Chronic disease management programme (PROLANIS) in Indonesia

Case study

Stevie Ardianto Nappoe, Hanevi Djasri and Muhamad Faozi Kurniawan
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The authors hope this case study will add to the evidence about making improvements in treating patients with chronic conditions in Indonesia as well as globally.

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### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation (ACRONYM)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPJS</td>
<td>Badan Pengelola Jaminan Sosial Kesehatan (the national health insurance agency)</td>
</tr>
<tr>
<td>CERDIK</td>
<td>Cek kesehatan secara berkala, Enyahkan asap rokok, Rajin beraktivitas fisik, Diet yang sehat dan seimbang, Istirahat yang cukup dan Kelola stres (an acronym in Bahasa Indonesia that promotes a healthy lifestyle to reduce the risk of noncommunicable diseases)</td>
</tr>
<tr>
<td>COVID-19</td>
<td>coronavirus disease 2019</td>
</tr>
<tr>
<td>DHO</td>
<td>District Health Office</td>
</tr>
<tr>
<td>JKN</td>
<td>Jaminan Kesehatan Nasional (national health insurance scheme)</td>
</tr>
<tr>
<td>MoH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>NCD</td>
<td>noncommunicable disease</td>
</tr>
<tr>
<td>P4P</td>
<td>pay for performance (capitation payment)</td>
</tr>
<tr>
<td>PHO</td>
<td>Provincial Health Office</td>
</tr>
<tr>
<td>PRB</td>
<td>Program Rujuk Balik (reverse referral programme, from secondary care to primary care)</td>
</tr>
<tr>
<td>PROLANIS</td>
<td>Program Penanggulangan Penyakit Kronis (chronic disease management programme for members of the national health insurance scheme)</td>
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</table>
Executive Summary

The Government of Indonesia’s national health insurance agency (known as Badan Pengelola Jaminan Sosial Kesehatan; BPJS Kesehatan) set up several purchasing arrangements for managing chronic conditions under the national health insurance scheme (known as Jaminan Kesehatan Nasional; JKN), which provides coverage for 86% of the population, or around 235 million people, as of 2021. These arrangements aim to treat patients with chronic conditions at the primary care level and avoid unnecessary treatment at the secondary level to lower costs and improve the quality of care, and ensure the gatekeeping function of primary care in controlling costs and improving care quality for members of the JKN scheme. One of these arrangements is known as PROLANIS (for the Program Penanggulangan Penyakit Kronis). This case study examines PROLANIS and its implementation and impact on the quality of care for patients with chronic conditions. PROLANIS aims to improve care for patients with chronic conditions and to control costs by supporting patients with diabetes or hypertension, or both, through ensuring they have monthly medical consultations; monthly health status monitoring, including a blood glucose check for patients with diabetes, laboratory testing to assess metabolic control and renal function every six months and home visits, if necessary; and by encouraging engagement with peer club activities (e.g. health education, exercise).

Between 2017 and 2021, JKN spent more than US$ 6.3 billion (92.6 trillion Indonesian rupiah) on primary care services, amounting to less than US$ 5.00 per capita. Capitation payments accounted for more than 93% of funding to public and private primary care facilities. JKN is funded by premiums paid by individuals and employers, and there are public subsidies for poor families. Providers receive a pay-for-performance capitation payment based on the weighted performance of the primary care provider using three main indicators measured monthly: there must be a minimum contact rate of 15% of JKN members for any service (weighted at 40%), there must be a referral rate of less than 2% of patients to nonspecialists (weighted at 50%) and a minimum of 5% of JKN members enrolled in PROLANIS must have controlled blood pressure or blood glucose (weighted at 10%). In addition to the capitation payment, funding for PROLANIS also comes from fees for services that cover the cost of monthly club activities, monthly blood glucose testing and laboratory testing every six months.

Providers must meet credentialing requirements, including quality standards, to participate in JKN. Since 2019, participation in PROLANIS has been mandatory for all primary care providers; however, they could participate in peer-club activities only if they
identified at least 30 patients who were willing to take part in the activities. All 22 373 primary care facilities participate in PROLANIS, including public health centres and type D (small-scale) public hospitals, private general practitioners and private clinics. The monthly capitation payment per JKN member ranges from 3600 to 9000 Indonesian rupiah (US$ 0.25–0.60) for public providers and from 9000 to 16 000 Indonesian rupiah (US$ 0.60–1.08) for private providers. Each provider receives 85–100% of the base capitation payment, according to their achievement, as measured by the performance indicators. No adjustments are made to the payment to account for external factors, such as patient risk or geography.

PROLANIS is connected with Program Rujuk Balik (PRB), which is also known as a reverse referral programme under which patients in secondary care whose condition is stable are referred back to primary care to continue their treatment; PRB patients are automatically enrolled in PROLANIS and have access to their monthly medications through a network of pharmacies. However, for other patients with chronic illness, participation in PROLANIS is voluntary and enrolment is low.

Primary care providers realized that it would be difficult to achieve the 5% threshold for the PROLANIS indicator of blood pressure control and blood glucose control, so they were selective about which patients they invited to enrol for fear that the capitation payment they received would be reduced. In 2020 and 2021, respectively, only 12% and 14% of JKN members who were diagnosed by a primary care provider with any one of the nine chronic conditions covered by PROLANIS and PRB (i.e. asthma, diabetes, epilepsy, hypertension, heart disease, chronic obstructive pulmonary disease, schizophrenia, systemic lupus erythematosus and stroke) registered for PROLANIS.

Given the low enrolment in the programme, achievement of the PROLANIS performance indicator was below the 5% target. In 2021, only 3.9% of chronic disease patients had controlled blood pressure and blood glucose levels, and the proportions across the three cities surveyed ranged from 1.2% to 10.6%. The low achievement of the PROLANIS performance indicators was also influenced by low utilization of the associated services. In the three cities studied, less than 16% of registered patients had monthly blood glucose checks and less than 37% had the 6-monthly laboratory diagnostic checks. Weak performance had an impact on the performance-adjusted capitation payment. In 2021, only 6.5% of public health centres received 100% of the performance-adjusted capitation payment after having met the minimum targets for the three indicators.

No independent evaluation has been done. In interviews for this study, providers reported being satisfied with the programme and that they had observed improvements in their patients’ quality of
life. Qualitative findings indicate that PROLANIS was perceived as obligatory and there was an emphasis on withholding payment for underperforming providers, rather than providing incentives to improve the quality of services. Lessons learned for other settings highlight the need for more comprehensive evaluations of payment systems. It is important to ensure that new initiatives are integrated into any existing chronic disease management programmes. Monitoring of the programme should include process and output indicators. Both the payment system and PROLANIS also need to take into account the disparities in primary care capacities and health equities across regions. Some facilities in rural areas that could not meet the quality standards were not able to join the programme. As such, there is a need for relative and progressive targets, a clear programme structure, learning and exchange of information, and fair provider incentives.

This case study provided information to the WHO and OECD joint publication *Purchasing for quality chronic care: summary report.*
1

Background
Health systems are grappling with the double burden of disease resulting from the need to provide care for patients with chronic diseases in addition to efforts to control communicable diseases, a problem that is especially affecting low- and middle-income countries. Three out of four deaths in developing countries are now attributable to chronic diseases, especially in countries with weak health care systems (1, 2). Indonesia, a developing country, has experienced a significant rise in the prevalence of chronic diseases since 2010. Data from the Institute for Health Metrics and Evaluation in 2019 showed that chronic conditions are the leading causes of death worldwide, with stroke, ischaemic heart disease, diabetes and cirrhosis among the top 10 (3). This situation has had a huge impact on Indonesia’s national health insurance scheme (known as Jaminan Kesehatan Nasional; JKN), which is the backbone of health financing in the country and has struggled with significant deficits caused by the high costs of providing treatment to patients with chronic illness (4).

