Awareness Without Uptake:

administrative burden and delivery architecture in a within-household comparison of four co-located social protection schemes in rural India

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Abstract

Background. Under-utilisation of targeted entitlements in rural India is routinely attributed to information deficits, and the information campaign is the default policy response. That attribution is difficult to test, because utilisation is almost always studied one scheme at a time and compared across populations, which confounds the delivery architecture of a scheme with the characteristics of the people receiving it. This study asks what constrains utilisation once awareness is close to universal.

Methods. Cross-sectional household survey in Bodh Gaya block, Gaya district, Bihar, January 2025, in a village saturated by a resident community intermediary. Fifty-one households reported awareness and utilisation of four co-located schemes: JEEViKA (livelihoods), PDS (food), ICDS (child nutrition) and AB-PM-JAY (hospital insurance). Measuring all four schemes in the same households in a single round holds demand side characteristics such as poverty, literacy and distance constant by construction, so that remaining variation is attributable to how each scheme is administered. We define *entitlement conversion* as utilisation divided by awareness, a descriptive diagnostic of the compliance costs a household faces after it knows a benefit exists, and report 95% Wilson score intervals with bootstrap intervals for the ratio.

Results. Awareness was high and comparatively flat, from 64.7% (PDS; 95% CI 51.0–76.4) to 100% (JEEViKA; 93.0–100.0). Conversion varied far more. The three schemes obtained at a point inside the village converted at 0.79 to 0.98. AB-PM-JAY, which requires documented enrolment at an office outside the village, converted at 0.42 (0.26–0.58) despite being better known than PDS; receipt of this scheme is episodic and partly reflects need for inpatient care, which we address in the limitations. Among 26 households not receiving benefits, the barriers reported most often were procedural complexity (69.2%) and administrative distance (57.7%); lack of information ranked third (30.8%) and none attributed exclusion to the intermediary. Ninety-four per cent named the resident JEEViKA worker as their information source for all four schemes, including three she does not administer.

Conclusions. Where a resident intermediary has achieved near-universal reach, the observed loss occurs after the household knows a scheme and before it obtains the benefit, and is associated with where enrolment must be completed and what documents it requires rather than with how well the scheme is known. The design cannot identify why awareness is high, so this speaks to the current margin rather than to campaign effectiveness. Comparing schemes within households converts a question about populations into a question about architectures, which is the object policy can act on.

Keywords: social protection; administrative burden; benefit take-up; compliance costs; delivery architecture; public service delivery; Ayushman Bharat PM-JAY; Public Distribution System; community health workers; rural India

Key Messages

- Low uptake of India's social protection entitlements is commonly attributed to low awareness, and information campaigns are the default policy response.
- Measuring four co-located schemes in the same households removes the population confound that ordinarily affects comparisons of uptake, and shows awareness high and comparatively flat while entitlement conversion varies more than twofold.
- Conversion was lower for the scheme requiring documented enrolment at an office outside the village than for the three obtained inside it, and bore little relation to how well each scheme was known.
- Where a resident intermediary has already carried awareness to almost every household, relocating enrolment into that existing layer is a hypothesis worth testing, whereas further information provision has little room to act.

1 Introduction

India operates one of the world's largest systems of targeted entitlements. Food security, child nutrition, hospital insurance and livelihood support each reach rural households through separate administrative architectures, and each is delivered simultaneously to the same populations. Persistent under-utilisation is documented for each of them, from the public distribution system (Khera, 2011) and child nutrition services under the ICDS (Kandpal, 2011) to publicly funded hospital insurance (Prinja et al., 2024), and the explanation offered most often, by programme evaluations and by the research literature alike, is that intended beneficiaries do not know the schemes exist. Awareness gaps are real and substantial: in a survey of 11,618 respondents across six Indian states, awareness of Ayushman Bharat Pradhan Mantri Jan Arogya Yojana was found to be incomplete and unevenly distributed, and lower among precisely the households the scheme was designed to reach (Parisi et al., 2023). The corresponding policy instrument is the information campaign.

A second literature suggests that information is rarely the whole story. Incomplete take-up of benefits to which people are entitled is a general finding rather than an Indian one, and it persists where awareness is high. Bhargava and Manoli (2015) showed in a field experiment that eligible non-claimants who were directly informed of their entitlement still failed to claim it in large numbers, implicating the effort of claiming rather than knowledge of the benefit. Moynihan et al. (2015) give this a name and a structure: the learning, compliance and psychological costs that citizens bear in their encounters with the state, which fall most heavily on the least-resourced claimants and can exclude them as effectively as ineligibility would. In India, the administrative apparatus that mediates these encounters has itself been shown to determine who receives what: Muralidharan et al. (2016) found that changing the payment infrastructure for a welfare programme, without changing entitlement rules at all, substantially altered both leakage and receipt.

These two literatures make different predictions, and distinguishing them empirically is harder than it appears. The obstacle is a design problem. Utilisation is almost always studied one scheme at a time, and differences in uptake are then compared across populations, districts or states. Any such comparison confounds the architecture of the scheme with the characteristics of the population receiving it: a scheme that performs poorly in a poor, low-literacy district may be failing because of its own design, or because of the district. The two cannot be separated when only one scheme is observed at a time.

A within-community design removes that confound. If several schemes with different delivery architectures are measured in the same households, in the same survey round, by the same enumerators, then household poverty, literacy, distance to the block headquarters, gender norms and enumeration practice are constant across schemes by construction. Any remaining variation in uptake is attributable to the schemes themselves. To our knowledge this design has rarely been applied to Indian entitlements.

This paper applies it. We measure awareness and utilisation of four co-located schemes in 51 households in a single block of rural Bihar, and decompose uptake into two stages: whether the household knows the scheme exists, and whether knowing it translates into receiving it. We call the second quantity *entitlement conversion*. The distinction matters because the two stages imply different policy instruments. If awareness is low, information campaigns are the appropriate response. If awareness is already high, the remaining loss lies downstream, in documentation, procedure and administrative geography, and the marginal return to further information provision is correspondingly small.

