawing on a comparison with England's quality and outcome framework which, like PMAQ, was implemented at scale relatively rapidly within a nationalised health system. A key feature of PMAQ was that payment was based on the performance of primary care teams but rewards were given to municipalities, who had autonomy in how the funds could be used. This meant the incentives felt by family health teams were contingent on municipality decisions on whether to pass the funds on as bonuses and the basis upon which they allocated the funds between and within teams. Compared with England's P4P scheme, performance measurement under PMAQ focused more on structural rather than process quality of care, relied on many more indicators, and was less regular. While PMAQ represented an important new funding stream for primary health care, our review suggests that theoretical incentives generated were unclear and could have been better structured to direct health providers towards improvements in quality of care.

1. Policy background

Pay for performance (P4P) links financial payments to the performance of health care providers. P4P has been widely applied in the

United States, the United Kingdom, and other OECD countries to improve the quality of primary and secondary care [1–4]. P4P is also increasingly being implemented in low- and middle-income countries to improve quality of care and service uptake [5,6].

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Brazil introduced a P4P scheme for primary health care in 2011: the National Programme for Improving Primary Care Access and Quality (*Programa Nacional de Melhoria do Acesso e da Qualidade da Atenção Básica* [PMAQ]) [7]. This was part of a package of programmes implemented at the time, including: *Programa Mais Médicos* that sought to provide more physicians in remote and deprived areas; and *Requalifica UBS*, which funded the construction and refurbishments for primary health care facilities. It represented the latest evolution in a primary health care system that dates back to the creation of the Unified Health System (*Sistema Único de Saúde*) in 1990, after the right to health was codified in the Federal Constitution of Brazil. It was not until the late 1990s, however, that concerted efforts were made to expand primary health care, through the Family Health Strategy. At the core of this policy was a new delivery platform, the family health team (FHT), which was tasked with spearheading primary health care provision under the decentralised management of municipalities.

Underpinning the Family Health Strategy was a new financing mechanism – the floor for basic care (*piso da atenção básica*) – that channelled federal funds to municipalities every month, providing a predictable source of financing for primary health care [8]. The funding was made up of a fixed per-capita component and a variable component that sought to encourage municipalities to adopt federal priority programmes. Both components played a crucial role in driving up the number of FHTs. The evidence shows that the expansion of FHTs has been successful in reducing mortality [9] and increasing primary care use [10], making them an exemplar for primary care provision [11], even if inequalities in outcomes remain substantial in Brazil [12].

PMAQ aimed to improve access to and quality of primary health care, with funding provided through the variable component of the floor for basic care. It was launched under the Presidency of Dilma Rousseff, at a time when federal contributions to public health spending had fallen, and state and municipal managers were agitating for more funding for primary health care. Guidance issued by her office on federal government administration that prioritised new public management strategies, proved influential for the design of PMAQ [13]. While the

introduction of PMAQ was certainly motivated by differences in resource availability and institutional support across municipalities [14], the political imperative to link funding to results is what led to the idea to allocate the new funding for primary health care conditional on FHT performance.

PMAQ was implemented over three rounds between 2011 and 2019. Participation in PMAQ was voluntary, and the proportion of municipalities opting into the programme increased over time (71% in round 1, 91% in round 2, and 96% in round 3). By 2019, 5,324 municipalities and 42,975 FHTs were participating in PMAQ [15], delivering primary health care to around 148 million people (70% of the Brazilian population), making it the largest P4P scheme for primary care in the world. PMAQ disbursed US\$1.5 billion (R\$8.6 billion) to municipalities between 2011 to 2017 [16]. There is an emerging literature on PMAQ [17], reporting on implementation constraints such as a lack of staff and management knowledge of the programme [18], and poor physical infrastructure limiting the work of teams [19]. However, PMAQ has also been associated with increased service provision to pregnant women and children [20], a reduction in inequalities in service delivery [21], and a reduction in avoidable hospitalisations [22].