The Government of Indonesia has made extensive efforts to ease the burden of chronic diseases on patients and to control the associated costs. Since 2015, the Ministry of Health (MoH) has included chronic care prevention programmes in its strategic plan; these programmes have included Pos Binaan Terpadu (known as Posbindu), a health facility–level programme under the direction of government-funded community health centres (knowns as puskesmas) that provides early detection services, focusing on, for example, cervical cancer, breast cancer, hypertension and diabetes mellitus; Gerakan Masyarakat Hidup Sehat, a national community movement to promote healthy lifestyles that emphasizes increasing physical activity, consuming healthy food and building awareness of mental health; Program Indonesia Sehat dengan Pendekatan Keluarga, which provides comprehensive health services using a family risk approach in primary care; and Program Penanggulangan Penyakit Kronis (known as PROLANIS), a chronic disease management programme in primary care that focuses on patients with hypertension and diabetes and is available to members of the JKN national health insurance scheme.

In 2017, the MoH together with the national health insurance agency (known as Badan Penyelenggara Jaminan Sosial Kesehatan; BPJS Kesehatan) introduced a performance-adjusted capitation payment known as the pay for performance (P4P) capitation payment-mix system to hold primary care providers accountable by using selected performance indicators that include the contact rate, rate of referral to nonspecialists, and the goals associated with PROLANIS. The purchasing arrangement aims to increase the quality of care offered by primary care providers and lower health care costs (5). Data from BPJS Kesehatan during 2017–2020 found that the utilization rate of primary care services increased by 12.5% and the
referral rate decreased by 2.3%. Nevertheless, the impact of this initiative remains unclear because costs continue to rise. In addition, despite more than 9000 primary care providers receiving a P4P capitation payment, none achieved 100% of performance goals, and only 15% of providers were able to meet the indicator for nonspecialist referrals. Scores on the other two indicators (i.e. the contact rate and PROLANIS goals) remain below the target for all primary care providers (6).

Thus, a case study is needed to help understand how the P4P purchasing arrangement for care for people with chronic illness can contribute to the quality of health care services in Indonesia.
Objectives
The objectives of this case study are to provide evidence-informed recommendations about the use of purchasing arrangements to improve the quality of care for patients with noncommunicable diseases (NCDs) and those with chronic illness in Indonesia. The case study considers the Indonesian context and focuses on evaluating PROLANIS as one of the indicators of the impact of the P4P capitation payment-mix system on the quality of services for people with chronic illness. Specifically, this case study has several key objectives:

1. to explore the overall implementation of PROLANIS in relation to P4P for chronic disease services in primary care;

2. to understand the impact of PROLANIS on providers’ performance in offering services for patients with chronic illness (i.e. service provision);

3. to understand how PROLANIS can be leveraged to improve care quality for patients with chronic illness;

4. to understand the facilitating and inhibiting factors that affect the implementation of PROLANIS at different levels of the health care system, including purchasers, providers and patients.
Methodology
This case study is a cross-sectional observational study with an explanatory, sequential mixed-methods design (7); thus, it consists of a quantitative study followed by a qualitative study. The case study was conducted from July 2022 to January 2023 in a sample representing the eastern, middle and western areas of Indonesia: East Nusa Tenggara, North Sumatra and South Sulawesi. These three provinces were selected based on their relatively large populations and their relatively high prevalence of chronic diseases, which are challenging the public health system. The total population of Indonesia is approximately 270.2 million people: the population in Jakarta, the capital, is estimated to be 10.6 million; in East Nusa Tenggara it is 5.5 million; in North Sumatra it is 14.7 million; and in South Sulawesi it is 8.8 million. The prevalences of NCDs in these three provinces and Jakarta are among the highest in the country. The MoH and BPJS Kesehatan approved the provinces selected for this case study. In each of the three provinces, one city was selected for field visits: Kupang in East Nusa Tenggara (population: 0.44 million), Medan in North Sumatra (population: 2.4 million) and Makasar in South Sulawesi (population: 1.4 million).

Primary data were collected through key informant interviews with representatives from the MoH, BPJS Kesehatan (at the national and subnational levels), Provincial and District Health Offices (PHOs and DHOs), managers at primary care facilities and health care professionals who are the relevant actors implementing the P4P capitation payment-mix system and PROLANIS. The interviews included semi-structured questions related to the P4P capitation payment-mix system and PROLANIS, as well as questions about benefit specification, contracting arrangements, provider payments, performance monitoring, facilitating and inhibiting factors for implementation, the experiences of the interviewees in implementing the programme and the impact of the programme on the quality of care for patients with chronic illness. Altogether, 28 key informants were interviewed at the national and provincial levels (Annex 1). Some interviews were conducted online due to uncertainty about the coronavirus disease (COVID-19) situation in the field and to account for informants’ schedules.

Secondary data were collected from documents and databases that related to the P4P capitation payment-mix system and PROLANIS, including information about regulations, guidelines and technical approaches, programme reports, monitoring and evaluation reports, reports about quality indicators and data, and relevant research articles. The data are presented in distribution tables and figures to provide an overview of the P4P system, provider participation, the quality of the system, the specification of benefits, contracting arrangements, providers’ payments and performance monitoring.
Qualitative data were analysed using categorization and thematic analysis of relevant examples from the field. Direct interpretation of the data is provided and patterns and findings about relevant issues are identified. Last but not least, generalizations from the analyses describe the situation as well as how purchasing arrangements have affected the quality of care for patients with chronic illness. Both quantitative and qualitative data were analysed together to examine correlations and to triangulate findings. Comparisons between provinces were also made when necessary to understand the context in Indonesia and its diversities and gaps in the availability and quality of primary care.
Programme overview and findings

4.1 Overview of purchasing arrangements for chronic diseases
4.1 Overview of purchasing arrangements for chronic diseases

The escalation in both the utilization of services and the costs for chronic disease management was anticipated by the Government when it introduced the national health insurance scheme, JKN, in 2014. The aim was to achieve universal coverage by 2019, but as of 2021, coverage was 86% of the population or around 235 million people. The national health insurer, BPJS Kesehatan, set up several purchasing arrangements – such as a competency-based referral system and the P4P capitation payment-mix scheme for primary care – and strengthened its cost- and quality-control team. For chronic conditions, BPJS Kesehatan introduced two main purchasing arrangements.

The first was Program Rujuk Balik (PRB), which is also known as a reverse referral programme under which patients in secondary care whose condition is stable are referred back to primary care to continue their treatment. PRB covers nine chronic conditions: asthma, diabetes, epilepsy, hypertension, heart disease, chronic obstructive pulmonary disease, schizophrenia, systemic lupus erythematosus and stroke. Patients with one of these chronic conditions who are assessed as being clinically stable by a specialist in secondary care can be registered as PRB patients. They will be referred back to primary care for monthly medication services and medical consultation. They can return to secondary care if their condition worsens or they need specialist services. PRB was intended to provide more accessible services for patients with chronic conditions along with easier access to medication, and to reduce waiting times, improve the relationship between doctor and patient in the context of holistic care and provide more effective preventive and health-promotion services in primary care instead of expensive curative services in secondary care. From the health care provider’s standpoint, PRB was intended to improve the coordination between providers at different levels of care, improve the quality of care for patients with chronic conditions and strengthen the gatekeeping function of primary care. Enrolment of patients in PRB is mandatory: patients with any of the nine chronic conditions are automatically referred to primary care providers to be registered (8).