The setting makes that second case observable. Households were surveyed in a village where a resident JEEViKA community intermediary has near-universal reach, and where awareness of government schemes is consequently close to ceiling. Recruitment ran through the same self-help-group structures, which reinforces that saturation. Rather than treat this as a sampling problem to be defended, we take it as the scope condition of the study and ask the question it makes answerable: *which constraints on uptake remain once a community intermediary has carried awareness to near-universal levels?* A setting in which the informational constraint has been relaxed is precisely where the constraints behind it become visible.

Two limits on interpretation follow, and we state them at the outset. First, our design cannot identify *why* awareness is high. Prior information campaigns, the intermediary's presence, and long programme exposure are all plausible contributors, and we can separate none of them. Nothing here should be read as evidence that information campaigns do not work; the finding concerns what remains after awareness is achieved, not how it was achieved. Second, a single saturated village is not rural Bihar. The design question we can answer is comparative and internal, which schemes convert and which do not within one population, and it is that comparison rather than any level estimate that the paper is built on.

2 Conceptual framework

We interpret the results using the patient-centred access framework of Levesque et al. (2013), which treats access not as a property of a service but as the outcome of an interaction between five supply-side dimensions and five corresponding abilities on the demand side. The dimensions are *approachability* (can the service be known about), *acceptability* (is it culturally and socially tolerable), *availability and accommodation* (can it be physically reached and used), *affordability* (can its direct and indirect costs be met), and *appropriateness* (does it fit the need once reached). The framework belongs to a lineage that has consistently distinguished knowing about a service from being able to obtain it, from the five-dimensional account of Penchansky and Thomas (1981) and the behavioural model of health service use (Andersen, 1995) onwards.

Read alongside the administrative-burden literature, the framework's later dimensions describe what Moynihan et al. (2015) call compliance costs: the documents, journeys and procedures a claimant must complete after learning that a benefit exists. Entitlement conversion, defined below, is one way of measuring those costs empirically. A scheme that converts awareness into receipt almost completely imposes little burden after the point of knowing; a scheme that loses most of its aware households imposes a great deal. On this reading the ratio is not merely descriptive. It is an observable consequence of how a scheme is administered.

The framework is useful here because it separates knowing from obtaining, which is exactly the decomposition our data permit. Formally, for scheme s let A_s denote the proportion of households aware of s and U_s the proportion utilising it. We define entitlement conversion as

$$C_s = \frac{U_s}{A_s}, \qquad 0 \leq C_s \leq 1.$$

A_s maps onto approachability: it measures whether the scheme is known at all. C_s measures what happens after approachability is satisfied, and therefore isolates the remaining four dimensions. A scheme

with high A_s and low C_s is one whose approachability is satisfied but whose conversion is not. The population knows about it and still does not obtain it.

Two properties of C_s should be stated before it is used. It is a descriptive diagnostic rather than a structural parameter: it summarises how much of a scheme's aware population goes on to receive, and it carries no claim about the mechanism that produces the shortfall. And it becomes uninformative as A_s approaches one from below in small samples, because the denominator stops varying; we therefore read it alongside the underlying counts throughout rather than in isolation. Figure 1 sets out the decomposition and the policy instrument that acts on each stage.

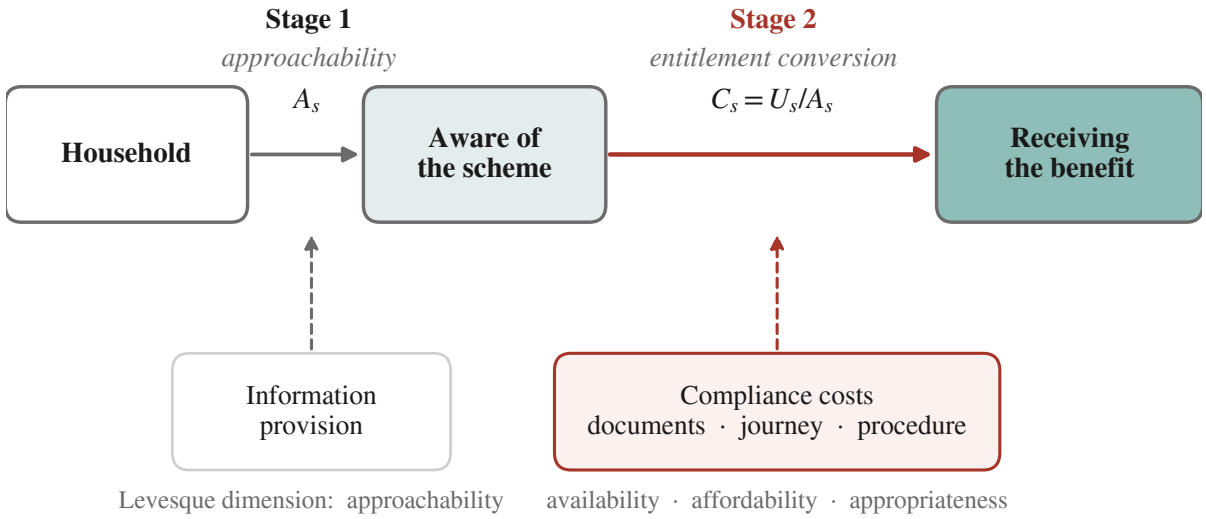

Figure 1: The two-stage decomposition of uptake. Awareness (A_s) is the first stage and corresponds to approachability in the Levesque et al. (2013) framework; information provision is the instrument that acts on it. Entitlement conversion ($C_s = U_s/A_s$) is the second stage, and corresponds to the compliance costs of Moynihan et al. (2015), the documents, journeys and procedures a household must complete after it knows a benefit exists. The two stages imply different policy responses, which is why separating them is useful. The figure is a conceptual schematic and reports no data.

