Effect of the payment mix for primary care services on the quality of chronic care in Chile

Case study

Rafael Urriola and Nicolás Larrain
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### Abbreviations

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<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>CESFAM</td>
<td>Centro de Salud Familiar (Family Health Care Centre)</td>
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<tr>
<td>COVID-19</td>
<td>coronavirus disease 2019</td>
</tr>
<tr>
<td>FONASA</td>
<td>Fondo Nacional de Salud (the National Health Fund)</td>
</tr>
<tr>
<td>GES</td>
<td>Garantías Explicitas de Salud (the Law of Explicit Health Guarantees)</td>
</tr>
<tr>
<td>ISAPRE</td>
<td>Instituciones de Salud Previsional (private social health insurance)</td>
</tr>
<tr>
<td>MAIS</td>
<td>Modelo de Atención Integral en Salud Familiar y Comunitaria (Family and Community Integrated Health Care model)</td>
</tr>
<tr>
<td>PHC</td>
<td>primary health care</td>
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<tr>
<td>PRAPs</td>
<td>Programas de Reforzamiento de la Atención Primaria (programme to strengthen primary health care services)</td>
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Effect of the payment mix for primary care services on the quality of chronic care in Chile

Executive summary

Since 2012, the Chilean health care system has focused on reducing the morbidity, disease burden and premature mortality caused by chronic conditions through its primary health care model, known as Family and Community Integrated Health Care (or MAIS for its acronym in Spanish). This model uses four methods to fund each municipal primary health care network: per capita payments, funds from the central government that are earmarked for activities to strengthen critical areas of care delivery, performance-based bonuses and municipal budget allocations. All of these methods aim at ensuring access to and provision of high-quality services, but only earmarked funds and performance-based bonuses represent a direct incentive for providers to focus on improving quality. Our study aimed at understanding how the current model incentivizes, supports and integrates improvements in the quality of care for people with chronic conditions and whether this model has had a measurable impact on care quality. Per capita payments and related adjustment factors enhance equity in the resources allocated to municipalities; however, they also come with an incentive to skimp on quality. Our analysis of one programme that received earmarked funds for chronic care also shows how part of the funds transferred from the central government to strengthen critical areas of care delivery for patients with chronic diseases is linked to performance. The related performance indicators focus on the structures and processes of care. For a deeper analysis, we selected two primary care networks for which performance and budget analyses are publicly available and use them to illustrate how the pay-for-performance method works. Our analysis shows that only a few of the service delivery goals used to grant performance-based bonuses are linked to chronic diseases. Furthermore, our findings suggest that performance-based bonuses provide incentives for continual quality improvement by setting targets based on performance in previous years. However, since most primary health care networks receive the maximum available bonus and all health workers get a 10.3% salary bonus even if performance is poor, this purchasing arrangement is perceived by the workforce to be a secured add-on to their salary. Interactions between the community and policymakers at the local level and the allocations in municipal budgets targeted to primary care facilitate a more responsive health system that meets the needs of the community. However, the findings of this descriptive study confirm that the effect of the payment mix for primary care services on the quality of care for people with chronic conditions is limited.

This case study provided information to the WHO-OECD publication, *Purchasing for quality chronic care: summary report.*
Introduction
Primary health care (PHC) in Chile is primarily delivered by the public sector and managed at the municipal level. This model of primary care is known as Family and Community Integrated Health Care (or MAIS for its name in Spanish, Modelo de Atención Integral en Salud Familiar y Comunitaria). MAIS was designed and implemented by the Ministry of Health as a general guideline for the entire public health system in Chile. MAIS provides the general framework within which municipalities implement their health strategies according to their capacities and the needs of their population. In this sense, municipalities, while constrained by the model of PHC, have some flexibility to define strategies to meet their local goals. MAIS uses four methods to transfer funds to each of the 345 municipal PHC networks. In order of importance, these mechanisms are capitation; direct transfer from the central government to finance PHC strengthening programmes (known as Programas de Reforzamiento de la Atención Primaria, or PRAPs); a pay-for-performance scheme linked to a set of goals related to caring for patients with chronic conditions, among others; and municipal budget allocations.

The payment mix for purchasing PHC stems from a set of initiatives put forward by several governments since the 2000s. Pay for performance was implemented in 2004, following introduction of the National Health Plan under Law 19813 in 2002. The law introduced a new payment scheme as part of an effort by then-President Ricardo Lagos to modernize the state’s management of health care. The new law changed the way primary care was financed, adding the pay-for-performance component to capitation and municipal contributions. The law had two main objectives: to improve the economic and labour conditions of PHC workers and to enhance the quality of care while ensuring implementation of the new model of PHC. The law stipulates that the Ministry of Health is responsible for defining health priorities for the country and setting guidelines for local authorities to measure performance.