The second main purchasing arrangement is PROLANIS, or the chronic disease management programme. PROLANIS is an integrated health service delivery programme based on the active involvement of patients, health care professionals, health care providers and the national health insurance agency, BPJS Kesehatan; it focuses on two chronic conditions: diabetes and hypertension. PROLANIS was specifically designed to be implemented in primary care for
members of the national health insurance programme, JKN, who have diabetes or hypertension. It was intended to address clinical and laboratory outcomes as well as improve patients’ quality of life. PROLANIS offers additional benefits to its participants, such as monthly medical consultations; membership in a peer club that provides, for example, reminders about health care visits, health education and opportunities for exercise; home visits; monthly health status monitoring, including a blood glucose check for patients with diabetes; and laboratory tests for metabolic control and renal function every six months. Enrolment is voluntary and benefits apply only to registered patients, with the exception of PRB patients who are automatically registered (9).

Both programmes were exclusively designed for JKN members and are available only from primary care providers who have agreements with BPJS Kesehatan as the agency that oversees the JKN health insurance scheme. In addition to capitation, funding for PRB and PROLANIS also comes from fee-for-service reimbursements that cover the costs of monthly club activities (e.g. meals for participants and fees for instructors and the general practitioner or nurse who leads the health-promotion and physical exercise activities), monthly blood glucose tests and laboratory evaluation every six months. Both PRB and PROLANIS aim to retain patients with chronic conditions in primary care and to avoid patients needing multiple visits and unnecessary treatment in secondary care to lower long-term costs and improve the quality of care for patients with chronic conditions. In 2019, BPJS Kesehatan introduced a policy to integrate PROLANIS into the reimbursement system for primary care providers using the P4P mechanism. Under this new payment system, primary care providers are expected to expand PROLANIS to include more patients with hypertension or diabetes, achieve better clinical outcomes, lower the rate of referral to secondary care and, ultimately, bring costs down (10).

4.2 Participation of providers and patients

At the beginning, participation in PROLANIS was voluntary for primary care providers. However, since 2019, all public and private primary care providers must join PROLANIS and engage with club activities. A provider can establish one or more PROLANIS clubs if they can recruit the required number of participants, which is a minimum of 30 people. In 2021, BPJS Kesehatan had agreements with 22,373 primary care facilities, consisting of puskesmas, general practitioners, clinics and what are known as type D hospitals (i.e. a small hospital with less than 10 beds that provides basic services,

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1 Private nurses and midwives are paid on a fee-for service basis and must be part of a network of general practitioners or clinics.
including access to general practitioners, and emergency, nursing, laboratory and pharmacy services) (Fig. 1). Small providers in rural areas often do not have 30 patients with chronic illness who are willing to enrol in PROLANIS, which means they cannot establish a club and thus do not receive the associated payments.

**Fig. 1. Distribution of primary care providers and facilities under the national health insurance programme (known as JKN), by type, Indonesia, 2021**

<table>
<thead>
<tr>
<th>Type of provider</th>
<th>No. of providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puskesmas</td>
<td>12,000</td>
</tr>
<tr>
<td>General practitioner</td>
<td>10,000</td>
</tr>
<tr>
<td>Clinic</td>
<td>8,000</td>
</tr>
<tr>
<td>Type D hospital</td>
<td>6,000</td>
</tr>
</tbody>
</table>

*Type D hospitals have <10 beds and provide basic services including access to general practitioners, and emergency, nursing, laboratory and pharmacy services.*


In order to join the JKN national health insurance scheme, primary care providers must be credentialed and recredentialed regularly. These processes ensure that all primary care providers meet the minimum requirements to deliver high-quality services. Primary care providers must comply with the MoH standards outlined in regulation (or Permenkes) No. 7/2021, which specifies services under JKN. The credentialing includes both administrative requirements (e.g. a facility licence, a permit to perform medical treatment and accreditation documents) and technical requirements (e.g. regarding the availability of human resources, equipment and facilities; the type and coverage of services offered; and a commitment to service provision). Some technical requirements cannot be fulfilled by primary care providers in rural areas such as East Nusa Tenggara due to the limited number of primary care providers, which means that the credentialing process cannot be
fully implemented. A representative of BPJS Kesehatan in Kupang, East Nusa Tenggara, explained,

There were no special requirements for the primary care provider to run the PROLANIS programme except for the number of club members [i.e. there must be at least 30 people]...We want it [a strict credentialing process], but our health care providers are limited; most of them would have a chance to continue no matter what.

Patients' participation in PROLANIS was not as high as expected. Nationally, only 12% (811 636/6 675 376) of JKN members who were diagnosed by a primary care provider with any one of the nine conditions covered by both PROLANIS and PRB (i.e. asthma, diabetes, epilepsy, hypertension, heart disease, chronic obstructive pulmonary disease, schizophrenia, systemic lupus erythematosus and stroke) were registered for PROLANIS in 2020 and 14% (948 433/6 800 995) in 2021. Of all patients who enrolled in PROLANIS, only 69% (561 434/811 636) used primary care services in 2020, although this increased to 83% (789 026/948 433) in 2021 (Table 1). Data from the selected districts were similar to those from the national level. The number of patients enrolled in PROLANIS in the three selected districts was quite low, with an average of 29% of all patients with chronic conditions being registered with a primary care provider. More than 50% of those registered were PRB patients who are automatically enrolled, which means primary care providers made only minimal efforts to recruit patients to join PROLANIS; Fig. 2a, shows the low enrolment of chronic patients to the PROLANIS program and the dependency of the PROLANIS program to the PRB patients (the orange bars). The use of PROLANIS services was also low, with only 63% of registered members on average actively using the programme, an average of 16% having a monthly blood glucose check and 37% having 6-monthly laboratory testing (Fig. 2b). As an interviewee from the national level of BPJS Kesehatan explained,

In many primary care practices, providers selected only committed patients to be registered in the PROLANIS programme to ensure they could achieve the targets and avoid disincentives.
Table 1. Patient participation in the PROLANIS chronic disease management programme, Indonesia, 2020–2021

<table>
<thead>
<tr>
<th>Patient group</th>
<th>No. (%) patients</th>
<th>2020</th>
<th>2021</th>
<th>2021</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Puskesmas(^b)</td>
<td>Clinics</td>
<td>General practitioners</td>
<td>Total</td>
</tr>
<tr>
<td>JKN member enrolled in primary care</td>
<td></td>
<td>155 589 901 (81%)</td>
<td>28 738 047 (15%)</td>
<td>8 859 285 (5%)</td>
<td>193 187 233</td>
</tr>
<tr>
<td>JKN member with a chronic condition(^a)</td>
<td></td>
<td>4 647 214 (70%)</td>
<td>1 413 217 (21%)</td>
<td>614 944 (9%)</td>
<td>6 675 375</td>
</tr>
<tr>
<td>JKN member enrolled in PROLANIS</td>
<td></td>
<td>456 192 (56%)</td>
<td>218 757 (27%)</td>
<td>136 686 (17%)</td>
<td>811 635</td>
</tr>
<tr>
<td>PROLANIS member with an active visit to their primary care provider(^c)</td>
<td></td>
<td>307 501 (55%)</td>
<td>154 553 (28%)</td>
<td>99 379 (18%)</td>
<td>561 433</td>
</tr>
</tbody>
</table>

JKN: Jaminan Kesehatan Nasional (national health insurance scheme); PROLANIS: Program Penanggulangan Penyakit Kronis (chronic disease management programme for members of JKN).

\(^a\) The chronic conditions included are asthma, diabetes, epilepsy, hypertension, heart disease, chronic obstructive pulmonary disease, schizophrenia, systemic lupus erythematosus and stroke.

\(^b\) Puskesmas are government-funded community health clinics.