One qualification applies to AB-PM-JAY specifically, and we state it here rather than leave it to the limitations. Because it funds hospitalisation rather than a recurring benefit, a household never hospitalised reports no receipt whether or not it is enrolled, so its conversion combines a failure to enrol with an absence of need. Throughout this paper we therefore read AB-PM-JAY conversion as a proxy for the household's administrative capacity to complete enrolment and documentation, not as a measure of morbidity. The barrier evidence supports that reading: households not receiving benefits cite procedural complexity and administrative distance rather than absence of medical need (Section 4.2; Figure 6).

This decomposition yields an expectation the data can address. The four schemes differ in where enrolment is completed. JEEViKA operates through self-help groups convened inside the village by a resident intermediary. ICDS operates from a village anganwadi centre. PDS operates from a fixed village outlet but conditions access on possession of a ration card. AB-PM-JAY requires documented enrolment at an office outside the village. If conversion is governed by availability and accommodation rather than by approachability, then the scheme whose point of enrolment lies outside the village should convert least, and conversion should bear little relation to how well a scheme is known.

We frame this as a contrast between schemes obtained inside the village and the one obtained outside it, and deliberately do not construct a graded measure of administrative burden. Four schemes differ on several attributes at once, including physical distance, whether a resident intermediary completes the transaction, and whether prior documentation gates access. With four observations those attributes cannot be separated, and any ordering that combined them would be a claim the data cannot support.

Figure 2 sets out the resulting expectation. A single resident intermediary supplies information about all four schemes, but enrolment is completed at a point inside the village for three of them and at an office outside it for the fourth. If conversion is governed by where enrolment happens rather than by whether the scheme is known, the loss should fall at that boundary.

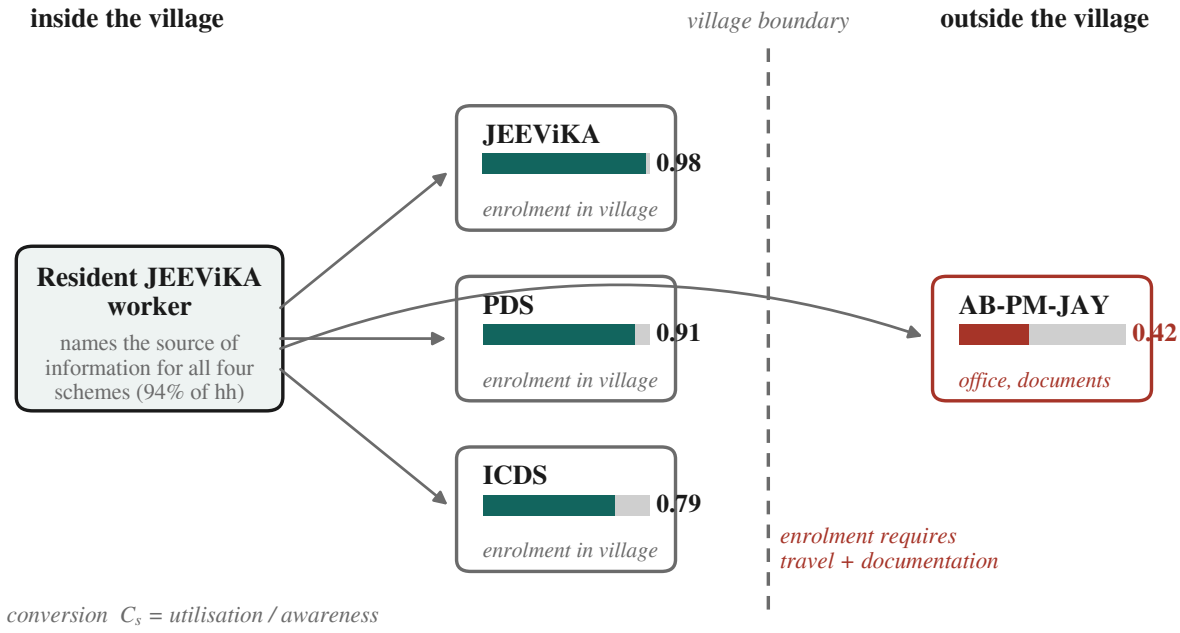

Figure 2: Delivery geography of the four co-located schemes. A single resident intermediary is named as the information source for all four schemes by 94% of households. Enrolment is completed at a point inside the village for JEEViKA, PDS and ICDS; AB-PM-JAY requires travel to an office outside the village and documented enrolment. The bars give entitlement conversion C_s, utilisation divided by awareness, from Table 1. The figure is a schematic of delivery arrangements, not a spatial map.

3 Methods

3.1 Setting and design

Cross-sectional household survey conducted in Bodh Gaya block, Gaya district, Bihar, in January 2025 (Figure 3). Gaya is a predominantly rural district with health and nutrition indicators below the Bihar state average, and Bihar in turn sits below the Indian national average on most such indicators. Gaya is also a NITI Aayog Aspirational District, a designation that directs concentrated administrative attention and monthly indicator monitoring at districts lagging on development indicators.[1] All four schemes studied operate throughout the block.

3.2 Participants and sampling

Fifty-one households were surveyed. Households were approached through village self-help group structures, which is a limitation we return to in Section 5.6: it is likely to over-represent households connected to JEEViKA and therefore to inflate the absolute JEEViKA figures. It does not affect the between-scheme comparison, which is the object of interest, because every household reported on all four schemes.

[1]NITI Aayog, Aspirational Districts Programme. Gaya is one of Bihar's listed aspirational districts. See `https://www.niti.gov.in/sites/default/files/2022-09/List-of-Aspirational-Districts.pdf`.

Figure 3: Administrative setting. The study village lies in Bodh Gaya block, Gaya district, a NITI Aayog Aspirational District in Bihar. The figure shows administrative nesting only; it is not a geographic map, and no household or village locations are shown.

