

INSURING WITHOUT FINANCING: PROVIDER PAYMENT AND THE FISCAL DESIGN OF NATIONAL HEALTH INSURANCE

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ABSTRACT

Enrolling a population in health insurance and financing its care are different achievements, and the second does not follow automatically from the first. This study examines the financing side of a single-payer national scheme, with attention to the provider payment mechanism through which revenue becomes care. The method is a structured review of research published between 2017 and 2024, organised around coverage, financial protection, payment mechanism and supply-side readiness. Four findings follow. Financial protection improved substantially, with catastrophic health spending in one national panel falling from 7.9 to 4.4 per cent of households at the ten per cent threshold in a single year, and insured households recording a 39 per cent reduction in out-of-pocket payments. Coverage nonetheless outran financing: enrolment exceeded 80 per cent while out-of-pocket payments remained above 30 per cent of current health expenditure, and financing incidence moved from mildly progressive to mildly regressive between two consecutive survey years. Contribution compliance in the self-enrolled segment is the structural weakness, with 28.3 per cent not paying regularly and uncertain income cited by 52.22 per cent. And the payment mechanism, which determines what the money buys, is unevaluated domestically: no verified study within the review window estimates the effects of the national case-based payment system, so its design rests entirely on evidence from other countries.

ABSTRAK

Mendaftarkan penduduk ke dalam jaminan kesehatan dan membiayai layanannya adalah dua capaian yang berbeda, dan yang kedua tidak otomatis mengikuti yang pertama. Penelitian ini menelaah sisi pembiayaan satu skema pembayar tunggal nasional, dengan perhatian pada mekanisme pembayaran penyedia layanan yang melaluinya penerimaan berubah menjadi pelayanan. Metodenya adalah telaah terstruktur riset terbitan 2017 hingga 2024 yang ditata menurut cakupan kepesertaan, perlindungan finansial, mekanisme pembayaran, dan kesiapan sisi penyediaan. Empat temuan mengikutinya. Perlindungan finansial membaik nyata: belanja kesehatan katastrofik pada satu panel nasional turun dari 7,9 menjadi 4,4 persen rumah tangga pada ambang sepuluh persen hanya dalam setahun, dan rumah tangga terjamin mencatat penurunan pembayaran langsung sebesar 39 persen. Namun kepesertaan melampaui pembiayaan: cakupan melewati 80 persen sementara pembayaran langsung tetap di atas 30 persen belanja kesehatan berjalan, dan insidensi pembiayaan bergeser dari sedikit progresif menjadi sedikit regresif di antara dua tahun survei berturutan. Kepatuhan iuran peserta mandiri merupakan kelemahan strukturalnya, dengan 28,3 persen tidak membayar secara rutin dan ketidakpastian penghasilan disebut oleh 52,22 persen. Adapun mekanisme pembayaran, yang menentukan apa yang dibeli oleh dana tersebut, belum dievaluasi di dalam negeri: tidak ada studi terverifikasi dalam rentang telaah yang memperkirakan dampak sistem pembayaran berbasis kasus nasional,

	sehingga desainnya sepenuhnya bersandar pada bukti dari negara lain. Kata kunci: jaminan kesehatan semesta; pembayaran penyedia layanan; belanja katastrofik; asuransi kesehatan sosial; pembelian strategis
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I. INTRODUCTION

A national health insurance scheme is usually judged by how many people it has enrolled. That is the number ministers announce and the number international comparisons report. It is also the number least connected to whether a household facing illness will be ruined by the cost of treating it.

The distinction is not pedantic. Enrolment is an administrative act; financial protection is a financing outcome, and it depends on how much prepaid revenue the scheme collects, how it pools that revenue, and what it buys with it. Wagstaff et al. (2018), examining 553 household surveys across 133 countries from 1984 to 2015, find catastrophic spending at the ten per cent threshold rising from 9.7 per cent of households in 2000 to 11.7 per cent in 2010, affecting approximately 808 million people, and — the finding that organises this study — incidence correlating negatively with prepaid financing through social security and government agencies. Nominal coverage, they conclude, is insufficient.