\(^c\) An active visit refers to a PROLANIS member who contacted their primary care provider after being enrolled in PROLANIS.

Source: Data from Business Intelligence, BPJS Kesehatan (national health insurance agency), 2023.
Programme overview and findings

**Fig. 2.** (a) Participation of patients in and (b) use of the PROLANIS chronic disease management programme, three selected districts, Indonesia, 2021

**a**

![Bar chart](chart-a.png)

- % of chronic patients registered in PROLANIS program:
  - Medan: 20%
  - Kupang District: 40%
  - Makasar: 80%

- % of PROLANIS members from PRB program:
  - Medan: 80%
  - Kupang District: 60%
  - Makasar: 100%

**b**

![Bar chart](chart-b.png)

- % of PROLANIS patients with active visits:
  - Medan: 40%
  - Kupang District: 80%
  - Makasar: 60%

- % of PROLANIS patients with monthly blood glucose test:
  - Medan: 20%
  - Kupang District: 40%
  - Makasar: 60%

- % of PROLANIS patients with 6-monthly lab tests:
  - Medan: 0%
  - Kupang District: 20%
  - Makasar: 40%

PRB: Program Rujuk Balik (reverse referral programme: patients in secondary care whose condition is stable are referred back to primary care; these patients are automatically enrolled in PROLANIS); PROLANIS: Program Penanggulangan Penyakit Kronis (chronic disease management programme for members of the national health insurance scheme).

**Source** Data from the PROLANIS database, BPJS Kesehatan (national health insurance agency), 2022.
4.3 Quality monitoring

The national health insurance agency, BPJS Kesehatan, monitors PROLANIS using clinical outcomes as the only quality domain. Each month, BPJS Kesehatan monitors the achievement of performance indicators for the P4P capitation payment, including indicators for PROLANIS. BPJS Kesehatan then gives feedback to primary care providers about their performance, with notes about how to improve low scores on indicators. BPJS Kesehatan uses a programme called P-Care, which is a primary care information system for members of JKN that records all patient data, including visits, diagnoses, medications and PROLANIS status. P-care has been a game changer in primary care in Indonesia, yet it is available only to primary care providers and BPJS Kesehatan, which minimizes opportunities for DHOs to use the data for quality improvement. No changes have been made to measures or thresholds for P4P indicators since they were introduced in 2019.

In addition to monthly monitoring, BPJS Kesehatan also conducts joint monitoring every three months with interested parties including DHOs, professional organizations and primary care associations. In Makasar, South Sulawesi, BPJS Kesehatan facilitates regular biannual meetings for primary care providers to discuss findings from monitoring and to share best practices from primary care providers who had high scores on the P4P indicators. An interviewee from BPJS Kesehatan in Makasar, South Sulawesi, explained that,

We have BPS [Best Practice Sharing] every six months, where we invite primary care providers with good performance, including in PROLANIS, to share what they have done so that others can learn from them.

DHOs have a limited role in monitoring PROLANIS. They do not receive any reports about PROLANIS from puskesmas because puskesmas report directly to BPJS Kesehatan. An interviewee from the DHO in Kupang, East Nusa Tenggara, said,

Puskesmas report directly to BPJS Kesehatan, and BPJS Kesehatan also gives feedback directly to the puskesmas. There is no collaboration between DHOs and the puskesmas for managing chronic diseases: it should be integrated.

BPJS Kesehatan provides a dashboard for DHOs, but the data displayed are general and cannot be used to improve programmes. An interviewee from the DHO in Medan, North Sumatra, said,

DHOs only play a facilitating role between puskesmas and BPJS Kesehatan, for example, if the claims have not been paid, [then] the DHO will communicate to BPJS Kesehatan. DHOs only get
Programme overview and findings

reports about which puskesmas have low achievement, and DHOs will send a letter to those puskesmas so they can improve their performance.

In practice, DHOs have an important role in supporting PROLANIS because they oversee programmes for the management of chronic diseases at the puskesmas level, including programmes for screening, early detection, referral and quality improvement.

Nationally in 2020, only 1.9% of patients enrolled in PROLANIS had controlled blood glucose levels and blood pressure. This proportion increased quite significantly in 2021 to 3.9%. Data from the three selected provinces also showed similar results; however, Makasar, South Sulawesi, had better results than the other two districts (Fig. 3). According to BPJS Kesehatan regulation No. 7/2019, the denominator used to calculate the indicator for PROLANIS achievement is all patients with a chronic condition in primary care. Thus, the low achievement was caused by the low number of patients participating in PROLANIS, which made the denominator much larger than the numerator and resulted in a low percentage.

Fig. 3. Proportion of members of the PROLANIS chronic disease management programme meeting clinical standards (i.e. controlled blood pressure or controlled blood glucose levels), by city and province, Indonesia, 2020–2021

<table>
<thead>
<tr>
<th>City</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Kupang, NTT</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Medan, North Sumatra</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Makasar, South Sulawesi</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Data for Makasar, South Sulawesi, from the national health insurance agency, known as BPJS Kesehatan, are available only for 2021.

Source: Data from Business Intelligence, BPJS Kesehatan (national health insurance agency), 2023, and the PROLANIS database, BPJS Kesehatan (national health insurance agency), 2022.
4.4 Payment and reward structures

PRB and PROLANIS are funded by JKN, the national health insurance scheme, using a single-pooled system. All premiums paid by individuals, employers, the private sector and the government – which subsidizes premiums for poor families – are collected and managed by BPJS Kesehatan. BPJS Kesehatan implemented two payment methods at the primary care level: a fee for services and the P4P capitation payment-mix scheme. The fee-for-service payment covers medications for PRB patients, and fees for the health educators and exercise instructors; and as long as there is a minimum attendance of 15 people, the costs of meals are reimbursed for members who participate in regular club activities. Interviews with PROLANIS managers at primary care facilities found that there were no major issues with the fee-for-service payments. However, some primary care providers asked for increases in the fees paid to health educators and exercise instructors because it was hard to recruit them at the reimbursement rate set by BPJS Kesehatan. While most health educators are already affiliated with the practice, usually a general practitioner or nurse, primary care providers also hired exercise instructors from outside the practice. A general practitioner from Kupang, East Nusa Tenggara, for example, said,

The operational costs to implement the programme were greater than expected; for example, the exercise instructors were allocated 200 000 Indonesian rupiah [US$ 13.45], yet now the actual price is 300 000 to 400 000 Indonesia rupiah, so we need to pay the remainder...not to mention the administration officers and data entry officers.

The P4P capitation mix payments are calculated based on the performance of the primary care provider and use three main indicators: contact rate, rate of referral to nonspecialists and meeting the PROLANIS goals. Achievement is calculated by BPJS Kesehatan using weighted scoring: the contact rate is weighted 40%, the nonspecialist referral rate is weighted 50% and the proportion of patients enrolled in PROLANIS whose disease is controlled is weighted 10%. The final score determines the capitation payment for the primary care provider, which ranges from 85% of total capitation at a minimum to 100% of total capitation as a maximum (10). The performance indicators are assessed as described below.

- Contact rate: This is the number of JKN members who contacted the primary care provider among all members registered with the practice; however, this does not reflect the frequency of their visits. Contact includes any type of visit, such as preventive, health-promotion or curative. The primary care practice needs to
achieve a minimum of 150 patient contacts per 1000 members registered with the practice each month.

- Nonspecialist referral rate: This is the number of referrals to nonspecialists made by the primary care provider among all referrals made by the provider. This indicator aims to ensure that referrals for JKN members are based on appropriate medical indications and to ensure the competencies of the health care provider. In the JKN system, there are 144 diagnoses that must be treated in primary care. Referrals made for any of those 144 diagnoses are counted as referrals to nonspecialists. Primary care providers must not refer more than 2% of patients to nonspecialists each month.