3.3 Instrument and measures

Data were collected using a structured Hindi-language questionnaire administered as a digital form. Respondents reported, for each of the four schemes, whether they were aware of it and whether they or their household were currently receiving benefits from it. Households not receiving benefits were asked to select their reasons from a fixed list with multiple selection permitted: lack of information, complexity of the application process, distance to the government office, and absence of support from the JEEViKA or anganwadi worker. All respondents were asked to identify their sources of information about the schemes, again with multiple selection permitted.

3.4 Analysis

Awareness and utilisation are reported as counts with percentages and 95% Wilson score confidence intervals, which are preferred to the normal approximation at these sample sizes and near the boundary. Entitlement conversion is the ratio of utilisation to awareness; because its numerator and denominator are estimated on the same households and are therefore dependent, we obtain its interval by a nonparametric bootstrap over households (10,000 resamples, percentile method) rather than by a delta-method approximation that would treat them as independent.

We report no test of differences across the four schemes. The four outcomes were reported by the same 51 households and are therefore paired, so the tests of homogeneity ordinarily applied to such a table, which assume independent samples, would be the wrong ones. The exact paired alternatives require the household-by-scheme matrix, which the available summary data do not contain. Because the comparison rests on effect sizes and interval estimates rather than on a decision rule, nothing in the argument depends on a test statistic: the conversion intervals for the extreme schemes do not overlap, and that is reported directly. Schemes are grouped for interpretation by where enrolment is completed, inside or outside the village. We do not fit a graded measure of administrative burden, because with four schemes the attributes that distinguish them cannot be separated from one another; the grouping is stated in advance of the comparison and no ordering is imposed within groups.

Analyses were conducted in Python 3 using NumPy and SciPy. The random seed is fixed and stated in the analysis code, which is available with the manuscript.

3.5 Corroboration

Two comparisons were made. First, a separate enumeration team surveyed 119 respondents in the same village during the same period, drawing different respondents, and reported benefit receipt for the same four schemes; we compare the two sets of estimates using Newcombe's method. Because both teams re-

cruited through the same village structures and appear to have used the same instrument, we treat this as agreement between samples rather than as independent replication. Second, an unrelated team surveyed 48 households in a different village on barriers to solid-waste segregation and disposal, recording barrier combinations at the household level; we report this as a consistency check in an unrelated domain and draw no inference about entitlement schemes from it.

3.6 Ethics

Data were generated within the compulsory community immersion component of the postgraduate programme at the Indian Institute of Management Bodh Gaya, conducted in January 2025. Under the institute's Research and Publication Ethics Committee (RPEC) Standard Operating Procedures, studies conducted by students as part of their course or to fulfil a course requirement are exempt from ethics clearance, and the institute does not grant retrospective clearance. No ethics committee review was therefore sought or available for the original data collection, which we state as a matter of record rather than as a compliance claim.

Participation was voluntary and respondents were informed of the purpose of the survey before interview. The survey instrument recorded respondent names, so the data were not anonymous at the point of collection. All analyses reported here were conducted on de-identified aggregate counts; no individual-level data were accessed for this paper, no participant was contacted, and no re-identification was attempted or is possible from the material reported. Adolescent respondents surveyed by other teams within the cohort were excluded; the analytic sample is adults only.

4 Results

4.1 Awareness is high; conversion is not

Table 1 and Figure 4 present the central result. Awareness spans 35.3 percentage points, from 64.7% for PDS to 100% for JEEViKA. Conversion spans more than twice that range in ratio terms, from 0.98 to 0.42.

Table 1: Awareness, utilisation and entitlement conversion, four co-located schemes ($N = 51$ households)

		Aware		Utilising		Conversion
Scheme	Point of enrolment	n (%)	95% CI	n (%)	95% CI	C_s (95% CI)
Obtained at a point inside the village						
JEEViKA	Resident intermediary	51 (100.0)	93.0–100.0	50 (98.0)	89.7–99.7	0.98 (0.94–1.00)
PDS	Village outlet, card	33 (64.7)	51.0–76.4	30 (58.8)	45.2–71.2	0.91 (0.80–1.00)
ICDS	Anganwadi centre	42 (82.4)	69.7–90.4	33 (64.7)	51.0–76.4	0.79 (0.66–0.91)
Requires enrolment outside the village						
AB-PM-JAY	Office, documents	36 (70.6)	57.0–81.3	15 (29.4)	18.7–43.0	0.42 (0.26–0.58)

Counts are households; percentages in parentheses. C_s = utilisation ÷ awareness. Awareness and utilisation intervals are Wilson score intervals; the C_s interval is a percentile interval from 10,000 household-level bootstrap resamples.
Schemes are grouped by whether enrolment can be completed at a point inside the village. No ordering is imposed within groups.
All four schemes were measured in the same households in the same round; household poverty, literacy, distance and enumeration practice are therefore constant across rows.
AB-PM-JAY funds hospitalisation and is therefore drawn on episodically, whereas the other three deliver recurring benefits. See Limitations.

Figure 5 shows the same result as a loss cascade, dividing each scheme's 51 households into those never aware, those aware but not receiving, and those receiving. The three schemes obtained inside the