Indonesia offers the largest case in which this proposition can be tested. Agustina et al. (2019) describe the national scheme as reaching 203 million people, the largest single-payer scheme in the world, in a country of 262 million with primary health centres expanded to 20,900. The scheme is delivering: Fattah et al. (2023), using a national household panel, find catastrophic health spending at the ten per cent threshold falling from 7.9 per cent of households in 2018 to 4.4 per cent in 2019, and Maulana et al. (2022) find insured households recording a 39 per cent reduction in out-of-pocket payments relative to the uninsured.

Yet the financing side shows strain that the coverage figure conceals. Maulana et al. (2022) report enrolment above 80 per cent alongside out-of-pocket payments still exceeding 30 per cent of current health expenditure. Asante et al. (2023), analysing benefit and financing incidence across two consecutive years, find health financing moving from mildly progressive, with a Kakwani index of 0.034 in 2018, to mildly regressive at -0.030 in 2019. Coverage expanded; the distribution of who pays moved the wrong way.

Between revenue and care sits the purchasing mechanism, and it is the least examined element of the system. A scheme that pays providers per case creates one set of incentives; one that pays by capitation creates another; one that pays fee-for-service creates a third. This study will show that the effects of Indonesia's case-based mechanism have not been evaluated in the indexed literature within the review window, so a design decision governing the disposition of the largest single-payer scheme in the world rests on evidence borrowed from elsewhere.

Three questions organise the analysis. First, what has the scheme achieved in financial protection, and what has it not? Second, what does the evidence establish about the payment mechanisms available and their measured effects? Third, what constrains what purchasing can buy, and what follows for design?

2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Coverage, prepayment and financial protection

Wagstaff et al. (2018) establish the global baseline and the causal direction. Their finding that catastrophic spending incidence correlates positively with national income and with the health share of gross domestic product, but negatively with prepaid financing through social security and government agencies, identifies prepayment rather than coverage as the operative variable. A country can be wealthier, spend more on health, and leave more households exposed, if the additional spending flows through out-of-pocket channels.

Fattah et al. (2023) apply the same measure to Indonesia across a household panel, finding catastrophic spending falling from 7.9 to 4.4 per cent of households at the ten per cent threshold and from 2.7 to 1.5 per cent at the twenty-five per cent threshold between 2018 and 2019, with the decline steeper in rural areas, from 9.7 to 4.9 per cent, than urban, from 6.8 to 4.1 per cent. Scheme membership in the panel rose from 64 to 73 per cent over the same period, and insured households recorded significantly lower catastrophic spending than the uninsured.

Maulana et al. (2022) decompose the protection effect by quintile and region. Insured households showed a 39 per cent overall reduction in out-of-pocket payments, with the probability of incurring no out-of-pocket cost at 34 per cent for the insured against 27 per cent for the uninsured, and a pro-poor gradient running from 37 per cent in the poorest quintile to 30 per cent in the richest. Regional effects were largest in eastern Indonesia, at a 48 per cent reduction, and larger in rural areas within that region than urban.

Asante et al. (2023) supply the countervailing finding through benefit and financing incidence analysis on samples of 31,864 and 31,215 households. Public-sector benefits were marginally pro-poor, with concentration indices of -0.008 in 2018 and -0.060 in 2019, while private-sector benefits were strongly pro-rich at 0.134 and 0.190 . Financing shifted from a Kakwani index of 0.034 to -0.030 across the same two years. Benefits became more pro-poor while financing became regressive, which are separable movements and must be assessed separately.

Provider payment mechanisms and their measured effects

Ghazaryan et al. (2021) provide the most directly relevant synthesis, reviewing 24 studies of hospital payment reform in low- and middle-income countries between 2000 and 2019 — all in fact from middle-income countries, with no rigorous low-income evaluations located. Reforms from fee-for-service to case-based payment produced consistent reductions in length of stay and

readmission and lower out-of-pocket payments, with mixed effects on admissions and expenditure. Reforms to capitation produced lower length of stay, admissions, expenditure and out-of-pocket payments, but with cost-shifting to uninsured fee-for-service patients. Reforms to global budgets reduced expenditure with contradictory out-of-pocket effects ranging from a 40 per cent decline to a 27.9 per cent increase, alongside gaming. Only six of the 24 studies were rated high quality.