Following this reform, primary care in Chile was further strengthened by enactment of Law 19966 in 2005, known as the Law of Explicit Health Guarantees (or GES, for its name in Spanish, Garantías Explicitas de Salud), that defined the minimum standard of care to be covered by public and private insurers. The law promoted a stronger primary care sector, reforming MAIS by defining the number of individuals each PHC network is accountable for, the technology and equipment the network should be equipped with, the need to coordinate with specialist care and the need for the network to be led by family and community health teams.

The Chilean primary care model has a special focus on improving the quality of care for patients with chronic conditions. This focus on chronic care was introduced in the national strategy for 2011–2020. Based on the results of the National Health Survey of 2010, the
government redefined its health objectives to include an emphasis on preventing and reducing the burdens of morbidity and premature mortality from noncommunicable chronic conditions, encouraging the promotion of healthy behaviours and reducing lifestyle risks associated with chronic conditions.

In line with the updated national strategy, MAIS was redefined in 2012 (5), thus revising the primary care model implemented in 2005. The updated model of care is based on the biopsychosocial approach – which considers the population’s psychological, emotional, social and biological well-being – and focuses on the individual and their family and community.

This study aimed to understand whether and how the different payment methods in PHC are related to performance and whether they target people with chronic diseases. To this aim, one PRAP that targets people with chronic diseases is analysed and discussed. This report is also based on an illustrative example of performance-based bonuses in two municipalities, Hualpén and La Pintana, chosen because information is publicly available about their performance and budgets.
Overview of the Chilean health care system
2.1 Governance

The Ministry of Health, represented by two undersecretaries, known as the Undersecretary for Public Health (or Salud Pública) and for Assistance Networks (or Redes Asistenciales), is the highest authority in Chile’s health care system. Its roles are to ensure that care is provided, to specify public health guidelines and to finance public health services. There is a decentralized system of care provision, and health care governance is divided into 29 geographically defined Health Service Networks, coordinated as a national system (known as the Sistema Nacional de Servicios de Salud), and 345 Communal Directorates, managed by municipalities and responsible for the PHC networks. The national system manages the network of public hospitals, walk-in clinics and outpatient services and is associated with the Undersecretary for Assistance Networks; it has decentralized governance at the regional level and is headed by a regional directorate (known as the Dirección de Servicio). Private providers may join this network if they have standing contracts with the public insurance scheme. Most Communal Directorates (93%) are managed by their local municipal government and are responsible for PHC; in other cases, PHC is delivered in hospital settings and managed by the Health Service Network (5%) or by nongovernmental organizations (2%) (1, 6).

2.2 Financing sources

Chile has a social health insurance model, with separate entities responsible for purchasing care and providing care. Purchasing is related to the compulsory health insurance scheme that requires people to enrol with either the public entity (i.e. the National Health Fund; in Spanish, Fondo Nacional de Salud, known as FONASA) or one of the 10 private social health insurance entities, as of 2022 (known as Instituciones de Salud Previsional or ISAPRE). In addition, municipalities purchase health services directly from their PHC networks. The Ministry of Health is responsible for providing services through the Health Service Network and Communal Directorates, in addition to private providers. A universal coverage package serves as the standard of care, although insurers can provide additional services. This coverage package is known as the Plan for Universal Access with Explicit Guarantees (Plan de Acceso Universal a GES). Funding comes from social contributions or health insurance premiums, state budget transfers from general government revenues and out-of-pocket payments (Fig. 1).

Per capita health care expenditure in Chile reached US$ 2578 in 2021 (7), representing 9.1% of gross domestic product, the third
highest amount in Latin America (8). Out-of-pocket expenditures represented around 30% of all health expenditures in 2021 (7) and are used mainly to pay for medications and services from private providers. Of the remaining portion of health expenditures, around one third comes from state contributions and the other third from compulsory health contributions, equivalent to about 7% of a worker’s salary, which apply only to those employed in the formal sector.

Health spending from public sources represents 50.4% of total health spending in the country. Between 22% (6) and 24% (9) of health spending from public sources is allocated to PHC provided by the public sector (6). The share of PHC expenditure in relation to total public health expenditure has been relatively stable since 2011 (10). However, in nominal terms, it has increased by an average of 8% yearly during the decade 2011–2021 (6). In the private sector, which accounts for 49.6% of total spending on health care, there is no distinction between outpatient care and primary care, but it is known that 46% of spending on health care received from private sources is for outpatient care (9). Private health care providers are paid on a fee-for-service basis.