In this paper, we critically assess the design of PMAQ and its evolution over time. We compare PMAQ to one of the most well-known examples of a primary health care P4P scheme, the UK Quality and Outcomes Framework (QOF), which was similarly implemented at scale rapidly within a national health system. Finally, we reflect on some of the strengths and weaknesses of the design of PMAQ. Throughout we draw on relevant theory and empirical evidence to inform our review of the programme. When PMAQ was initiated, the QOF had already been implemented for seven years and served as an inspiration for PMAQ [23]. Both the QOF and PMAQ aimed to improve the quality of primary health care and were funded through the tax system. We describe the PMAQ programme from a federal perspective, but we also highlight the considerable discretion that municipalities had on certain aspects of its design. Understanding how PMAQ was implemented at this level is an empirical question that is outside the scope of this paper.

Table 1
Design of PMAQ by round of implementation

Description	Round 1 (Nov 2011 – Mar 2013)	Round 2 (Apr 2013 – Sep 2015)	Round 3 (Oct 2015 – Dec 2019)
Indicators of performance			
<i>Self-evaluation:</i> FHTs reflect on their own performance, with the option of using a Ministry of Health recommended tool	1 indicator (10% weight)	1 indicator (10% weight)	1 indicator (10% weight)
<i>Monitoring:</i> Routine health management information system data (known as SIAB or e-SUS) on service utilisation and process of care indicators submitted by family health team	24 indicators (20% weight)	20 indicators (20% weight)	11 indicators (30% weight)
<i>External evaluation:</i> Data on structural quality, management, process quality, service availability, outcomes, and utilisation, collected via health facility visits by external evaluators	573 indicators (70% weight)	893 indicators (70% weight)	648 indicators (60% weight)
Financial reward system			
Inequality adjustment	Yes	Yes	No
Performance groups	4 groups based on PMAQ score relative to performance of other teams within same socio-economic band	4 groups based on PMAQ score relative to performance of other teams within same socio-economic band	5 groups based on absolute PMAQ score
Financial reward per team (R\$ per month)			
Worst (group 1)	<i>FHT</i> <i>OHT</i> <i>NASF</i>	<i>FHT</i> <i>OHT</i> <i>NASF</i>	<i>FHT</i> <i>OHT</i> <i>NASF</i>
Worse (group 2)	R\$1,700 R\$500 NA	R\$1,700 R\$500 R\$1,000	R\$879 R\$242 R\$466
Middle (group 3)	R\$1,700 R\$500 NA	R\$1,700 R\$500 R\$1,000	R\$1,758 R\$484 R\$933
Better (group 4)	NA NA NA	NA NA NA	R\$4,394 R\$1,210 R\$2,332
Best (group 5)	R\$5,100 R\$1,500 NA	R\$5,100 R\$1,500 R\$3,000	R\$7909 R\$2,178 R\$4,196
	R\$8,500 R\$2,500 NA	R\$8,500 R\$2,500 R\$5,000	R\$8,788 R\$2,420 R\$4,663

Notes: This table is based on that shown in Kovacs et al (2021). Groups in round 1 and 2 are based on score >1 SD lower than mean (group 1), <1 SD lower than mean (group 2), <1 SD higher than mean (group 4), and >1 SD higher than mean (group 5). Groups in round 3 are based on score 0–39 (group 1), 40–59 (group 2), 60–69 (group 3), 70–79 (group 4), and 80–100 (group 5). NASF are family health support units. OHT are oral health teams.

PMAQ ended in 2019 when the Brazilian government set out plans in a series of laws for a new primary health care funding model, known as “*Previner Brazil*.” The experience of PMAQ nonetheless remains relevant, not least because this new programme has retained a P4P funding element [24], but also because important lessons can be learned for other countries.

2. Key design features of PMAQ

The use of financial incentives to improve the quality of care can be analysed through the lens of agency theory [25,26]. In this framework, an agent (in this case a primary care provider) carries out a task (here, health care provision) on behalf of a principal (the payer/ministry of health). In health care, there is a further complication in that the primary care provider has a second principal, namely the patient, whose interest the agent is also expected to serve [27]. Due to asymmetric information and uncertainty, the payer cannot observe and therefore not base payments on whether the agent acted as the principal would have done in her place, but instead, can seek to align the interests of the principal and the agent through the design of the payments offered to the agent. The provision of incentives to provide high quality care has been analysed extensively [28–30]. Both theory and empirical evidence suggests that financial incentives under P4P are strongest when the payment is large, there is certainty in what gets rewarded, there is a short lag time between taking an action and receiving payment, and the scope for gaming is limited [31–34].