Two meta-analyses quantify the case-based effect. Meng et al. (2020), pooling 18 studies, find diagnosis-related group payment associated with a length-of-stay reduction of 8.07 per cent, with a 95 per cent confidence interval of -13.05 to -3.10 , alongside a readmission increase of 1.36 per cent, confidence interval 0.45 to 2.27 . Chen et al. (2023), across 29 studies and more than 36 million patients, find a significant length-of-stay reduction with a standardised mean difference of -0.25 , confidence interval -0.37 to -0.12 , stronger where implementation was recent, and no significant effect on thirty-day readmission or in-hospital mortality. The two disagree on readmission, and the disagreement should not be resolved by preference.

Ghazaryan et al. (2021) also document the two behavioural responses that any case-based system must be designed against: upcoding, recorded in one jurisdiction, and cream-skimming under capitation. Both are responses to the incentive rather than failures of implementation, which means they are properties the design must anticipate rather than abuses to be discovered later.

Maharani et al. (2019) supply the only verified Indonesian evidence on provider response, surveying primary care physicians in two Central Java cities after the reform. Mean satisfaction was 3.19 out of 5.0 and 89.1 per cent intended to remain in practice, but dissatisfaction concentrated on the reform's own features: 54.0 per cent were dissatisfied with the new referral rules, 51.1 per cent with service standards and 39.1 per cent with policy implementation, while satisfaction with collegial relations, hours and physical conditions remained high.

Strategic purchasing

Sumankuuro et al. (2023) review purchasing across nine middle-income countries, finding primary care mostly paid by capitation and hospitals by case-based systems of varying sophistication, with Indonesia specifically developing commitment-based capitation with monitoring. Their comparative result on financial protection is notable: out-of-pocket payment remained high in most of the nine countries except Thailand at 11 per cent and Indonesia at 18 per cent. They also record that six of the nine experienced delayed reimbursement, with providers in three countries withholding covered services in consequence.

Parmar et al. (2024), examining purchasing adjustments across eight middle-income countries during the pandemic, document rapid mechanism switching — two countries moving from cost reimbursement to case-based payment, one cycling through case-based, fee-for-service and back — together with relaxed contracting and accreditation to expand private capacity, and

inconsistently disbursed salary top-ups. They state explicitly that limited quantitative data prevented firm conclusions on financial protection outcomes, and are cited here for the flexibility of purchasing instruments rather than for effect sizes.

Contribution compliance and premium design

Nurhasana et al. (2022) examine premium payment among self-enrolled members over 2015 to 2017 and report the finding that most constrains scheme finances: 28.3 per cent did not pay premiums regularly. Their transition analysis shows 57.9 per cent consistently compliant, 18.6 per cent moving from routine to irregular payment, 13.8 per cent moving the other way, and 9.7 per cent persistently non-compliant. Uncertain income was cited by 52.22 per cent and high premium by 34.44 per cent, and regular payment was negatively associated with the premium increase of 2016.

Kurnianingtyas et al. (2021) model premium setting dynamically from 2014 to 2019 with projection to 2030, finding the health-cost basis used to set premiums to be the critical determinant of financial stability, government subsidy to become necessary whenever premiums are misaligned with members' capacity, and transitions of members between membership categories to affect fund performance materially.

Aikins et al. (2021) provide the comparative case that generalises the problem. Ghana's scheme draws revenue from an earmarked levy on value-added tax and a share of social security contributions, yet enrolment above 60 per cent coexists with active membership below 40 per cent, because members do not renew. Broad statutory exemptions narrow the contributing base further, and reimbursement delays were traced to slow submission, vetting errors and insufficient funds. The failure mode is not enrolment; it is the conversion of enrolment into contribution.

Supply-side readiness and the subnational role

Kosen (2022) reports that the scheme covered approximately 82.3 per cent of some 270 million citizens, with cancer accounting for 2.2 million cases and 3.1 trillion rupiah of total claims of 95.51 trillion rupiah in 2020, and records the supply-side constraint directly: approximately 60 per cent of some 10,000 public primary healthcare facilities lacked a general practitioner. The source is a commentary rather than an empirical study and is cited for these figures and the framing.