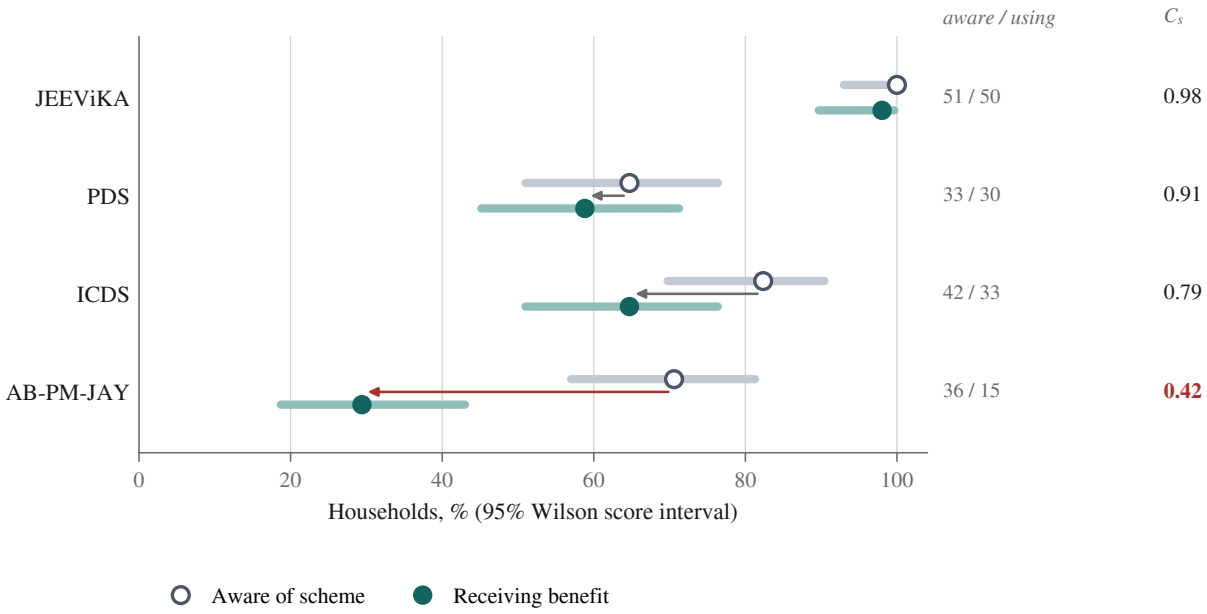

Figure 4: Awareness is uniformly high; conversion is not. Four co-located government schemes measured in the same 51 households, Bodh Gaya block, January 2025. Hollow markers denote awareness and filled markers utilisation, each with its 95% Wilson score interval. Arrows mark the shortfall from awareness to utilisation where it exceeds three percentage points. The right-hand columns give the counts aware and utilising, and the conversion ratio C_s.

village lose few of their aware households. AB-PM-JAY loses 21 of 36, which is the largest single block in the figure.

Utilisation varied across the four schemes far more than awareness did: the awareness range is 35.3 percentage points against a utilisation range of 68.6. Conversion intervals for the extreme schemes do not overlap, JEEViKA at 0.98 (0.94–1.00) against AB-PM-JAY at 0.42 (0.26–0.58). AB-PM-JAY is the scheme of greatest financial consequence to a poor household, and it converts worst.

4.2 The contrast is where enrolment happens

Figure 2 groups the four schemes by where enrolment is completed. JEEViKA, PDS and ICDS are all obtained at a point inside the village, and converted at 0.98, 0.91 and 0.79 respectively. AB-PM-JAY requires documented enrolment at an office outside the village, and converted at 0.42 (0.26–0.58), an interval that does not overlap the highest of the three.

We report this as a two-group contrast rather than as a graded relationship. With four schemes it is not possible to separate the several attributes on which they differ, which include physical distance to the delivery point, whether a resident intermediary completes the transaction, and whether prior documentation gates access. PDS is document-gated where ICDS is not, yet PDS converts higher, so a single ordering of administrative burden would not account for the middle of the distribution in any case. What the data support is the grouping: the one scheme that requires the household to travel and to produce documents converts at roughly half the rate of the three that do not.

4.3 What non-beneficiaries report

Figure 6 presents the reasons given by the 26 households not receiving benefits. Procedural complexity was cited by 69.2% and administrative distance by 57.7%. Lack of information ranked third at 30.8%. Not one of the 26 households attributed exclusion to failure of the JEEViKA or anganwadi worker.