In 2022, due to the coronavirus disease (COVID-19) pandemic and its aftermath, the growth rate of the Ministry of Health’s budget was higher than that of the national budget, for a total of US$ 14.195 million, of which 27.5% was allocated to public PHC (11).
Fig. 1. Funding flowing to primary health care in Chile

**Public health system**
- Fiscal contribution
- Payroll contributions
- Other funds

**Private health system**
- Payroll contributions and additional premiums

**Financing sources**
- Municipalities
- People – OP

**Payers**
- FONASA
  - DRGs
  - Capitation
  - Strengthening programs
  - Pay for performance
- ISAPRE
  - Fee for service
  - Line-item remuneration, DRGs (non-for profit hospitals)

**Payment methods**
- Vouchers
- Co-payments

**Levels of care**
- Hospital care
- PHC
  - Communal directorates
- PHC networks operations

**PHC providers**
- Health personnel workforce
- PHC networks operations

**Outpatient care**
- Private health facilities and individual providers

**Inpatient care**

**Source:** Figure developed by the authors based on the work of Cuadrado et al. (9).

FONASA: Fondo Nacional de Salud (the National Health Fund); ISAPRE: Instituciones de Salud Previsional (private social health insurance); OP: out of pocket; PHC: primary health care.
2.3 Health insurance system

Public health insurance is managed by the National Health Fund (i.e. FONASA). This Fund covers around 78% of the population. In parallel, private health insurance companies also provide compulsory coverage, covering 17–18% of the population and typically linked to private providers; a further 3–4% of the population is covered by the armed forces insurance scheme (12). Additionally, people purchase private voluntary health insurance, either for services that are not covered by the standard benefit package or to have more rapid access to care. In 2014, it was estimated that 36% of the population was covered by voluntary health insurance, mainly through entities linked to their place of work or profession (13).

2.4 Main features of the primary health care system

Registration with a municipal PHC network is mandatory for the 78% of the Chilean population insured by the National Health Fund, which included around 15 233 814 people in December 2021. Of these, 87% are registered with a PHC network.

For people insured by the National Health Fund, the PHC network is the mandatory first point of contact when seeking care, except for emergencies. This means that PHC acts as a gatekeeper to other levels of care. Only workers in formal employment who have a free-choice health care plan have direct access to public or private specialist care; however, participation in a free-choice plan is discouraged through the implementation of higher copayments. People who are privately insured are not subject to PHC gatekeeping.

PHC is delivered by multidisciplinary PHC teams that include doctors, nurses, social workers, dentists, midwives and other health personnel. No training beyond medical school is required to become a primary care physician; however, postgraduate training does exist for family doctors.

PHC providers in Chile are responsible for the prevention, early detection and treatment of mild conditions; routine control of chronic conditions; rehabilitation; and referral to other levels of care (5). PHC is meant to be highly effective in resolving most of a population’s health problems, and explicit performance goals are set to reinforce this concept (e.g. one indicator is the percentage of PHC
visits resolved within PHC). The Institute of Public Health shares responsibility for health promotion and prevention through providing quality assessments, accreditation, health research and assessments of health technology, usually using PHC as the point of contact with patients.
The Family and Community Integrated Health Care model (MAIS)
3.1 Overview

MAIS incorporates actions to promote and facilitate the delivery of efficient, effective and timely care to people while considering their physical and mental health and their integration with and adaptation to their social environment, including their culture, family and communities (5). This model understands people’s health as an integrated process requiring care that considers their family and community during all stages of life. The model’s objectives are to ensure access to health care, permanently improve the quality of health services and training of the health workforce, and to increase social participation. The model’s three main principles are that it:

- is people centred – it focuses on ensuring access to health care, especially for vulnerable groups, and improving patients' experience by delivering high-quality care and ensuring that providers have strong personal relationships with patients;

- provides a comprehensive care package – this focuses on prevention, taking a multidimensional approach to health problems and using risk stratification that considers a patient’s health and socioeconomic characteristics;

- ensures care continuity – this focuses on the coordination of patient care and the management of facilities, equipment and the health workforce.

The legal framework for the model is embedded in GES (Law 19666) (14). GES guarantees coverage for 87 diseases through both private and public social health insurance. Further, the following rights are explicit in GES: the right to participate in social security, the right to obtain timely care in a facility of accredited quality and the right to be protected against excessively high health care costs.

The MAIS model is compatible with the Integrated Health Services Network framework created by the Pan American Health Organization in 2010 (15). This framework describes a network of organizations that provide or make arrangements to provide equitable and integrated health services to a defined population and that is willing to account for its clinical and economic results and the health status of the population it serves (15).

The services provided by MAIS are defined by the Family Health Plan, which in time will become aligned with the GES and respond to the technical guidelines provided by the Ministry of Health. The Plan includes approximately 100 health services that are provided at the PHC level, with actions aimed at improving population health (5).

PHC networks are the operational and administrative units of MAIS. They are created and managed by the Communal Directorates and
are composed of several PHC centres that offer varied levels of services. The main centre in a network is known as the Family Health Care Centre (Centro de Salud Familiar, or CESFAM) (16); other centres focus on ambulatory care, family medicine, community care and primary emergency care, and the networks also include rehabilitation centres, among other services.