Anindya et al. (2020), using propensity score matching on 5,429 women with recent live births of whom 61.4 per cent were insured, find insurance associated with increases of 7.4 percentage points in four or more antenatal visits, 10.2 points in facility delivery, 3.0 points in skilled birth attendance and 4.0 points in postnatal care, all significant, with effects substantially larger among poorer households and in less developed regions including eastern Indonesia and Sulawesi.

Sparrow et al. (2017) examine the subnational schemes that preceded and coexisted with the national one. By 2010 approximately 91 per cent of surveyed districts operated such a scheme targeting the population between the subsidised poor and the formally employed. Their fixed-

effects analysis across 262 districts from 2004 to 2010 finds outpatient visits rising by 0.013 per capita per month, about eight per cent above baseline, concentrated in the middle quintiles and in rural areas, with no significant inpatient effect and no meaningful reduction in out-of-pocket payment. Schemes contracting district public hospitals performed better than those contracting provincial or national hospitals.

Khoirunurrofik and Raras (2021), examining more than one million individuals above the poverty line from 2017 to 2020, find willingness to participate rising with the local supply of health facilities, hospital beds and hospital doctors, and with the presence and staffing of primary health centres. Supply is therefore not only what insurance purchases; it is a determinant of whether people enrol at all.

Enrolment, contribution and the burden of remaining enrolled

The compliance problem identified above is, in the first instance, an administrative one. Halling and Baekgaard (2024), reviewing 119 studies of citizen-state interaction, establish that burdens are consequential, distributive and constructed rather than given, and that frontline delivery and government communication shape what people actually experience. A monthly contribution obligation imposed on households with variable income is a recurring burden rather than a single act, and the burden falls hardest on those whose income variability is greatest.

Three studies from revenue administration indicate what changes such compliance and what does not. Okunogbe and Pouliquen (2022) find electronic filing cutting compliance time by forty per cent while doubling amounts paid among the previously non-compliant and reducing them among the already compliant, so digitisation redistributes rather than uniformly relieves. Kochanova et al. (2020) find electronic filing reducing preparation time and official contact while showing no strong relationship with corruption. Bellon et al. (2022) find mandatory electronic invoicing raising reported activity by more than five per cent within a year, concentrated among smaller units.

Vincent (2023) supplies the caution that bears most directly on a scheme collecting contributions through subnational machinery, finding greater subnational administrative control associated with lower compliance through enforcement intensity, compliance costs and perceived legitimacy together. Van den Boogaard et al. (2022) identify the corresponding remedy, finding that meaningful transparency requires information matched to contributors' own priorities and usable as a basis for dialogue, and that engagement requires forums perceived as safe and sincere.

What contributing does besides funding

Two studies indicate that a contributory relationship has effects beyond its revenue. Weigel (2020), evaluating a randomised campaign across 356 neighbourhoods, finds compliance rising from 0.1 to 11.6 per cent and political participation rising by approximately five percentage points, with citizens bearing real participation costs. Balan et al. (2022) find collection by local actors raising

compliance by 3.2 percentage points and revenue by forty-four per cent through use of local information, without damaging morale or institutional trust.

For a scheme whose self-enrolled segment shows persistent non-payment, these findings point away from the two remedies usually proposed. Raising the rate addresses neither variability nor legitimacy, and the compliance evidence indicates the premium increase worsened rather than improved payment. Automating collection addresses the recorded but not the unrecorded. What the evidence supports is collection arrangements that use local information and contribution terms that match the income pattern of the households they apply to.

Research gap

Three gaps shape this study, and the first is the principal one. No verified study published between 2017 and 2024 estimates the effects of Indonesia's national case-based payment system on cost, quality, length of stay or coding behaviour. The domestic literature on this instrument consists predominantly of single-hospital comparisons of tariff against measured cost, and the candidate studies located in the search either fell outside the review window or appeared in outlets whose indexing could not be verified. Second, no verified peer-reviewed source within the window reports the scheme's deficit; the only located source carrying those figures appeared in a journal excluded on publisher grounds, so no deficit figure is reported here. Third, no verified study within the window examines the subnational role after the integration of district schemes into the national one.