- Controlled PROLANIS member: This indicator is the number of patients enrolled in PROLANIS who have controlled blood pressure or blood glucose among all JKN members with hypertension or diabetes in the practice. This indicator aims to increase implementation of PROLANIS in primary care for JKN members with chronic diseases, especially those with hypertension or diabetes. A minimum of 5% of PROLANIS patients must have controlled blood pressure or blood glucose each month.

The PROLANIS indicator was not well developed and was often misinterpreted by primary care providers. To be able to meet the 5% threshold for the indicator, providers need to recruit into PROLANIS as many patients with hypertension or diabetes as possible to have a better chance of providing education to help them control their blood glucose levels or blood pressure. Nevertheless, many providers avoid adding patients to PROLANIS because they might not be able to manage them all. Primary care providers said that the indicator was too difficult to achieve, and maybe even impossible, given the low participation rate of PROLANIS enrollees in the programme’s activities. One respondent from a puskesmas in Makasar, South Sulawesi, stated,

The target for the PROLANIS indicator was too high and hard to achieve; for example, for hypertension patients, it was hard to find a patient with blood pressure below 140 mm Hg in our puskesmas. And [the indicator] would be calculated [based on] all patients with hypertension.

Another concern is that the clinical outcomes for diabetes and hypertension are influenced by factors associated with the patient rather than factors associated with the provider, such as adherence to medication regimens, self-esteem, health literacy and self-awareness. A general practitioner from Medan, North Sumatra, said,

Diabetes was the hardest [indicator]. We have done all the health education and even scared them with the complications, but it is up to the patient: we cannot do anything to change that.
Data from BPJS Kesehatan showed that from 2020 to 2021, the percentage of primary care providers that could achieve all indicators and receive 100% of the capitation payment was low (Fig. 4). While no data showed the breakdown for each indicator, this finding is critical to attempts to transform primary care, especially to ensure the gatekeeping function of primary care in controlling costs and improving care quality for members of the JKN scheme.

**Fig. 4.** Percentage of primary care providers or facilities that achieved 100% on performance indicators in the pay for performance capitation payment-mix scheme, Indonesia, 2020–2021

<table>
<thead>
<tr>
<th>Type of provider</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>General practitioners</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Clinics</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Puskesmas(^b)</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

\(^a\) The percentage of primary care providers or facilities is calculated as the average number of primary care providers by type that achieved 100% of the capitation payment annually divided by the total number of primary care providers or facilities in the national insurance programme, (known as JKN).

\(^b\) Puskesmas are government-funded community clinics.

*Source:* Data from Business Intelligence, BPJS Kesehatan (national health insurance agency), 2023.

Primary care providers use the capitation funding to pay for services, including chronic care services. General practitioners and clinics usually add more services to PROLANIS, such as a fitness centre, acupuncture treatment, recreational activities, guest speakers and visits from specialists. A general practitioner from Kupang, East Nusa Tenggara, said,

“Once in a while, I invite a specialist to be a guest speaker for PROLANIS education. I pay them with my own money because the standard payment from BPJS Kesehatan is not enough for a specialist.”
Another general practitioner from Medan, Nort Sumatra, added, “We have provided additional services, such as acupuncture, for free to motivate patients.”

The providers believe that additional services will attract more patients and help them retain existing patients, which should add to their capitation payment. Puskesmas, however, did not add any extra services. There are no penalties from BPJS Kesehatan for poorly performing practices except for a reduction in the capitation payment.

The actual capitation payment for public primary care ranges from 3600 to 9000 Indonesian rupiah (US$ 0.25 to 0.60) per JKN member per month; for private primary care providers, the payment ranges from 9000 to 16 000 Indonesian rupiah (US$ 0.60 to 1.08). The rate depends on the availability of general practitioners and dentists: primary care practices with more doctors receive higher rates than those with fewer doctors. From 2017 to 2022, BPJS Kesehatan spent a total of 92.6 trillion Indonesian rupiah (US$ 6.3 billion) on primary care, which was less than US$ 5.00 per capita for JKN members (Fig. 5). This amount is low, accounting for only 0.1% of total gross domestic product. Capitation payments account for more than 93% of total spending on primary care by JKN. Although the total amount of capitation paid to primary care providers increased, per capita spending for JKN members declined slightly (11).

Fig. 5. (a) Annual and (b) per capita spending by the national health insurance scheme (known as JKN) on primary care, Indonesia, 2017–2021

4.5 Impact of the programme

The impact of PROLANIS on the management of patients with chronic conditions was mixed, according to interviews with primary care providers. Providers stated that their patients’ satisfaction improved. Regular PROLANIS activities provided opportunities for enrollees to socialize with other people who had the same health conditions. Providers also commented that participants looked healthy and happy when they took part in PROLANIS activities. An interviewee from BPJS Kesehatan in Kupang, East Nusa Tenggara, said, “Patients are happy with PROLANIS: they get routine medical checks, interact with other patients and share their experiences”. The impact on patients’ quality of life was also confirmed by a general practitioner from Medan, North Sumatra, who said that patients, “look happy and are satisfied. They can gather with other patients and share their experiences.”

Patients also were satisfied with the programme because they had improved access to medical consultations and monthly health status monitoring. PRB patients also noted that they had shorter waiting times, especially because they had quicker access to pharmacy services.

An interviewee from a puskesmas in Medan, North Sumatra, noticed that “[Patients] spend less money and less time, but they get their problems fixed here instead of having to go to hospital.” An interviewee from a puskesmas in Makasar, South Sulawesi, said,

We have a doctor appointed especially for PROLANIS members, so they do not have to wait for a long time [for an appointment]. We also have special pharmacy services for PRB patients, which means they get their medication faster, and they were all happy with that.

Of all primary care providers, only general practitioners stated that PROLANIS had an impact on their performance. For example, they noted that they had to prepare materials to support patient education, such as flip charts. A general practitioner in Kupang, East Nusa Tenggara, stated,

With PROLANIS, I need to update my competencies, read, browse and do some research about the topics. It forced me to learn and prepare, especially for patient education, to make it more interesting for my patients.

In Makasar, South Sulawesi, PROLANIS managers exchanged information in a WhatsApp group and sharing session, and this helped them to strengthen the programme and increased opportunities for collaboration. The minimum organizational improvements related to PROLANIS included capacity-building
activities, ensuring coordination across levels of care, collaborating with professionals in other disciplines and improving the performance of the PROLANIS team in primary care.

Unfortunately, the implementing agency, BPJS Kesehatan, has not undertaken a comprehensive evaluation of PROLANIS and has not assessed how the programme influenced the quality of care for people with chronic conditions, providers’ and patients’ satisfaction, and its cost effectiveness. A respondent from BPJS Kesehatan in Kupang, East Nusa Tenggara confirmed that,

[The programme] should have an effect [on cost effectiveness], but we cannot say that it has had an effect because we did not calculate that. But I can tell that the referral rate declined, which should reduce health care costs.

An interviewee from BPJS Kesehatan in Makasar, South Sulawesi, said,

We did not have a comprehensive evaluation of PROLANIS. We have one for primary care, and it includes all services in primary care, but especially for PROLANIS, no: we are still waiting for instructions from above [about how to evaluate PROLANIS].

### 4.6 Factors facilitating and inhibiting implementation

The implementation of PROLANIS was aimed at helping to control the rising costs of caring for people with chronic conditions and improving the quality of care provided to these patients at the primary care level. More than 22,000 primary care providers were required to join PROLANIS, a strong indication that it could contribute to improving the management of patients with chronic conditions in primary and secondary care. The increase in coverage also become a facilitating factor as more than 230 million Indonesians are covered by the JKN scheme, accounting for more than 82% of Indonesia’s population.