Health care is provided by multidisciplinary PHC teams that take responsibility for an assigned population and provide treatment, health-promotion activities, preventive care, and recovery and rehabilitation services. These teams also include social workers and are meant to create a strong relationship with their population, facilitating the implementation of a biopsychosocial approach to care and care continuity (5). Members of the team are hired directly by municipalities; hence, they are municipal public servants and are subject to the rules and regulations of the local government.

3.2 Payment methods

Different payment methods and financial incentives for primary care services have been developed in Chile during the past 30 years. Four different payment methods are used together to create an appropriate set of incentives to minimize the over- or underprovision of care and to enhance quality: capitation, PHC strengthening programmes (known as PRAPs), pay for performance and municipal budget allocations. Table 1 summarizes the share of total funds from public sources going to primary care service providers, by payment method.
Table 1. Purchasing entities and payment methods for primary health services, Chile, 2021

<table>
<thead>
<tr>
<th>Purchasing entity</th>
<th>Payment method</th>
<th>Millions of Chilean pesos (US$ millions) (a)</th>
<th>% of total primary health care budget from government funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health</td>
<td>Capitation</td>
<td>1 460 982 (US$ 1.925 million)</td>
<td>71.0</td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>Strengthening programmes (PRAPs)</td>
<td>400 321 (US$ 527 million)</td>
<td>19.5</td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>Performance bonuses</td>
<td>112 903 (US$ 149 million)</td>
<td>5.5</td>
</tr>
<tr>
<td>Municipality</td>
<td>Direct municipal allocation</td>
<td>82 259 (US$ 108 million)</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>2 056 465 (US$ 2.709 million)</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td>Percentage of funds spent on salaries(b)</td>
<td></td>
<td></td>
<td>51.7</td>
</tr>
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PRAPs: Programas de Reforzamiento de la Atención Primaria (programme to strengthen primary health care services).

\(a\) The average exchange rate in 2021 was US$ 1.00 = 759 Chilean pesos.

\(b\) Data from Debrott (17).

Source: Data from references (17, 18).

### 3.2.1 The per capita method

The largest share of resources in PHC comes from capitation payments from the National Health Fund to the PHC networks managed by municipalities (1). The per capita amount is based on the cost of delivering the Family Health Plan for a typical population of 10 000 inhabitants, considering the average epidemiological and demographic profiles as well as average workforce salaries. To set a payment amount for the Family Health Plan, the cost of health personnel, goods and services, and municipal administration are estimated. These estimates are the per capita amount used to transfer funds to municipalities according to the number of people registered with their PHC network. In 2021, the base capitation amount was 8028 Chilean pesos (US$ 10.40) per month.

Three adjustments are made to the capitation amount to account for differences in health needs and risks and related expenditures, as some population groups have relatively lower health risks and lower health expenditures. These adjustments are based on the:

- poverty or deprivation index, which classifies municipalities based on the average income of their population. Four tiers correspond to four rates of adjustment to the base capitation amount: 0%, 6%, 12% and 18%;
The Family and Community Integrated Health Care model (MAIS)

- degree of rurality: if the rural population represents 30% or more of the total population of a municipality, the base capitation amount is increased by 20%;
- degree of geographical isolation: the Ministry of Health accounts for the geographical isolation of areas and areas where the registered population is more dispersed, leading to the PHC network incurring additional transportation costs to meet the goals of the Family Health Plan. The adjustment to the base capitation rate is 0–24%.

Based on these adjustment factors, a municipality can receive a total increase of up to 62% of the capitation payment.

In addition, two add-on payments to the adjusted capitation amount are made, according to:

- the age of the population – that is, an additional payment of 698 Chilean pesos (US$ 0.90) per month is awarded based on the number of people aged 65 years and older registered with the PHC network;
- whether the area is considered a socioeconomically deprived area where it may be difficult to perform – that is, the Ministry of Health uses this classification for zones that meet certain deprivation criteria and where it may be difficult to retain health personnel. This additional payment varies between 63.5 Chilean pesos (US$ 0.10) per month to 1140 Chilean pesos (US$ 1.50) per month.

The adjustment factors and add-on payments to the base capitation amount have had a positive effect on the equity of resource allocation among municipalities, and the system has become increasingly effective in allocating higher levels of resources to poorer municipalities (9). In this sense, while capitation is not used as a tool to incentivize providers to improve their performance, the method is important in providing the necessary funds to ensure comprehensive implementation of the Family Health Plan. This should, in turn, reduce incentives to skimp on care because the areas with greater socioeconomic need and, most likely, greater health care needs, receive additional funds.