3. METHOD

The study is a structured review. It generates no primary data, analyses no claims records, and offers no estimate of the scheme's financial position.

Source identification and verification

Peer-reviewed studies published between 2017 and 2024 on universal health coverage financing, catastrophic health expenditure, provider payment mechanisms, strategic purchasing, contribution compliance and Indonesian national health insurance were identified and retained only where bibliographic details could be verified against a publisher page, a digital object identifier record, an indexing database record or an institutional repository. Sources whose findings could not be read directly were excluded. Journals whose publisher appears on recognised lists of questionable publishers, and Indonesian outlets whose accreditation or indexing could not be verified, were excluded regardless of topical fit; this excluded a substantial body of domestic material on the payment mechanism and on the referral system.

Treatment of quantities

All quantities are reported as published from a single identified source, with the survey year, sample and threshold stated wherever the figure depends on them. Catastrophic spending figures are

reported with their threshold, since incidence at ten and twenty-five per cent of consumption are different measures. No figure whose only located source was an excluded outlet is reported, which is why no deficit figure appears in this study.

Analytical structure

The analysis separates four questions that are often merged: how many people are enrolled, how much financial protection they obtain, who bears the cost of financing, and what the scheme's revenue purchases. Each reviewed finding is assigned to one of these, and the design implications are derived from the pattern across them rather than from any single result.

4. RESULTS AND DISCUSSION

Protection improved, and financing did not keep pace

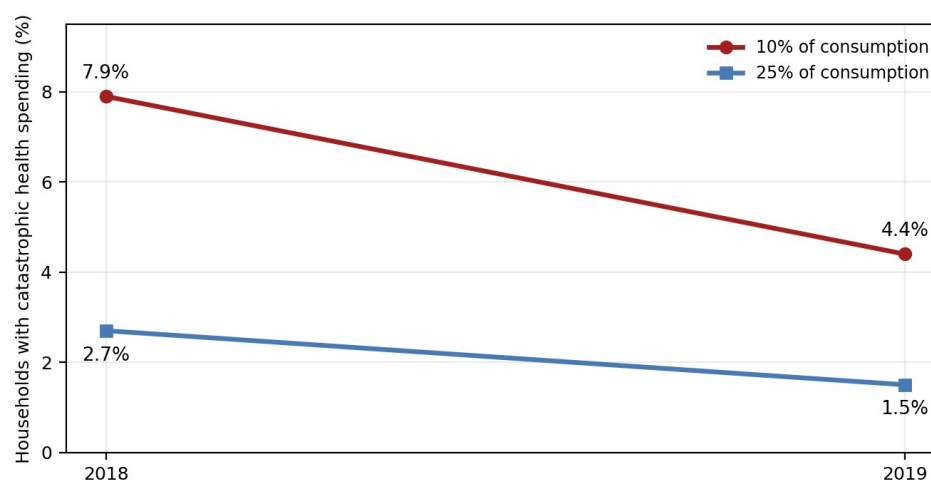


Figure 1. Incidence of catastrophic health spending at two thresholds (source: Fattah et al., 2023)

Table 1. Verified quantities on coverage and financial protection

Quantity	Value	Source
Scheme membership	203 million people; largest single-payer scheme in the world	Agustina et al. (2019)
Coverage share	Approximately 82.3 per cent of some 270 million	Kosen (2022)
Catastrophic spending, 10 per cent threshold	7.9 per cent (2018) to 4.4 per cent (2019)	Fattah et al. (2023)
Catastrophic spending, 25 per cent threshold	2.7 per cent to 1.5 per cent	Fattah et al. (2023)
Rural catastrophic spending, 10 per cent threshold	9.7 per cent to 4.9 per cent	Fattah et al. (2023)
Out-of-pocket reduction, insured vs uninsured	39 per cent overall	Maulana et al. (2022)
Out-of-pocket share of current health expenditure	Above 30 per cent despite enrolment above 80 per cent	Maulana et al. (2022)
Financing incidence, Kakwani index	0.034 (2018) to -0.030 (2019)	Asante et al. (2023)