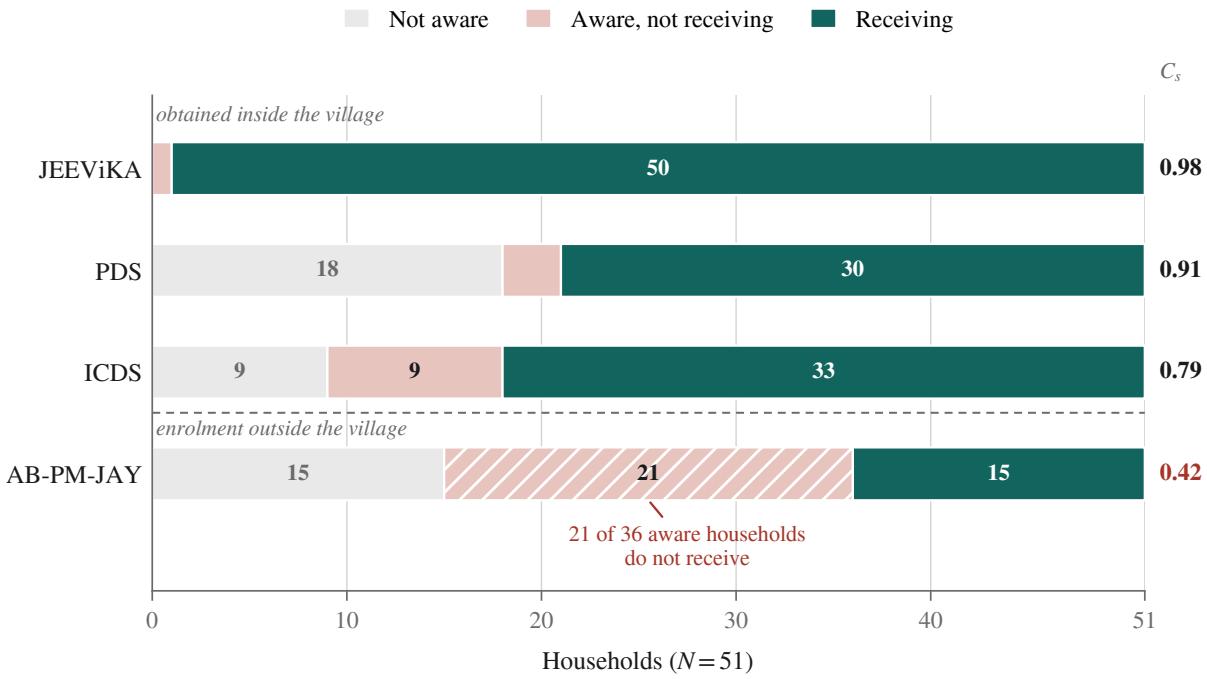

Figure 5: Where households are lost, by scheme. Each bar divides the same 51 households into those not aware of the scheme, those aware but not receiving it, and those receiving it. The middle segment is the quantity entitlement conversion summarises. For the three schemes obtained at a point inside the village it is small; for AB-PM-JAY, hatched, it is 21 of the 36 aware households. Counts are printed inside segments wide enough to carry them; C_s is given at the right. AB-PM-JAY receipt is episodic, so its middle segment mixes failure to enrol with absence of need for inpatient care. See Limitations.

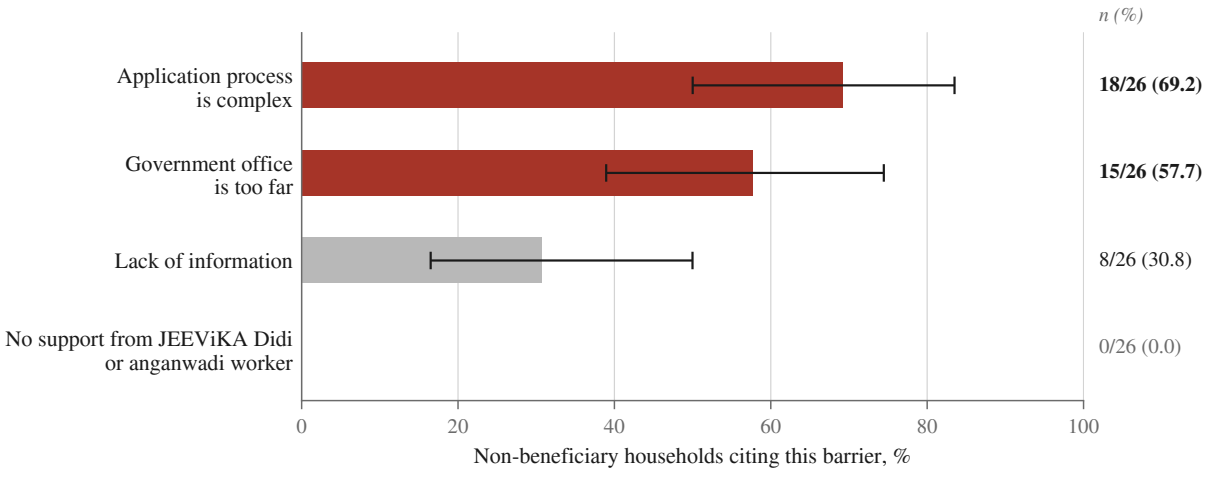

Figure 6: Barriers reported by the 26 households not receiving benefits from any scheme; multiple responses permitted, so percentages do not sum to 100. Whiskers are 95% Wilson score intervals. Procedural and geographic barriers are cited roughly twice as often as lack of information, and no respondent attributed exclusion to the community intermediary.

This is the paper's central evidence, and it is respondents' own account rather than an inference from the awareness–utilisation gap. Among people who are not receiving what they are entitled to, the reasons given are overwhelmingly procedural and geographic.

4.4 One channel carries every scheme

Figure 7 shows where households obtained information. The embedded JEEViKA worker was named by 94.1% of households as the information source for all four schemes, including the three she does not administer. The gram panchayat was named by 41.2% and the ASHA or anganwadi worker by 29.4%. Newspapers and television reached no household in the sample.

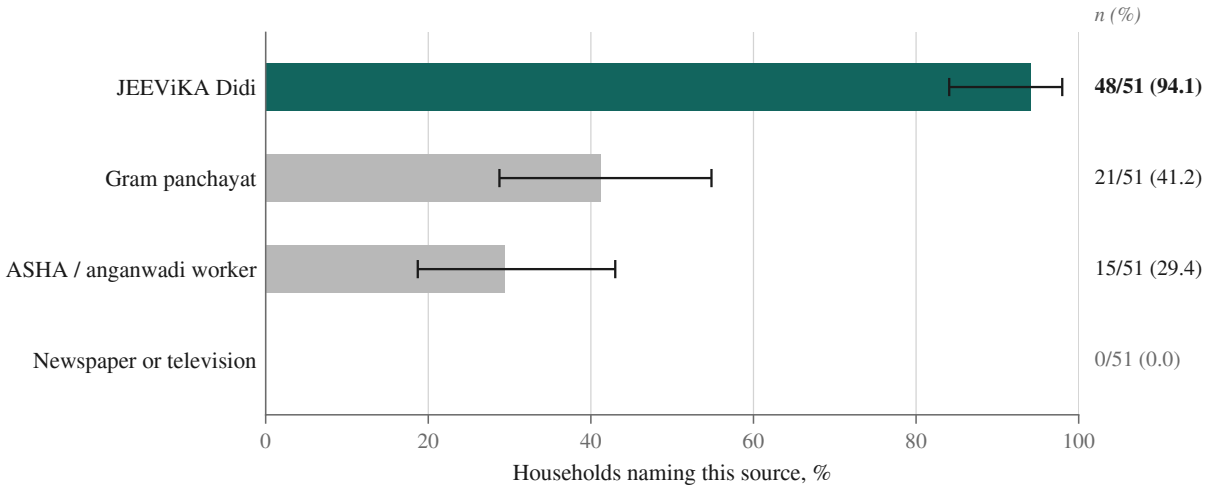

Figure 7: Information sources named by households ($N = 51$); multiple responses permitted, so percentages do not sum to 100. Whiskers are 95% Wilson score intervals. The embedded JEEViKA worker was named as the source for all four schemes, including the three she does not administer.