Nevertheless, there were many inhibiting factors that influenced implementation in the field. PROLANIS was perceived as a programme exclusive to primary care providers affiliated with BPJS Kesehatan and members of the JKN scheme, and as separate from other chronic disease management programmes implemented by DHOs. A DHO representative from Kupang, East Nusa Tenggara, said that “PROLANIS only serves JKN members [members of the national health insurance programme]. Those without JKN were not covered.” Additionally, PROLANIS focuses on the curative side of care (i.e. it focuses on people who have already been diagnosed with diabetes or hypertension) and thus serves only people who are already sick.
It was not integrated into the early detection programme known as Posbindu, although by design it was similar and could have been integrated to reach more people and generate more overall impact on the chronic care management programme. An MoH representative added that

BPJS Kesehatan [the national health insurance agency] controls primary care with financial punishment. They do not see all of the components of chronic care management. PROLANIS alone cannot guarantee a solution to these problems [clinical outcomes].

PROLANIS activities were mainly concentrated in primary care facilities, thus PROLANIS enrollees were required to attend the facilities to receive the services. An MoH representative said,

PROLANIS was centralized in the puskesmas and cannot reach people who live far from the puskesmas. I think that is why the participation rate was low.

Yet not all PROLANIS enrollees live close to primary care facilities. Most PROLANIS patients are elderly people whose travel is restricted and who need assistance from others to travel. This was reiterated by an interviewee from a puskesmas in Makasar, South Sulawesi, who said,

Most PROLANIS members were elderly people, and their participation was low because they depend on their family to take them to the puskesmas.

The most common reasons given for low participation in club activities were that the location was too far or no one was available to take the patient to the facility. Although reminders are sent through social media, not all PROLANIS patients have smartphones, and the majority of elderly people in the programme did not use a smartphone, so they missed the reminders. A clinic representative in Kupang, East Nusa Tenggara, said,

Most of the reason why [patients] cannot come to club activities was because no one could bring them: our clinic patients live all over the city.

Primary care providers did not have a good understanding of the reward system used by PROLANIS. The thresholds set for the indicators of clinical outcomes in PROLANIS were too high for providers to achieve, given the low number of patients participating. A representative from a puskesmas in Medan, North Sumatra, said,

It [the reward system] was unfair: we did not know how the indicator was calculated. Once we put the data in the system, it was gone. We just had to wait for them [the national health insurance agency] to give us the results.
Primary care providers did not actively recruit new patients for PROLANIS and instead depended on PRB patients to avoid committing to manage too many patients and thus failing to achieve the target. Providers selected only those patients with the potential for a good outcome to ensure they could meet the goals for the capitation indicators, which led to selection bias. As a representative from a puskesmas in Makasar, South Sulawesi, said,

Hypertension patients with complications had a hard time reaching the desired blood pressure, so I only registered those without complications in PROLANIS.

A representative from the national level of BPJS Kesehatan noticed something similar, saying,

The 5% indicator [for PROLANIS] was hard because it was not only the responsibility of the doctor but also the patients. With limited resources, primary care providers might include only patients with a strong commitment to the programme.

However, to meet the PROLANIS goals in the P4P capitation payment-mix scheme, providers should recruit as many patients with diabetes or hypertension as possible to ensure that these patients receive appropriate education to allow them to manage their lifestyle to achieve the desired clinical outcomes.

Primary care providers did not have enough capacity to implement PROLANIS properly. Key informant interviews found that primary care providers often lacked the staff necessary to maintain and coordinate the different activities associated with PROLANIS. The PROLANIS manager was also occupied with other tasks besides PROLANIS. An interviewee from a puskesmas in Medan, North Sumatra, said,

We have the highest number of PROLANIS patients in Medan, but they are only managed by the three of us, and we have other responsibilities as well.

Moreover, the turnover of PROLANIS managers was high, and this often had an impact on the programme in terms of whether data were collected, the quality of the data and the timeliness of the data submission. Only minimal changes were made to facilities’ organizational structure: most just depended on existing staff to run the programme.

An interviewee from a puskesmas in Makasar, South Sulawesi, highlighted this issue, saying

The biggest problem in primary care was staffing; the turnover was fast. Our primary care practice hired an internship student as a data officer; when the student was gone, we needed to train a new one to comply with the requirements.
As a result, some benefits could not be provided to patients, according to a clinic representative from Kupang, East Nusa Tenggara, who said,

We cannot make home visits due to limited resources [i.e. lack of a vehicle]; we have to plan to make them next year.

The predetermined activities for PROLANIS limit innovation and leave minimal room for improving the programme. PROLANIS covers the costs only for health education and exercise, which are concentrated in primary care facilities. There is no clear guidance about these activities and what topics should be covered, which means that the delivery of services varied between providers. Primary care providers were free to choose their own topics for health education as long as the topics related to chronic disease management. A clinic representative from Kupang, East Nusa Tenggara, said

We cannot repeat the same material every month, so we expanded our educational material to include all health topics [i.e. topics beyond care for chronic conditions] so the patients would not be bored.

The costs of activities undertaken outside the scope of the programme are not covered by BPJS Kesehatan. Primary care providers often used their own capitation payments to fund other activities or relied on out-of-pocket payments from PROLANIS patients. General practitioners and clinics were more likely than puskesmas to offer additional activities, according to a representative from the MoH, who said,

I have participated in a study that compared public and private providers in Surabaya [Java]. PROLANIS was better implemented by private providers who had specialists visit regularly compared with [implementation by] puskesmas.

One of the biggest concerns in chronic disease management in primary care is the availability of medication for PRB patients. PRB medication is not always available in primary care and pharmacy networks. A representative from the MoH said,

Puskesmas have poor planning with medication [i.e. there is not enough for all of their patients]. In lower-level care facilities, the procurement policy was unclear, and rapid change depended on the DHO.

As a result, patients are often provided with replacement medications that may have different effects. In Kupang, East Nusa Tenggara, and Medan, North Sumatra, some districts have no pharmacy networks because it is too difficult for pharmacies to provide the required medicines. This situation made it more difficult for patients to access their medication and required them to travel
to other districts. A representative from BPJS Kesehatan in Kupang, East Nusa Tenggara, said,

The availability of medication [for PRB patients] has a big impact on all aspects of the programme. For example, in Kupang district, there were no pharmacy networks for PRB patients; they needed to travel to the city to get their medication.
Discussion
Findings from this case study emphasize the need for a comprehensive evaluation of purchasing arrangements aimed at caring for patients with chronic disease in Indonesia. PROLANIS, the existing programme, has had a positive response from primary care providers, yet its effectiveness and impact on the quality of care for patients with chronic conditions is questionable. There is no roadmap for evaluating PROLANIS. Most of the studies conducted were done by external parties with only limited involvement from the national health insurance agency, BPJS Kesehatan. The majority of studies used observational methods, were limited to only one or few primary care providers and had only a few respondents (12-19). There have been no nationwide evaluations comparing the impact of PROLANIS across different quality domains and different geographical areas.

The improvements in patients’ quality of life mentioned in this case study have been contradicted by analyses of clinical outcomes. Many studies have used clinical parameters to evaluate the effectiveness of PROLANIS activities, such as glycated haemoglobin level, fasting blood glucose and systolic blood pressure for both patients with diabetes and those with hypertension. Some studies found a correlation between PROLANIS and better clinical outcomes. Attendance at PROLANIS activities was found to be correlated with better fasting blood glucose and glycated haemoglobin levels, and with better systolic blood pressure (12-16). Comparisons between PROLANIS and non-PROLANIS patients also found that PROLANIS patients had more controlled blood pressure (17). Nevertheless, results from other studies found the opposite. One cohort study conducted during 2018–2019 found that PROLANIS was not effective in improving the metabolic and renal function of patients with diabetes (18). Another study found no difference in clinical parameters between PROLANIS and non-PROLANIS patients (19).