Public-sector benefit concentration index	-0.008 (2018); -0.060 (2019)	Asante et al. (2023)
Private-sector benefit concentration index	0.134 (2018); 0.190 (2019)	Asante et al. (2023)

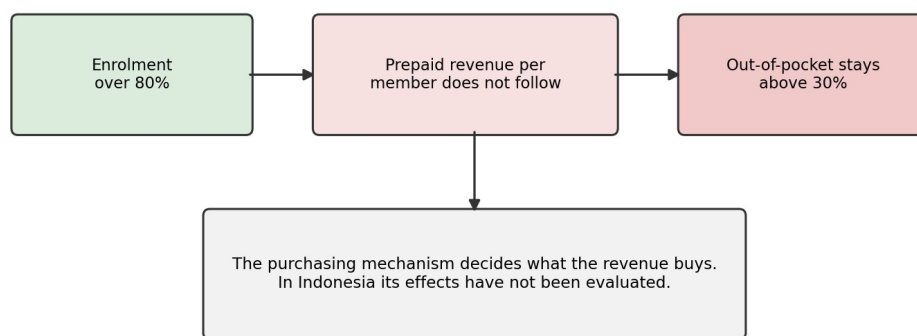
Source: compiled by the authors. Catastrophic spending figures depend on the threshold applied and are reported with it.

The first six rows describe a scheme that is working. Catastrophic spending nearly halved at both thresholds in a single year, the rural decline was steeper than the urban one, and insured households recorded substantially lower out-of-pocket payment with a pro-poor gradient. Anindya et al.'s (2020) maternal service results point the same way, with effects larger among poorer households and in less developed regions. These are not marginal improvements.

The last four rows describe the financing problem that coexists with them. Out-of-pocket payment remaining above 30 per cent of current health expenditure while enrolment exceeds 80 per cent means that most of the population is insured and a large share of health spending still passes outside the pool. Wagstaff et al.'s (2018) cross-national finding identifies exactly this configuration as the one in which nominal coverage fails to deliver protection.

The divergence between the benefit and financing indices deserves care. Public-sector benefits became more pro-poor between the two years while private-sector benefits became more pro-rich and financing became regressive. These are three separate movements and only the first is attributable to the scheme's purchasing. A scheme can improve the distribution of what it buys while the distribution of who pays moves against it, because the second depends on the revenue mix rather than on the benefit package.

Coverage is not financing



coverage is an enrolment statistic; financial protection is a financing outcome

Figure 2. Why enrolment growth does not by itself produce financial protection (authors' construction)

Figure 2 states the mechanism. Enrolment adds members; it adds revenue only to the extent that members contribute or that budget transfers accompany them. Where enrolment grows faster

than prepaid revenue per member, the scheme covers more people with the same real resources, and the difference is met either by rationing what the scheme buys or by patients paying outside it.

Nurhasana et al.'s (2022) compliance findings identify where the revenue leak sits. Among self-enrolled members, 28.3 per cent did not pay regularly, with 9.7 per cent persistently non-compliant and 18.6 per cent moving from routine to irregular payment. That this segment cites uncertain income at 52.22 per cent rather than unwillingness is important for design: an instrument requiring a fixed monthly payment from households with variable monthly income will generate non-compliance regardless of the rate, and the negative association with the 2016 premium increase indicates that raising the rate worsens rather than resolves it.

Aikins et al.'s (2021) Ghanaian evidence shows the same failure mode in a scheme with entirely different revenue architecture. Enrolment above 60 per cent with active membership below 40 per cent is the clearest available demonstration that the operative variable is not who has joined but who is currently contributing. A scheme reporting cumulative enrolment is reporting a stock that includes lapsed members, and the financing implication of a lapsed member is identical to that of a person never enrolled.