3.2.2 PHC strengthening programmes

PHC strengthening programmes (or PRAPs) started in the 1990s, with the objective of addressing the most urgent problems in care access and treatment capacity to comply with the Family Health Plan. Currently, PRAPs include programmes addressing oral health, mental health, health promotion and palliative care, among others. In addition, they include special public health programmes, such as the national immunization programme and complementary feeding
3. Effect of the payment mix for primary care services on the quality of chronic care in Chile

The programmes are designed by technical teams inside the Ministry of Health, validated by the Minister and incorporated into budget proposals submitted to the Ministry of Finance. Once programmes have been agreed, they are submitted to the National Congress for approval (19). Earmarked funds are provided to Health Service Networks and then to municipalities to implement PRAPs.

PRAPs, unlike per capita funding, are not in place in all networks, and the participation of a PHC network in a particular PRAP, and the consequent allocation of resources, is defined by agreement between the Health Service Network and the municipal administration of the PHC network. Agreements must stipulate the actions to be taken, performance goals, deadlines and clear timelines, and must include a budget proposal that conforms to the PRAP guidelines and instructions that are approved by the Ministry of Health (20).

There were 28 PRAPs in 2021 and 36 in 2022. On average, each municipal PHC network participates in about 20 to 25 PRAPs (20).

There is a technical team and reference person in the Primary Care Division of the Ministry of Health that manages the implementation and monitoring of each PRAP. Every three months, this team reviews programmes in every PHC network to determine whether goals have been met, and results are reported to the Health Service Network that, in turn, acts as a controller for the Ministry of Finance. At the same time, the Ministry of Finance carries out independent evaluations of the programmes.

3.2.3 Pay-for-performance mechanism

PHC workers are hired by the municipality that manages the PHC network. At the same time, their work is also governed by the Ministry of Health. This duality is best exemplified in their salary arrangements. Salaries are negotiated directly with municipalities under the umbrella of Law 19378, introduced in 1995, that defines a national pay scale according to professional specialty (21). At the same time, annual salary readjustments are negotiated together with those of other public health workers at the Ministry of Health.

The pay-for-performance funds are paid directly to the health workers in the PHC networks. These funds are paid when health care goals are met, and this, in turn, reflects the collective performance of the PHC network. As such, this is the only purchasing arrangement that directly affects the income of health care providers, as funds are allocated to health workers in the PHC network according to their salary levels. This mechanism is reserved only for municipal PHC programmes for infants and older adults. Only a few of these programmes target chronic diseases.
networks, meaning that PHC facilities managed in hospital settings or by nongovernmental organizations do not receive these funds.

**Setting health goals.** Every year, at the beginning of September, the Ministry of Health establishes the national health goals that will be used for the pay-for-performance mechanism for the following year. The Director of each Health Service Network then selects the service delivery goals that each Communal Directorate must meet (22).

The desired performance goal for each indicator is then agreed by representatives from the community, health administrators and health workforce unions, all of whom take part in a Technical Advisory Committee that makes recommendations to the Director of each Health Service Network. This Committee agrees performance goals based on the level of achievement of the goals in previous years, with the requirement that an improvement must be seen in each of the goals. However, there is an incentive to set low targets to ensure higher achievement rates within a network. Higher achievement makes the network look good and also ensures that health workers receive a top up to their salary, motivating them and keeping them in the network.

**Information system and evaluation.** Each municipality is responsible for collecting the information necessary to measure all the performance indicators that are used for service delivery goals. Information is collected in Excel spreadsheets using fixed templates and then sent to the Regional Ministerial Secretariat in January of the year following the assessment period (22). The Regional Ministerial Secretariat is responsible for evaluating whether the health goals have been achieved. Performance targets are assessed for the whole PHC network to determine the allocation of performance-based funds.

**Amount and allocation of funds.** The incentive amount includes base and variable components, and the total amount of additional pay can be up to an additional 22.2% of a health worker’s salary. The base component is a bonus of 10.3% of the annual remuneration for every PHC employee eligible for this bonus. This means that even if performance is poor, all health workers get a 10.3% bonus (known as a componente fijo del bono por desempeño). The variable component represents 11.9% of the annual remuneration of employees who are eligible for a performance bonus if the PHC network meets more than 90% of their service delivery goals (i.e. Performance Tier 1). If the PHC network meets between 75% and 90% of the health goals (i.e. Performance Tier 2), the variable component corresponds to 5.95% of annual remuneration for eligible employees. Finally, the variable component is zero if the PHC network meets less than 75% of the health care goals (i.e. Performance Tier 3) (1).
Most PHC networks consistently received 100% of the performance bonus – that is, between 94% and 96% of PHC networks were in Tier 1 between 2015 and 2018 (1).

Workers eligible to receive performance bonuses are auxiliary technicians, paramedics, psychologists, social workers, dental surgeons, doctors, nurses, midwives, kinesiologists, nutritionists and administrative staff. The performance incentive is paid in four instalments – that is, every three months – with the first instalment paid in April. Additionally, the performance bonus is taxed at a lower rate than the regular salary, so the incentive can account for an important share of income for health care workers.