This is consistent with the pattern in Table 1. Awareness is uniformly high in a setting where a single embedded intermediary distributes information about everything, and conversion is lowest for the one scheme whose enrolment lies beyond what she can complete, at the point where a household must present documentation at an office outside the village.

4.5 Agreement with a second sample

A sample of 119 respondents, surveyed in the same village in the same period by a different team, reproduced the pattern of scheme utilisation. Every between-sample difference included zero (Figure 8), and PDS agreed to within 0.8 percentage points. We describe this as agreement rather than independent replication: both teams recruited through the same village structures and appear to have used the same instrument, so the comparison rules out enumerator and household-selection effects but not a bias common to both.

That team also reported, from qualitative interviews, that households "lacked access to Ayushman Bharat cards due to the unavailability of ration cards, which meant they were excluded from the scheme's benefits". This identifies documentation as the operative mechanism from a different mode of enquiry, and is the more useful of the two findings, because it speaks to why the shortfall occurs rather than only confirming that it does.

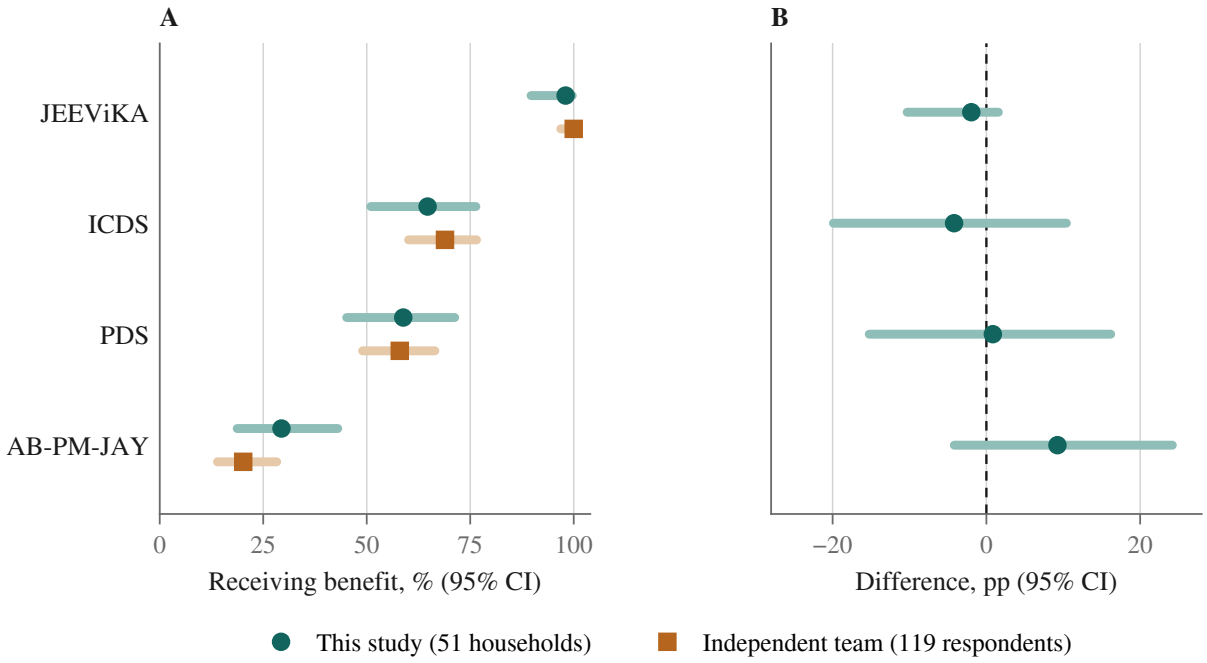

Figure 8: The pattern of scheme utilisation agrees with a second sample drawn in the same village in the same period by a different team. Panel A shows both sets of estimates with 95% Wilson score intervals; panel B shows between-sample differences with 95% intervals by Newcombe's method, every one of which includes zero. The two samples are not independent; see Limitations.

4.6 A consistency check in a different domain

One further observation, offered as context rather than as evidence. In a survey of 48 households in a different village, conducted by a different team on barriers to solid-waste segregation and disposal, respondents selected combinations of barriers rather than single barriers. Lack of awareness was the *sole* reported barrier for one household, 2.1% (95% CI 0.4–10.9). Infrastructure was implicated in 46 of 48 households, 95.8% (86.0–98.8). Awareness appeared in 47.9% of responses but almost never alone; it was reported alongside a structural constraint in 22 of the 23 households that mentioned it.

Solid-waste management and entitlement schemes differ in almost every respect that matters, and we draw no inference about entitlements from this survey. It is reported because the same asymmetry appears, awareness named often and binding rarely, in a setting with no institutional connection to the schemes studied here.

4.7 External comparison

Table 2 situates the study sample against published survey figures for the same broad outcome. The comparison is orientation, not validation: the National Family Health Survey measures coverage by any health insurance or financing scheme for any usual household member, whereas we measured current receipt of benefits from AB-PM-JAY alone, in a different sampling frame and a later period. Its one use is directional, and is taken up in the Discussion.

Table 2: Household health insurance coverage in published surveys, for orientation against the study sample

Unit	Wave	Any member covered (%)
India	NFHS-4 (2015–16)	28.7
India	NFHS-5 (2019–21)	41.0
Bihar	NFHS-4 (2015–16)	12 [a]
Bihar	NFHS-5 (2019–21)	15 [a]
Gaya district	NFHS-4 (2015–16)	2.8
Gaya district	NFHS-5 (2019–21)	9.7
Arwal district	NFHS-5 (2019–21)	15.6
Aurangabad district	NFHS-5 (2019–21)	15.4
This study, AB-PM-JAY receipt	Jan 2025	29.4

NFHS counts any health insurance or financing scheme, public or private, for any usual household member. The study measure is narrower, covering current receipt of benefits from AB-PM-JAY alone; the two are not directly comparable and the comparison situates the sample rather than validating it.