This current case study found that national scores on the indicator measuring PROLANIS achievement were low, and they were also low in the selected districts studied. Unfortunately, assessments of the performance of primary care providers taking part in PROLANIS are limited to only one quality indicator related to patient outcomes. There are no intermediate indicators for process and outputs that could enrich the evaluation and provide insight into the low achievement scores. Also, the selection of indicators and the formula for calculating scores are confusing to primary care providers. It is not fair to hold them accountable for all patients with chronic disease when the intervention addresses only hypertension and diabetes. The problems with indicator selection and target-setting have become the biggest challenges to performance-based capitation in Indonesia since 2015 when the approach was introduced, at which time the problems being addressed were, for
example, health facility readiness, reporting knowledge, managerial capacity and the financial bureaucracy (20). Primary care providers are not incentivized to increase the coverage of PROLANIS, which results in low participation. Also, they lack clear guidance about health education activities and so the programme relies on the creativity and commitment of the PROLANIS team in primary care, who may have other tasks and responsibilities (21). Moreover, not all registered patients receive all of the benefits of PROLANIS, such as health-promotion activities and education, exercise and regular health monitoring through laboratory tests.

The club activities that are part of PROLANIS created positive feelings among PROLANIS patients. In two studies, PROLANIS patients had higher quality of life scores compared with non-PROLANIS patients (22, 23). PROLANIS patients are also more likely to practice healthy behaviours after attending health education sessions. A study in Yogyakarta, Java, involving 25 puskesmas found that hypertension patients enrolled in PROLANIS were more likely to practice CERDIK² behaviours compared with those who were not in PROLANIS (24). However, another study in Bandung, West Java, found that PROLANIS on its own was not enough to improve patients’ self-efficacy (25). The restriction of PROLANIS to JKN members diminished opportunities to engage more people around the patient to support adherence to care regimens.

The mixed findings about the impact of PROLANIS may be caused by selection bias, which was found in this case study and in other studies. The tendency to select committed patients to be included in PROLANIS in order to avoid financial punishment from BPJS Kesehatan might have an impact on meeting the goals of the relevant indicator (26). The P4P capitation payment-mix scheme was perceived as an obligatory programme that emphasized punishment rather than incentivized providers to improve the quality of care for patients with chronic diseases (21). The system was not designed to deliver an additional payment to the primary care provider to incentivize improvements in performance, but instead it operates more like a sanction on providers who do not perform well. Given the geographical and socioeconomic disparities in Indonesia, in the long run this system will negatively affect health equity by widening gaps because primary care providers in developed areas will receive most from the JKN fund, leaving providers in less-developed areas struggling to achieve the goals set by the indicator. PROLANIS was more difficult to implement in rural areas where patients have limited access to health care facilities and there are larger catchment areas, inadequate health equipment, limited human resources and poor health-seeking behaviour (21, 27).

2 CERDIK is an Indonesian acronym for several NCD management activities, including having regular health checks, stopping cigarette smoking, exercising regularly, eating a balanced diet, getting enough rest and managing stress well
The lack of external involvement in implementing and improving the programme raises the question of what role PROLANIS plays within the national chronic care management framework. The limited involvement of PHOs, DHOs, professional organizations and primary care associations in implementation, monitoring and evaluation has restricted opportunities to improve and expand the programme. It is unclear where PROLANIS sits among other similar chronic disease management programmes implemented at the primary care level – such as Posbindu, Posyandu Lansia (which provides integrated health care services for elderly people that are delivered monthly in the community), Program Indonesia Sehat dengan Pendekatan Keluarga, and others – that may have overlapping activities and beneficiaries. Given the Government’s focus on transforming primary care, integrating PROLANIS is essential for the efficiency and effectiveness of chronic disease management.

The impact of the programme relative to its cost is debatable. BPJS Kesehatan did not conduct any cost–effectiveness evaluations. A study in 2016 (28) used cost–effectiveness analysis and found that PROLANIS patients with type 2 diabetes had lower average medical costs compared with non-PROLANIS patients. However, the study was conducted in a developed area where health care facilities are widely available. More comprehensive analyses are needed that include different cost and quality variables assessed in different settings.

This case study was one of only a few nationwide mixed-methods evaluations of PROLANIS that explored improvements in the quality of care delivered to patients with chronic illness. To our knowledge, this type of study has been conducted only rarely in Indonesia with a focus on evaluating components of PROLANIS. Yet this case study has several limitations. First, this study did not interview patients due to limited time and in consideration of selection bias. However, patients’ perspectives about the quality and impact of PROLANIS were sought during interviews with providers who could offer insight based on their experiences interacting with patients. Second, the secondary data from BPJS Kesehatan relates only to clinical parameters for PROLANIS patients who accessed the laboratory networks, and these patients are not representative of all PROLANIS patients, which may reflect selection bias by primary care providers.
Conclusions
The inclusion of an indicator for PROLANIS in the P4P capitation payment-mix scheme was expected to hold primary care providers accountable for providing high-quality services to patients with chronic conditions. However, the delivery of the programme faced many challenges. Primary care providers did not have a clear understanding of its implementation, especially how it fit into the broader picture of chronic disease management. Also, the payment system tends to disincentivize providers by focusing more on sanctions rather than on motivating them with rewards for improved performance. The low number of patients enrolled in PROLANIS and low proportion of providers meeting the thresholds for the indicator show that immediate solutions are needed to ensure that the programme becomes a meaningful purchasing arrangement that helps to improve the quality of care for patients with chronic illness.

The exclusivity of PROLANIS – that is, it is available only to people who are members of the national health insurance scheme – is also another issue because it is not clear what role the programme has in the overall chronic disease management framework and what its relationship is to other government programmes implemented through the puskesmas. The exclusivity of the programme inhibits its expansion and providers’ potential innovations that might support other aspects of care quality, including improving patients’ experiences, ensuring continuity of care, integrating services and improving health equity. The limited involvement of key stakeholders in its implementation is another challenge in that systems for monitoring and evaluation are lacking, so it is difficult to understand how PROLANIS contributes towards lowering health care costs and improving quality, aspects that should be prioritized in redesigning the programme. Finally, wide disparities in the capacities of primary care providers potentially indicate another health equity issue that could be addressed through implementation and the distribution of funding to different regions in Indonesia. Fair reward and punishment also need to be considered to motivate and appreciate the primary care provider for their participation in the programs.
Lessons learned
Findings from this case study were expected to add to knowledge about the use of purchasing arrangements to improve the quality of care for patients with chronic conditions, and it was hoped they could be used to help policy-makers and practitioners around the world learn about, design and implement better programmes that could make meaningful contributions to the quality of care for people with chronic illness. Some key lessons from this case study are described below.

- The P4P capitation payment-mix system is a purchasing tool that could be used to hold health care facilities accountable for delivering high-quality health care services to the communities they serve, yet it should be directed towards incentivizing rather than punishing facilities. This could be done by including indicators for processes and outputs rather than only for outcomes. Rewards for improvements in performance achieved by health facilities should be added to their payments as an incentive rather than decreasing payments when goals are not met.