### 3.2.4 Municipal budget allocations

Municipalities make direct contributions to their PHC networks. These transfers require the agreement of only the municipal council and the mayor of each municipality (Box 1). The average municipal contribution to PHC networks accounts for around 4% of overall PHC funding. Contributions by municipalities to their PHC networks are not fixed and can be reduced, although, in general, they tend to be maintained because they help to address critical health needs of their population. While municipal contributions have become less important to PHC financing (9), they are increasingly more important in financing PHC services beyond the coverage package.

Similar to the programmes for PHC strengthening (i.e. PRAPs), these municipal contributions are provided to cover costs related to addressing urgent health needs. However, like per capita funding, they are often provided without a clear implementation plan.
Box 1. Municipal financial contributions and the active participation of communities in planning health care

The local municipal government, in particular the mayor, is interested in providing an efficient and high-quality municipal PHC network. This is because health is a high priority for the population and one of the great drivers of political preferences, together with security. The mayor is the public figure responsible for the quality of PHC, and political gains or losses may be linked to patients’ experiences with health care.

Furthermore, the Ministry of Health explicitly mandates that the Family and Community Integrated Health Care model (known by its acronym MAIS) must incorporate respect and recognition for existing cultures and include the active participation of communities and organizations of indigenous people in the programmes that the health system develops for them. Thus, community participation has shifted the approach to health care from a model that ensures information and access to services to a consultative model that takes into account the expectations of and suggestions made by communities and their representative organizations. In doing so, the process allows communities to directly influence decision-making in matters that affect them. In particular, MAIS encourages dialogue with communities to strengthen health-promotion and prevention activities, and to reduce health inequalities (5).

The relationship between the government, health care providers and the population is shown below.

PHC: primary health care (referring to the formal primary health care system managed by local health authorities).
PHC strengthening: example of a programme for people with chronic diseases
To increase access to and the continuity of effective pharmacological therapies for people with type 2 diabetes, hypertension and dyslipidaemia, a PHC strengthening programme known as the pharmacy fund for chronic noncommunicable diseases in primary health care (or Fondo de farmacia para enfermedades crónicas no transmisibles en atención primaria de salud) has been funded by the Ministry of Health. In 2023, 50.33 billion Chilean pesos (US$ 65.2 million) were distributed to the 29 Health Service Networks and municipalities to implement the programme. The annual amount awarded per person for this programme varies across municipalities, from 852.4 Chilean pesos (US$ 1.10) to 12 485 Chilean pesos (US$ 16.20) (Fig. 2). Part of this variation occurs because participation by PHC networks in a particular strengthening programme (or PRAP) is voluntary and defined by an agreement between the Health Service Network and the municipal administration of the PHC network about the size of the programme and its related budget. On average, this PRAP represents 3.5% of the base annual capitation amount awarded to a PHC network.

Fig. 2. Funding for pharmacological treatment for chronic noncommunicable diseases, by Health Service Network, Chile, 2023

* Amounts are the annual payment per person in US$ to each Health Service Network.

Source: Figure developed by the authors from unpublished data in Resolución Exenta no. 74, Ministry of Health, Chile, 3 February 2023.
Thirty per cent of the funding for this programme is linked to the achievement of health service goals, as measured by four indicators related to structure and process (Table 2).

### Table 2. Performance indicators for Health Service Networks, Chile, 2021

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Target (%)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of prescriptions provided promptly to people with noncommunicable diseases in primary care facilities</td>
<td>100</td>
<td>0.4</td>
</tr>
<tr>
<td>Percentage of complaints from users about the programme resolved by delivering medication within 24 business hours</td>
<td>100</td>
<td>0.25</td>
</tr>
<tr>
<td>Percentage of health centres and service providers that send performance evaluation reports</td>
<td>100</td>
<td>0.1</td>
</tr>
<tr>
<td>Percentage of primary care establishments with permanent access to a pharmacy during their operating hours</td>
<td>100</td>
<td>0.25</td>
</tr>
</tbody>
</table>

*Source:* Unpublished data from Resolución Exenta no. 84, Ministry of Health, Chile, 2 February 2021.

Payments are reduced depending on the level of performance as measured by the indicators (Table 3).

### Table 3. Performance and reductions

<table>
<thead>
<tr>
<th>Overall performance achievement (aggregation of four indicators)</th>
<th>% payment reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥60%</td>
<td>0</td>
</tr>
<tr>
<td>50% to 59.99%</td>
<td>25</td>
</tr>
<tr>
<td>40% to 49.99%</td>
<td>50</td>
</tr>
<tr>
<td>30% to 39.99%</td>
<td>75</td>
</tr>
<tr>
<td>&lt;30 %</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source:* Unpublished data from Resolución Exenta no. 84, Ministry of Health, Chile, 2 February 2021.
Pay-for-performance: examples from two municipalities
To illustrate how the pay-for-performance arrangement works, we present the examples of two municipal PHC networks, selected because information is publicly available about their performance and budget analyses.