In this section, we describe the key design features of PMAQ [35] using a previously developed framework for P4P [5], and consider the strengths and weaknesses of PMAQ design in relation to the theory and empirical evidence on incentive design. We also highlight how the design of the scheme changed over time. Previous papers describing PMAQ focused on its early implementation or on specific aspects such as the measurement and reporting of performance [7,36,37].

2.1. Who was incentivised?

PMAQ assessed the performance of primary health care teams, who opted into the programme by entering into a contract with their

municipality. The vast majority of teams in PMAQ were FHTs, comprising at least a physician, a nurse, a nurse assistant, and four or more community health agents. FHTs act as the first point of contact for primary health care in Brazil. Each FHT is attached to a health facility (with on average 1.3 FHTs per facility). Oral health teams and interdisciplinary “family health support units” were also eligible to participate.

Although performance was measured at the team level, municipalities received PMAQ funds from the federal government. Theoretically, with health care being a team effort, measuring performance at the team level is sensible although it carries the risk of free-riding within teams [38]. Municipalities had autonomy in how the funds were spent. They could pass on funds as bonuses to individuals within teams or use the money for other purposes, such as training and purchasing equipment and supplies for health facilities. Municipalities were not required to distribute payments to teams based on their performance; they were free to use other criteria such as remoteness of facilities or perceived need, and were susceptible to influence from health worker unions [39]. Municipalities also received a fixed payment for each team that opted into PMAQ, hence they were incentivised to sign up more teams.

2.2. What was incentivised?

PMAQ assessed FHT performance using hundreds (600–900) of indicators, some of which changed across the three rounds (Table 1) [40–42]. The many indicators can be understood theoretically as a way to mitigate concerns about inducing distortion if rewarding only one part of a multidimensional task [43]. Indicators were selected through co-design workshops. They were classified into three categories based on how they were measured: self-assessment; routine monitoring; and external evaluation (Table 1). Most of the indicators were measured through the external evaluation in which university-led survey teams visited every FHT participating in PMAQ. Routine monitoring relied on the administrative primary care information system. This was initially a system based on aggregate data (known as SIAB) that was then replaced by the SISAB which used individual level data to generate indicators.

Indicators included those relating to service availability (e.g. opening hours), structural quality of care (e.g. availability of medicines),