Kurnianingtyas et al.'s (2021) modelling adds the design consequence: where the health-cost basis for premium setting is misaligned with members' capacity to pay, government subsidy becomes necessary, and movement of members between categories affects fund performance. The choice is therefore not between a contributory and a subsidised scheme but about which segment is subsidised and whether that is decided deliberately or arrives as a consequence of non-compliance.

The purchasing mechanism, and the evidence that is missing

Table 2. Evidence on payment mechanisms, by origin

Mechanism and comparison	Measured effect	Setting	Source
Case-based vs cost-based	Length of stay -8.07 per cent (CI -13.05 to -3.10); readmission +1.36 per cent (CI 0.45 to 2.27)	18 studies, meta-analysis	Meng et al. (2020)
Case-based, quality outcomes	Length of stay SMD -0.25 (CI -0.37 to -0.12); no significant readmission or mortality effect	29 studies, 36.2 million patients	Chen et al. (2023)
Fee-for-service to case-based	Consistent reductions in length of stay, readmission and out-of-pocket payment; mixed on admissions and expenditure	13 studies, middle-income countries	Ghazaryan et al. (2021)
Fee-for-service to capitation	Lower length of stay, admissions, expenditure and out-of-pocket payment; cost-shifting to uninsured patients	4 studies	Ghazaryan et al. (2021)
Fee-for-service to global budget	Lower expenditure; out-of-pocket effects from -40 per cent to +27.9 per cent; gaming	3 studies	Ghazaryan et al. (2021)

	observed		
Indonesian case-based system	No verified evaluation located within 2017–2024	-	-

Source: compiled by the authors. The final row records an absence established by the search described in the method, not a null result.

The final row is this study's second principal finding. The mechanism through which the largest single-payer scheme in the world converts revenue into care has not been evaluated for its effects on cost, quality, length of stay or coding behaviour in any study this review could verify within the window. Design decisions about it therefore rest on the rows above it — evidence from other middle-income countries, of which Ghazaryan et al. (2021) rated only a quarter as high quality.

That borrowed evidence is not uniform, and the divergence matters. Meng et al. (2020) find case-based payment raising readmission by 1.36 per cent; Chen et al. (2023), with a far larger patient base, find no significant readmission effect. Both agree on shorter stays. A regulator designing against this literature must decide which readmission result to plan for, and the honest position is that the question is open.

Ghazaryan et al.'s (2021) documentation of upcoding and cream-skimming identifies what monitoring must look for. These are predictable responses to the incentive rather than misconduct to be discovered, which means a case-based system without routine coding audit and without case-mix drift monitoring has omitted a component of its own design. Maharani et al.'s (2019) finding that 54.0 per cent of primary care physicians were dissatisfied with referral rules, in a system where capitation and gatekeeping interact, indicates that provider response to the mechanism is already observable at the primary level.

What purchasing cannot buy

Kosen's (2022) report that approximately 60 per cent of some 10,000 public primary healthcare facilities lacked a general practitioner bounds what any purchasing arrangement can achieve. A capitation payment to a facility without a physician purchases access to a facility, not to a physician, and a referral system premised on primary-level gatekeeping presupposes a gatekeeper.

Khoirunurrofik and Raras (2021) show that this constraint runs in both directions. Willingness to participate rises with the local supply of facilities, beds and doctors, which means supply-side weakness suppresses enrolment as well as service delivery. A region with thin supply will therefore under-enrol and under-deliver simultaneously, and the two reinforce each other.

Sparrow et al.'s (2017) evidence from the district schemes that preceded national integration supports the same conclusion from a different direction. Those schemes raised outpatient visits by about eight per cent above baseline with no significant inpatient effect and no meaningful out-of-pocket reduction, and performed better where they contracted district public hospitals than provincial or national ones. Purchasing worked where local supply existed to purchase from.

Sumankuuro et al.'s (2023) comparative observation that six of nine middle-income countries experienced delayed reimbursement, with providers in three withholding covered services in consequence, identifies the operational failure that converts a financing problem into an access problem. A scheme that pays late is, from the patient's position, a scheme that does not cover the service.

Design implications

Five implications follow. First, evaluation of the national payment mechanism should be commissioned as a matter of priority, since no verified estimate of its effects exists and the claims data required to produce one are already collected. Second, coding audit and case-mix drift monitoring should be treated as components of the payment system rather than as anti-fraud additions, because upcoding is a predicted response to the incentive rather than an aberration.