Hualpén, a municipality of 91,773 inhabitants (23) is part of the urban area of Greater Concepción, the second largest region in Chile both economically and in terms of population. It is located around 500 km south of the capital, Santiago. Due to the number of inhabitants, the municipality has three Family Health Care Centres (known as CESFAM) spread over a large geographical area. In 2021, the annual per capita health budget in the municipality was 158,164 Chilean pesos (US$ 208) for each of the 86,935 people covered by the PHC network.

The municipality of La Pintana is located in the southern part of Santiago, the capital city. According to the National Institute of Statistics (in Spanish, Instituto Nacional de Estadísticas), the municipality has a population of 189,335 (23), and 61% is aged between 20 and 64 years. The municipality is one of the most deprived of the 32 municipalities that make up Santiago city.

Performance bonuses represent around 8% of the total municipal health budgets in Hualpén and La Pintana (Table 4).
Table 4. Main features of the Family and Community Integrated Health Care model (known as MAIS) in two municipalities, Chile, 2021

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hualpén</td>
</tr>
<tr>
<td>PHC health budget(^a)</td>
<td>13 750 million</td>
</tr>
<tr>
<td></td>
<td>Chilean pesos</td>
</tr>
<tr>
<td></td>
<td>(US$ 18.11 million)</td>
</tr>
<tr>
<td>No. of people registered at the CESFAM</td>
<td>86 935</td>
</tr>
<tr>
<td>Total annual per capita health budget for the municipality(^a)</td>
<td>158 164 Chilean</td>
</tr>
<tr>
<td></td>
<td>pesos</td>
</tr>
<tr>
<td></td>
<td>(US$ 208)</td>
</tr>
<tr>
<td>Municipal allocation to the health budget as % of the municipality’s annual health budget</td>
<td>0.7</td>
</tr>
<tr>
<td>Allocation from the Ministry of Health for capitation payments as % of municipality’s annual health budget</td>
<td>63</td>
</tr>
<tr>
<td>Total funds for PRAPs as % of municipality’s annual health budget</td>
<td>28.3</td>
</tr>
<tr>
<td>Performance bonuses as % of municipality’s annual health budget</td>
<td>8</td>
</tr>
</tbody>
</table>

CESFAM: Centro de Salud Familiar (Family Health Care Centre); PHC: primary health care (referring to the formal primary health care system managed by local health authorities); PRAP: Programas de Reforzamiento de la Atención Primaria (programmes to strengthen primary health care services).

\(^a\) The exchange rate used is US$ 1.00 = 759 Chilean pesos, corresponding to the average rate for 2021.

Source: Data from Sistema Nacional de Información Municipal (24).

Table 5 compares the performance of Hualpén and La Pintana in meeting health goals in 2019. The table describes the indicators, the agreed-upon performance threshold (the goal), the weight of each indicator in computing overall performance, and the actual performance for each PHC network.
<table>
<thead>
<tr>
<th>Health goal no.</th>
<th>Dimension</th>
<th>Indicator</th>
<th>Description</th>
<th>Agreed-upon performance threshold (%)</th>
<th>Compliance (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Child health</td>
<td>Recovery of psychomotor development</td>
<td>Proportion of children aged 12–23 months with psychomotor development risk who recovered</td>
<td>90, 85</td>
<td>86, 113</td>
</tr>
<tr>
<td>2</td>
<td>Prevention</td>
<td>No. of women aged 25–64 years without a current Pap smear</td>
<td>Proportion of women aged 25–64 years with an up-to-date Pap smear result</td>
<td>25% reduction, 100</td>
<td>93, 96</td>
</tr>
<tr>
<td>3a</td>
<td>Dental care</td>
<td>Dental care in population aged ≤ 9 years</td>
<td>Proportion of children in this age group who have had a dental consultation</td>
<td>75, 74</td>
<td>97, 105</td>
</tr>
<tr>
<td>3b</td>
<td>Dental care</td>
<td>Dental care in pregnant women</td>
<td>Proportion of pregnant women who have had a dental consultation</td>
<td>68, 68</td>
<td>93, 99</td>
</tr>
<tr>
<td>3c</td>
<td>Dental care</td>
<td>6-year-old children without dental cavities</td>
<td>Proportion of 6-year-old children with index of decayed, missing or filled teeth = 0</td>
<td>79, 79</td>
<td>96, 97</td>
</tr>
<tr>
<td>4a</td>
<td>Chronic care</td>
<td>People aged ≥15 years with diabetes whose disease is controlled</td>
<td>Proportion of people aged 15–79 years with type 2 diabetes and glycated haemoglobin &lt; 7% and people aged ≥80 years with type 2 diabetes and glycated haemoglobin &lt; 8%</td>
<td>28, 29</td>
<td>115, 88</td>
</tr>
<tr>
<td>4b</td>
<td>Chronic care</td>
<td>Foot evaluation completed for people aged ≥15 years with type 2 diabetes</td>
<td>Proportion of people aged ≥15 years with type 2 diabetes with foot evaluation completed</td>
<td>74, 85</td>
<td>92, 89</td>
</tr>
<tr>
<td>Health goal no.</td>
<td>Dimension</td>
<td>Indicator</td>
<td>Description</td>
<td>Agreed-upon performance threshold (%)</td>
<td>Compliance (%)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-------------</td>
<td>----------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>5</td>
<td>Chronic care</td>
<td>People aged ≥15 years with hypertension whose disease is controlled</td>
<td>Proportion of people aged 15–79 years with hypertension and blood pressure &lt;140/90 mm Hg and people aged ≥80 years with hypertension and blood pressure &lt;150/90 mm Hg</td>
<td>48</td>
<td>41</td>
</tr>
<tr>
<td>6</td>
<td>Child health</td>
<td>Coverage of exclusive breastfeeding for children aged &lt; 6 months</td>
<td>Proportion of children aged &lt; 6 months who had exclusive breastfeeding</td>
<td>60</td>
<td>58</td>
</tr>
<tr>
<td>7</td>
<td>Care access</td>
<td>Health Development Councils meeting regularly</td>
<td>Number of Health Development Councils/ number of CESFAM in the municipality</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Average performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Compliance is measured as actual performance/agreed upon performance, so compliance can exceed 100%.