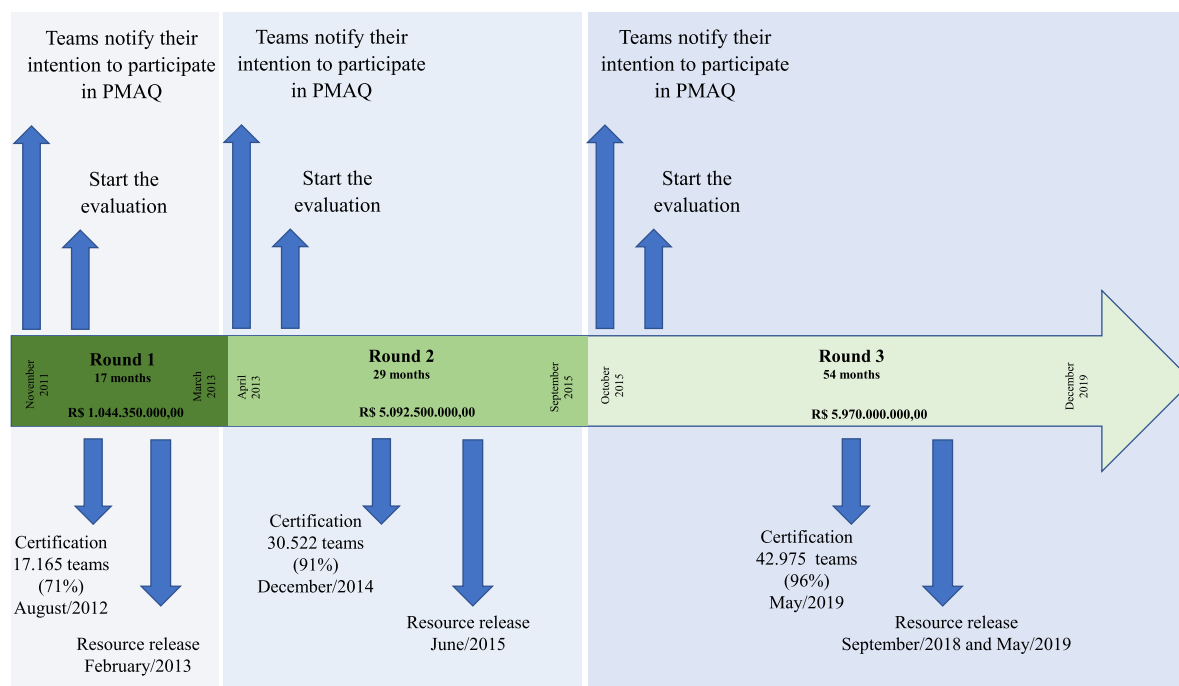


Fig. 1. The timeline of PMAQ implementation

Table 2
Comparing the design of QOF and PMAQ

Design feature	Quality and Outcomes Framework (England)	PMAQ (Brazil)
Measures of performance incentivised^c		
Availability of services	No	Yes (9%)
Healthcare visits	Yes (1%) ^a	Yes (1%)
Structural quality of care	Yes (5%) ^a	Yes (59%)
Process quality of care	Yes (53%) ^a	Yes (11%)
Outcomes (health & satisfaction)	Yes (14%) ^a	Yes (8%)
Management practices	Yes (25%) ^a	Yes (11%)
Cost saving	No	No
Whose performance measured	Groups of health workers: GP practices	Groups of health workers: Family health teams
Who (ultimately) receives the payment	Health facility: GP practices (can distribute to individuals)	Municipalities (can distribute to individuals)
Payment attributes		
Frequency	Monthly payments based on expected performance with annual adjustment	Monthly
Median size	8% of total income (down from 20% in earlier years) ^b	11% of primary care budget
Lag time	Up to one year	Up to three years
Reward versus penalty	Rewards	Rewards
Use of money	Both staff income and operating budget	Both staff income and operating budget
Basis for payment	Threshold target (multiple targets)	Combination of each action, single threshold target and multiple threshold targets
Type of ranking	Own performance (absolute)	Relative in round 1 & 2, absolute in round 3
Payment adjustment	Exception reporting	For equity in round 1 & 2, none in round 3
Gaming safeguards	Performance audit	Performance audit

^a Source: Forbes, L., Marchand, C., Peckham, S., 2016. Review of the Quality and Outcomes Framework in England. PRUComm. <https://doi.org/10.13140/RG.2.2.14301.00485>. NHS England, 2018. Report of the Review of the Quality and Outcomes Framework in England. NHS England.

^b Data on categorisation of PMAQ indicators into domains of care reflect the programme in round 3 of implementation.

processes of care (e.g. content of care, treatment completion), outcomes (e.g. patient satisfaction, birth weight of children), utilisation of healthcare (e.g. patient volume), and management (e.g. appointments scheduled). Of the indicators (n=648) used in the third round of PMAQ, the most common were measures of structural quality (58.5%), followed by management practices (10.9%), clinical processes of care (10.7%), service availability (8.7%), outcome (8.3%), and utilisation (0.9%), with 2.0% unclassified.

2.3. Basis for payment

The size of payment under PMAQ was based on a complex calculation comprising three steps. First, for each indicator, points were awarded based on team achievement of targets [40–42]. For most indicators, a single action or threshold target was specified alongside the number of points awarded. For other indicators, multiple threshold targets were specified, such that more points could be gained if performance was higher.

Second, the programme generated a performance score summarising performance for each FHT (Table 1). To calculate the score, the number of points achieved was divided by the number of points available in each of the three indicator categories. The weighted average across the

categories was then multiplied by 100 to give the PMAQ score ranging from 0 (lowest possible) to 100 (highest possible). The weights given to each indicator category changed between rounds, with slightly more weight given to routine monitoring indicators in round 3, at the expense of external evaluation indicators.