Third, contribution design for the self-enrolled segment should address income variability rather than the rate alone, since uncertain income is cited by more than half of non-compliant members and the premium increase was negatively associated with compliance. Fourth, active membership rather than cumulative enrolment should be the reported coverage measure, since the Ghanaian comparison shows the gap between them to be the operative financing variable.

Fifth, supply-side investment should be sequenced ahead of, or alongside, purchasing expansion in under-served regions, because the evidence indicates that thin supply depresses enrolment and service delivery together and that purchasing performs best where local provision exists. Where reimbursement delays occur, they should be treated as coverage failures rather than as administrative matters, on the comparative evidence that providers respond by withholding covered services.

Limitations

Four limitations qualify this study. First, no verified evaluation of the national payment mechanism exists within the review window, so the analysis of that mechanism proceeds entirely from evidence generated in other countries. Second, no deficit figure is reported, because the only located source carrying such figures appeared in an outlet excluded on publisher grounds; the scheme's financial position is therefore discussed structurally rather than quantitatively. Third, the financial protection evidence covers two consecutive survey years, which is a short window from which to infer a trend. Fourth, the subnational evidence predates the integration of district schemes into the national one, and no verified study of the post-integration subnational role was located.

5. CONCLUSION

The largest single-payer health insurance scheme in the world is delivering measurable financial protection. Catastrophic health spending fell from 7.9 to 4.4 per cent of households at the ten per

cent threshold in a single year, with a steeper decline in rural than urban areas; insured households record a 39 per cent reduction in out-of-pocket payment with a pro-poor gradient; and insurance is associated with significant increases in antenatal, delivery and postnatal service use, largest among the poor and in less developed regions.

The financing side has not kept pace with the coverage side. Out-of-pocket payment remains above 30 per cent of current health expenditure despite enrolment above 80 per cent, and financing incidence moved from mildly progressive to mildly regressive across two consecutive years while public-sector benefits became more pro-poor. The structural weakness is contribution rather than enrolment: 28.3 per cent of self-enrolled members did not pay regularly, uncertain income was cited by more than half of them, and a comparable scheme elsewhere records enrolment above 60 per cent with active membership below 40 per cent. Cumulative enrolment is a stock that includes members who have stopped paying, and for financing purposes a lapsed member and a never-enrolled person are the same.

Between revenue and care sits the purchasing mechanism, and this is where the evidence base fails. No verified study within the review window estimates the effects of the national case-based payment system on cost, quality, length of stay or coding behaviour. The design therefore rests on evidence from other middle-income countries that agrees on shorter stays, disagrees on readmission, and documents upcoding and cream-skimming as predictable responses to the incentives involved — evidence that one systematic review rated high quality in only a quarter of its studies. Purchasing is also bounded by what exists to purchase, and approximately 60 per cent of public primary facilities reportedly lacked a general practitioner while local supply predicts whether people enrol at all. The claims data needed to close the evaluation gap are already being collected. What is missing is the evaluation.

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DECLARATIONS

Author contributions (CRediT)

Ayu Wulandari: conceptualisation; methodology; formal analysis; writing - original draft; writing - review and editing.

Conflict of interest

The authors declare that they have no competing interests.

Data availability

All data supporting the findings of this study are available within the article and from the publicly accessible sources cited therein.

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Declaration on the use of artificial intelligence

In accordance with COPE, ICMJE and WAME positions, and with the RCP AI Use Declaration requirement, the authors disclose that generative artificial intelligence tools were used in preparing this manuscript, specifically to assist with literature identification, synthesis of the reviewed sources, and language editing of the draft. Artificial intelligence was not used to generate data, results or citations. Every reference in this article was verified by the authors against the publisher's own record, a digital object identifier record or an indexing database record before inclusion, and sources whose bibliographic details or indexing status could not be confirmed were excluded. No artificial intelligence tool is listed as an author. The authors take full responsibility for the accuracy, integrity and originality of the entire content of this article.

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