- Some technical requirements could not be fulfilled by primary care providers in rural areas, such as East Nusa Tenggara, due to the limited number of primary care providers, which meant that the credentialing process could not be fully implemented. Given the diversity in providers’ capacities, credentialing and capitation payments should have relative targets rather than absolute to allow facilities to gradually achieve the highest standards of care. It is also important to increase investment in disadvantaged regions by providing more incentives with tangible indicators to primary care providers in those regions, yet still hold them accountable for the quality of care they offer. PROLANIS should be seen as part of the quality improvement initiative whereby primary providers can progressively adhere to higher standards while not totally cutting them off from the system if they fall short and, at the same time, allowing resources to allow for provider improvements.

- The programme also needs more comprehensive monitoring and evaluation that covers all aspects of the quality of care for patients with chronic illness, including assessing patients’ outcomes, ensuring continuity of care, addressing patients who are lost to follow up, integrating services and working towards health equity. A roadmap must clearly guide the programme towards identifying and improving aspects that did not work well and towards finding solutions. A comprehensive nationwide study is needed to understand the effectiveness of the programme, including its contributions to improving quality and lowering costs.

- Purchasing arrangements for care for patients with chronic illness must be integrated into the national chronic disease management framework. This integration must make clear how the programme
fits into other chronic disease management programmes delivered in primary care, how the programme complements other initiatives, and how overlaps in services and target beneficiaries can be avoided. The program also needs to involve stakeholders like MoH and DHOs, e.g., in joint data analysis, quality monitoring, program design and adjustments, indicator/target setting, etc.

- PROLANIS and other chronic disease management programs should also consider including patients’ families and their caregivers as most of the care processes for NCDs happens in the households or at community level. The involvement of the broader community may help to address low enrolment rates, low participation rates and the sustainability of patient engagement in the care process.
References


Annexes
Annex 1. Interviews with key stakeholders

Table A1.1 summarizes the key informants at the national and provincial levels interviewed for this case study.

**Table A1.1. Informants interviewed about the PROLANIS chronic disease management programme for members of the national health insurance scheme at the national, provincial and city levels, Indonesia, 2022**

<table>
<thead>
<tr>
<th>Institution</th>
<th>No. of informants</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Directorate of Primary Health Care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Directorate of Control And Prevention of Noncommunicable Diseases</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>– Centre for Health Financing and Decentralization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Badan Pengelola Jaminan Sosial Kesehatan (national health insurance agency); informants interviewed at the national and subnational levels</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Provincial Health Offices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Department of Health Services</td>
<td>6</td>
<td>2 in each province</td>
</tr>
<tr>
<td>– Department of Control and Prevention of Noncommunicable Diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>District Health Offices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Department of Health Services</td>
<td>6</td>
<td>2 in each district</td>
</tr>
<tr>
<td>– Department of Control and Prevention of Noncommunicable Diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers and health professionals working in primary care (i.e. those with the highest number of PROLANIS patients)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Community health centres (puskesmas)</td>
<td>9</td>
<td>3 in each district</td>
</tr>
<tr>
<td>– General practitioners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Clinic providers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>
Annex 2. Overview of services for people with chronic illness in Indonesia

Services for people with chronic disease in Indonesia have been evolving since they were introduced in 2014 with the national health insurance scheme (Jaminan Kesehatan Nasional; JKN). As in other developing countries, there has been a shift in focus from communicable diseases to the noncommunicable diseases that threaten the stability of the health care system. A Riset Kesehatan Dasar (basic health survey, also known as Riskesdas) in 2018 found that chronic diseases have become emerging threats to the health care system and the population due to their rapid increase in prevalence. Compared with 2013, in 2018 the prevalence of heart disease has increased threefold and stroke 1.5 times (1).

Since the introduction of JKN in 2014, the utilization of services for chronic illness has escalated significantly in both primary care and hospitals. In primary care, utilization of outpatient services for chronic illness has increased from 418/10 000 patients in 2015 to 921/10 000 patients in 2018, and visits for chronic illness now account for 7% of all patient visits (Fig. A2.1a). Nevertheless, inpatient primary care services for chronic illness are relatively low, at about only 6 to 7/10 000 patients during 2015–2018; these low rates were expected because primary care facilities did not have the capacity to treat patients with chronic illness and instead referred them to higher-level health providers (Fig. A2.1b). In secondary care, although there was a decline in the utilization of services for chronic illness in 2016, in 2018 outpatient utilization increased to 226/10 000 patients. Yet these were just a small fraction of the total number of visits and represent a slight decline from 2015–2018 (Fig. A2.1c). However, inpatient utilization rates for patients with chronic conditions increased slightly between 2015 and 2018, with more than 110/10 000 patients annually, accounting for more than 20% of all visits (Fig. A2.1d).
Fig. A2.1. Utilization of services for chronic illness, by type of care, in (a) outpatient primary care, (b) inpatient primary care, (c) hospital outpatient care and (d) hospital inpatient care, Indonesia, 2015–2018

Increasing utilization led to escalating health care costs. The cost of treating chronic conditions rose significantly from 2015 to 2020, by about 18–25% each year (Fig. A2.2a). These high costs for chronic diseases accounted for more than 20% of total health care costs, yet the prevalence of chronic disease is only about 8.8% among JKN members (Fig. A2.2b). The chronic diseases that accounted for most of the spending were heart disease, cancer, stroke and kidney failure, and this spending was one of the main causes of deficits in the JKN scheme, a problem that has continued since its introduction in 2014 (Fig. A2.3). In the long run, this situation will likely threaten the stability of JKN and could potentially have negative impacts on the quality and equity of care provided by the Indonesian health system.

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Utilization data were taken from a Badan Pengelola Jaminan Sosial Kesehatan (the national health insurance agency) sample from 2015 to 2018 that covers 1% of the total number of members in the Jaminan Kesehatan Nasional (the national health insurance scheme) in Indonesia. The chronic conditions included in the analysis were cardiovascular diseases, including hypertension, stroke, diabetes mellitus, chronic obstructive pulmonary disease and cancer (2).

Source: Data about the total number of visits were taken from reference (3).
Fig. A2.2. (a) Costs of caring for patients in the national health insurance scheme (known as JKN) who have chronic diseases and (b) comparison of the proportions of cases and costs of caring for patients with chronic illness and patients with other illnesses, Indonesia, 2015–2020\(^a\)\(^b\)

\[\begin{array}{c|c|c}
\text{Year} & \text{Cost (trillions of Indonesian rupiah)} & \text{\% of cases} \\
\hline
2015 & 0 & 20 \\
2016 & 5 & 20 \\
2017 & 10 & 20 \\
2018 & 15 & 20 \\
2019 & 20 & 20 \\
2020 & 25 & 20 \\
\end{array}\]

\(^a\) Financing data were taken from the implementation and financial report 2015–2020 by the BPJS Kesehatan (the national health insurance agency), which covers only the chronic conditions with the highest spending: heart disease, cancer, stroke, kidney failure, thalassaemia, haemophilia, leukaemia and hepatic cirrhosis.

\(^b\) The percentages of cases and costs in panel (b) were the average number of cases and the average costs during 2018–2020 because those are the years for which data are available.


Fig. A2.3. Financial deficits and surplus in the national health insurance scheme (known as JKN), Indonesia, 2014–2020\(^a\)

\[\begin{array}{c|c|c}
\text{Year} & \text{Deficit or surplus (trillions of Indonesian rupiah)} \\
\hline
2014 & 0 \\
2015 & 0 \\
2016 & 0 \\
2017 & 0 \\
2018 & 0 \\
2019 & 0 \\
2020 & 20 \\
\end{array}\]

\(^a\) The coronavirus disease (COVID-19) pandemic in 2019 and 2020 significantly reduced health care utilization, resulting in surplus funding. However, after the pandemic, utilization could again rise, potentially bringing back the deficit.

References