Third, each FHT was placed into a performance group based on its PMAQ score to determine the monthly financial reward (Table 1). Each municipality received the sum of the rewards “earned” by its FHTs. In the first two rounds of PMAQ, the reward structure adjusted for socioeconomic and demographic inequality – municipalities were categorised into six bands across the country, and performance groups were defined in relation to the distribution of PMAQ scores within a band. For example, teams within the same municipality band that performed one standard deviation above the mean received the largest financial reward. In round 3 of PMAQ, the adjustment for inequality was removed, with no official reason given.

2.4. Payment attributes

The financial rewards were the same in the first two rounds of PMAQ and then changed in the third round (Table 1). Based on our own calculations, PMAQ led to an 11% increase in federal spending on primary health care to municipalities. Each round began with an assessment of FHT performance, which determined the monthly financial payments made for the duration of the round. Financial rewards could therefore reflect performance up to three years earlier, representing a lengthy lag time.

Municipalities are the decentralised administrative health authority in Brazil. They therefore had autonomy in deciding how PMAQ funds could be spent, consistent with federal budgetary rules. Data from the third round of the PMAQ external evaluation indicates that 2,045 of 5,028 (40.7%) municipalities reported passing on at least some of the funds as bonuses to FHT workers. More in-depth examination of how municipalities spent PMAQ funds is the focus of ongoing research.

Fig. 1 shows the timeline of programme implementation and the steps in the process from enrolling FHTs to the release of funds.

3. Comparison with England's QOF

In Table 2, we compare the design features of PMAQ and the QOF [5]. A first notable difference is the measurement of quality. While the majority of indicators in the QOF reflect processes of care, PMAQ focused on structural quality indicators, possibly because they were easier to measure. However, inputs to care are often poor predictors of evidence-based clinical care [44], and larger effects come from linking incentives to process measures [3]. PMAQ's greater use of structure rather than process indicators could have also reflected differences in service delivery needs. While the structural foundation may be expected to be in place in English practices, incentivising structure may still be important in primary care in Brazil.

Institutional differences have contributed to differences in who is ultimately paid in the two schemes. In Brazil, FHT members are municipal government employees, paid a locally determined salary and attached to government owned health facilities. The Ministry of Health is unable to transfer money directly to teams which is why municipalities received PMAQ funds. In England, GP practices are not publicly owned and the NHS commissioning board sends payments directly to these provider organisations in the form of capitation and QOF.

From an incentive perspective, the QOF may be considered more high-powered than PMAQ because the unit whose performance is being measured (the GP practice) is the same as that receiving the payment [45]. Under PMAQ, performance was measured in FHTs, but the payments were distributed to municipalities. It was then the prerogative of the municipalities to use PMAQ funds in a way that met the population health needs [46]. Related research has found that incentives directed closer to the clinical level are likely to generate a larger effect [47,48].

Indeed, municipalities that passed on PMAQ payments as bonuses to FHT members had larger improvements in quality of care than those that continued to use the funds as an input-based budget [49].

Similar to the QOF, the design of PMAQ has changed over time. At the launch of the QOF, attention was drawn to the fact that incentive payments accounted for more than 20% of practice income. However, the number of indicators reduced and the scheme today accounts for about 8% of practice income, making it similar to PMAQ in relative value. Both schemes incentivise by rewards rather than penalties. In PMAQ, payment to municipalities is monthly, and is passed on to FHT workers (if at all) with varying frequency. In QOF, payment is monthly, with an annual adjustment to reflect actual rather than expected performance during the year.

Some worry that P4P schemes could have perverse equity effects, by inducing care providers to focus on patients for whom quality targets could more easily be achieved, or if providers who are better resourced can perform better and earn more. The first two rounds of PMAQ contained adjustments intended to promote equity and this appeared to work [21]. The QOF does not include similar payment adjustments but allows practices to accommodate individual patient circumstances by excluding eligible patients from the denominator of an indicator. Exception reporting is a counter measure against selection, but could also be gamed to exclude deprived patients from care. A systematic review [50] assessed the change in pre-existing (in)equity in health care after QOF. Although the introduction of QOF was initially associated with a small increase in deprivation-related inequity in quality, later studies found very little inequity due to greater improvements in practices in deprived areas. QOF was found to successfully reduce pre-existing age-related inequity in quality for some conditions but did not reduce pre-existing gender inequity. Results on ethnicity-related equity were inconclusive. In terms of exception reporting, the best available evidence indicates that it did not increase inequity.