Source: Information collected by the authors under the framework of the transparency law regulating compliance with the Primary Health Care Activity Index (known as IAAPS for its Spanish acronym), Undersecretary of Health Networks, Ministry of Health, Chile. As in previous years (2015–2018), both municipalities are assigned to Tier 1 of performance, which corresponds to the highest payment bonus awarded to the workforce.
Performance-based incentives are calculated as a percentage of a worker’s base salary, so they replicate the inequalities that exist in the distribution of health workers and their salaries within a PHC network. This is challenging because several quality improvements involve administrative capacities rather than clinical capacities, and administrative staff are typically paid considerably less than clinical staff, thus diminishing the effectiveness of the incentive. Moreover, it has been documented that health care teams modify their practices to meet the goal of an indicator, while overlooking other areas. However, improvement may not be sustained when an indicator is modified (I).
Discussion
The findings of this descriptive study confirm that the payment methods used in Chile for primary care services have a limited positive effect on the quality of care provided to people with chronic conditions.

The capitation mechanism has proved effective in improving health equity and providing essential resources, especially in poorer municipalities, while allowing relative independence for local governments in their management of PHC. However, this payment method cannot inherently provide incentives to improve health care quality (9). On the contrary, it is important to combine it with other payment methods to reduce the inherent incentive to skimp on quality.

The programmes for strengthening PHC (i.e. PRAPs) can be categorized as both financing arrangements in MAIS (the Family and Community Integrated Health Care model) and as quality improvement initiatives. These initiatives are designed and funded centrally by the Ministry of Health. Because funding for PRAPs is partly linked to performance, these programmes could improve the quality of PHC. However, only a few PRAPs focus on care for people with chronic diseases.

The pay-for-performance component has been documented to have several weaknesses, the most important being that the majority of the PHC networks consistently receive 100% of the performance bonus – that is, between 94% and 96% of PHC networks were in Performance Tier 1 between 2015 and 2018 (1). Moreover, all health workers receive a 10.3% salary bonus even if the PHC network’s performance is poor. In this light, health workers consider the performance bonus to be a given, a situation that limits the effectiveness of the financial incentive to improve the quality of care. Furthermore, the effect on the quality of care for people with chronic diseases is limited in that only a few of the health system’s goals relate to chronic care.

The willingness of municipal authorities to support and improve the PHC system has been identified as a critical element in improving performance. Municipal support translates to direct allocations to the PHC networks and also to a push to implement interventions that respond to the population’s health needs because interests are aligned between the mayor of a municipality and the population they represent. If health care is of high quality, the population recognizes the value of the political authorities, and that improves the mayor’s chances of being re-elected. The involvement of communities in local planning for PHC allows patients’ needs to be captured and for consideration of both health and socioeconomic factors. However, this process focuses on all patients not just those with chronic conditions.
Lessons learned for other settings
Some of the main lessons for other settings include the following.

- A pay-for-performance method should be designed to actually reward improvements in performance and should avoid assigning most providers to the top tier of performance.
- Bonus payments need to be clearly linked to improved performance.
- To enhance continual improvement in the quality of care, targets should be partly based on performance observed during the previous year.
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Effect of the payment mix for primary care services on the quality of chronic care in Chile

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