In the QOF, the basis for payment is transparent with practices earning points for their absolute performance on binary or ratio indicators. The latter may have upper and lower performance thresholds. Each point is worth a specific amount. The use of performance targets in the QOF has been flagged as a potential concern because target setting requires careful and frequent adjustments to avoid turning into minimum requirements with little incentive effect [51]. In comparison, the calculations used to determine payments under the PMAQ are significantly more complex, and the relationship between performance on a given indicator and payment is difficult for municipalities or teams to discern.

The QOF relies on practices to self-report their performance into an IT system. The scheme came with heavy investment in IT systems to support performance measurement, enabling the automatic extraction of clinical process indicators from electronic medical records. Practices are asked to ensure that performance records are auditable and the responsibility for auditing is placed with commissioners. PMAQ performance measurement was largely based on external evaluations made by independent university-based teams, as rollout of the electronic health information system had been incomplete [52].

4. Discussion

We assess the strengths and weaknesses of PMAQ's design and discuss the incentives potentially generated by the programme, before concluding with some reflections on the future of P4P in Brazil and lessons for other countries.

4.1. Strengths and weaknesses of PMAQ

PMAQ was an ambitious national programme delivered at scale. It generated a new funding stream, providing additional support to FHTs that capitalised on the successful expansion of primary health care provision through the family health strategy. It was co-designed through

a collaborative process that brought in a diverse range of stakeholders from the national health system, universities, and health worker unions.

A key feature of PMAQ was how it encouraged local decision-making, in keeping with the decentralised nature of health policy in Brazil. In doing so, it could in principle leverage local knowledge of health needs and population preferences. Another key feature was the adjustment of financial payments for socioeconomic differences between municipalities in the first two rounds which likely explains how pre-existing income inequalities in the performance of FHTs were eliminated during implementation [21].

PMAQ generated substantial amounts of publicly available data on FHT performance, fostering a culture of reporting and transparency, and offering insights into the performance of primary health care providers at a granular level. University engagement in performance measurement through the external evaluation strengthened the independence of the process and added credibility.

Key PMAQ design weaknesses included the large number of indicators and complicated formula to determine payment. One could argue that the indicators did well to capture the multidimensional nature of quality of care. However, the reward system lack transparency – it is unlikely that FHTs had an accurate sense of what they needed to do to improve measured performance. A second weakness concerned the PMAQ indicators themselves. More than half the indicators were structural quality measures, while only one in ten were process of care measures and there was no clear evidence base for the choice of indicators. Nevertheless, these data clearly show there is considerable scope for better resourcing of FHTs in terms of equipment, drugs and other inputs [21]. Finally, much of the performance data came from commissioned surveys carried out by university teams. PMAQ only partially relied on existing routine information systems and it is therefore not obvious PMAQ has institutionalised quality measurement within the primary care system.

4.2. Incentives generated under PMAQ

A novel design feature of PMAQ was the autonomy given to municipalities in how to use the rewards. This meant the incentives felt by FHTs were contingent on municipality decisions on whether to pass the funds on as bonuses and the basis upon which they allocated the funds between and within teams. Almost 60% of municipalities chose to retain the funds to purchase health facility inputs, perhaps due to underfunding of basic costs, implying that a substantial proportion of the money was not used as a financial incentive for staff. However, funds may have encouraged greater effort indirectly through better working conditions or greater monitoring from municipality managers.

There is reason to think that various sources of uncertainty undermined incentives in PMAQ. First, the number of indicators and the complicated method used to generate the measure of performance made it unlikely FHTs knew how to exert greater effort to reap financial rewards. Second, the indicators changed in each round of PMAQ, which may have generated uncertainty in what actions were being rewarded. Third, the fact that many municipalities retained the funds to invest in primary health care meant a large number of FHTs were uncertain as to whether their effort would be financially rewarded. However, these uncertainties may have guarded against gaming because such behaviour requires a reasonably sophisticated understanding of how rewards are generated.

Given that PMAQ operated in rounds lasting up to three years, a weakening of the performance-payment relationship over time was built into the design, potentially dampening incentives [53].

5. Conclusion

PMAQ represented an important new funding stream for primary health care in Brazil. Our review of its design suggests that theoretical incentives generated were unclear and could have been better structured

to direct health providers towards improvements in quality of care. We conclude by distilling some key lessons that may be relevant for both the future of P4P in Brazil and other countries.

First, in any P4P programme, the choice of indicators that are linked to payment is a key decision. The co-design process used in PMAQ offers a good example of an approach that can lead to a set of indicators tailored to the country context. The experience under PMAQ, however, suggests that the indicators should be limited in number, informed by rigorous evidence of clinical effectiveness, and linked to payment in a transparent way if health care providers are to understand the effort-reward relationship.

Second, there are many countries in which public financial management rules prohibit health care providers from holding public funds. PMAQ provides a model of how a P4P programme can be designed to accommodate these constraints. The obvious risk, however, is that the intended incentives fail to reach the frontline health care providers. The evidence from Brazil suggests that decentralised health authorities can pass on the incentives to individual health workers and, when they do so, this can be beneficial for quality of care.

Third, there are legitimate concerns that P4P can exacerbate inequalities in health care provision, particularly if payments are linked to levels of performance rather than improvements in performance. PMAQ

showed how P4P design can incorporate weights in the reward structure to account for socioeconomic differences across geography. The precision with which this can be done will depend, however, on the granularity of the data available to policymakers.

Declaration of Competing Interest

None declared.

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Appendix

See [Table A1](#).

Table A1

1. Summary of the indicators self-assessment; routine monitoring; and external evaluation in third round.

Performance Indicators	
1) Self-Evaluation	
It seeks to contemplate different points of view of the actors involved (professionals, users and managers). It is recommended that the self-assessment be carried out by the team. The instrument's indicators (AMAQ) are quality standards referring to the structure, processes and results of Primary Care actions.	
Reflect the PMAQ's core objectives and guidelines	
Reflect on responsibilities in the form of organization and work process to promote access and quality of services offered (involves managers and family health teams)	
Stimulating changes in the care model and strengthening the orientation of services according to the needs and satisfaction of users	
Reflect quality standards whose suitability for the analyzed situation is given by means of a numerical scale	
Enable the quantification of self-assessment responses to enable the constitution of general scores of access and quality.	
2) Monitoring Indicator	
11 performance indicators for the primary care teams were subdivided into four groups and one to Family Health Support Center (NASF): The set of contractual indicators is linked to the certification process, making up a part of the team's final performance.	
Access and continuity of care	Average attendance by doctors and nurses per inhabitant Percentage of consultations by spontaneous demand Percentage of appointment appointments scheduled Rate of visits by assessed health condition Reason for collecting cytopathological material from the cervix Coverage of first programmatic dental appointment
Care Coordination	Mean number of newborns seen in the first week of life
Resolvability	Percentage of referrals to specialized service Ratio between completed treatments and first programmatic dental appointments
Scope of service offering	Percentage of services offered by the Primary Care Team Percentage of services offered by the Oral Health Team
Support Center for the Family Health Team	Rate of assistance provided by the Family Health Support Center (NASF): - Average of individual consultations performed by a NASF professional - Average of home visits performed by a NASF professional - Average of shared services performed by a NASF professional - Average of group consultations performed by a NASF professional
3) External Evaluation Indicators	
The questions that make up the external assessment instrument are consistent with the standards described in the self-assessment instrument	
Module I	Observation at the Health Unit, aims to evaluate the infrastructure conditions, materials, supplies and medicines of the Health Unit.
Module II	Interview with the primary care team professional and verification of documents, aims to obtain information about the team's work process and the organization of service and care for users.
Module III	Interview with the primary care user: Assess access, use and user participation, by population-based representative samples.
Module IV	Interview with the NASF team professional and document verification, objective to obtain information about the work process organization of the service.
Module V	Observation at the Health Unit, aims to assess infrastructure conditions, materials, supplies and medicines of the Health Unit, focusing on the work of Health Oral.
Module VI	Interview with the oral health professional and verification of documents, aims to obtain information about the team's work process and the organization of the service and care for users.

Source: Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Programa Nacional de Melhoria do Acesso e da Qualidade da Atenção Básica (PMAQ-AB): Manual instrutivo para as equipes de atenção básica e NASF. Brasília, DF: MS; 2017

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