Gaya district figures are indicator 12 from the NFHS district factsheet compilation. Arwal and Aurangabad are the nearest additional district figures, both neighbouring districts in Magadh division.

[a] Bihar figures are from the NFHS state report and are rounded to whole percentages.

5 Discussion

5.1 Principal findings

In a village where a resident intermediary has achieved near-universal reach, awareness was not the constraint that remained. Three findings are consistent with that reading, and they do not depend on one another. Awareness was high across all four schemes while conversion varied by more than a factor of two. Households not receiving benefits named procedural complexity and administrative distance roughly twice as often as lack of information. And the same worker who supplied information for all four schemes could complete enrolment for only one. Figure 5 shows where the households are lost: under AB-PM-JAY the single largest block of the 51 is neither unaware nor served but aware and not receiving.

The central contrast is architectural rather than gradual. Three of the four schemes are delivered at a point inside the village, and all three converted between 0.79 and 0.98. The fourth requires documented enrolment at an office outside the village, and it converted at 0.42, with an interval that does not overlap the highest. Awareness does not distinguish these groups: AB-PM-JAY was better known than PDS. What distinguishes them, on the evidence available here, is where the household must go and what it must carry.

5.2 The contribution is the design as much as the finding

The methodological point generalises further than the result. Measuring several schemes with different delivery architectures in the same households, in one round, holds constant the demand-side characteristics that ordinarily confound comparisons of uptake. Poverty, literacy, distance to the block headquarters, gender norms and enumeration practice cannot explain why one of these four schemes converts at half the rate of the others, because they are identical across the comparison by construction. We are not aware of this design being applied systematically to Indian entitlements, and it is inexpensive: it requires no additional sampling, only that the instrument ask about several schemes rather than one.

We report it here as a demonstration on a small sample rather than as a settled estimate. The value

of the approach is that it converts a question about populations into a question about architectures, and the latter is the one policy can act on.

5.3 Relation to existing evidence

Our finding is not that awareness of Indian entitlements is generally adequate. The opposite is well established, and the largest recent evidence on the scheme central to this paper says so: across six states and 11,618 respondents, Parisi et al. (2023) found awareness of AB-PM-JAY to be both incomplete and socially patterned, with the least-resourced households least likely to know. Our village sits at the far end of that distribution rather than at its centre, which is precisely why it is informative about the next constraint. In places resembling the six-state average, the first-stage argument for information provision stands untouched by anything we report.

Nor does the sample appear negatively selected on the outcome that carries the argument. Coverage by any insurance scheme was about 15% in Bihar at NFHS-5 and 41.0% nationally, against 28.7% nationally at NFHS-4; the sample's AB-PM-JAY receipt of 29.4% in January 2025 sits above the state figure rather than below it, and well above Gaya district's own NFHS-5 coverage of 9.7% (Table 2). The constructs, frames and periods differ, so this is not a benchmark, but it runs the wrong way for a selection story in which low conversion is an artefact of an unusually deprived sample. Gaya is moreover a NITI Aayog Aspirational District, subject to concentrated administrative attention. That the documentation step still loses more than half of aware households in such a district makes simple administrative neglect an unlikely explanation for the loss, and points instead to the specific requirement to enrol, with documents, at an office outside the village.

What our results add is a measurement of the second stage in a place where the first has been satisfied. That second stage is where the take-up literature locates most of the action. Bhargava and Manoli (2015) found that directly informing eligible non-claimants of their entitlement left a large share still not claiming, which is difficult to reconcile with a purely informational account. Moynihan et al. (2015) organise such findings around compliance costs, and our conversion ratios are an unusually direct measurement of those costs, because four different cost structures were observed in one population at one time. The scheme demanding a journey and a document converted at 0.42; those demanding neither converted at 0.79 and above.

The mechanism we identify, documentation gating access, has a close analogue in the Indian evidence. Muralidharan et al. (2016) showed that altering the administrative infrastructure through which a welfare programme is delivered changed both leakage and receipt without any change in entitlement rules. Our result is the demand-side counterpart: holding the population fixed and varying the administrative architecture across schemes produces variation in receipt of comparable magnitude. The second survey team's qualitative finding, that households lacked Ayushman Bharat cards because they lacked ration cards, describes the specific documentary chain through which this operates in our setting. Experimental evidence on identity-verification requirements in Indian welfare programmes shows the same documentary gate operating directly on receipt: raising the standard a claimant must satisfy changes who is paid, without any change in who is eligible (Muralidharan et al., 2025). A policy research field study in Gaya and the adjacent Jamui district reports the same pattern from the supply side: a mass registration drive in early 2024 raised AB-PM-JAY card coverage without ensuring access, because bureaucratic and documentation requirements continued to obstruct benefit and because the scheme's reliance on static identification such as the ration card excludes households that do not hold one.[2]

Finally, the intermediary result is consistent with a literature on frontline workers as the operative channel in rural India. Gopalakrishnan et al. (2024) report, in Bihar among other states, that coordinated contact from both ASHA and anganwadi workers is associated with better outcomes than contact

[2]Policy and Development Advisory Group. *Ayushman Bharat: a healthcare revolution at the crossroads*. Field report drawing on fieldwork in Gaya and Jamui districts, Bihar, December 2023 and March 2024. `https://pdag.in/blogs/ayushman-bharat-a-healthcare-revolution-at-the-crossroads/` (accessed August 2026).

from either alone, which implies these workers function as substantive delivery infrastructure rather than as messengers, consistent with how India's frontline community health workforce has been characterised more broadly (Ved et al., 2019). The JEEViKA platform on which our respondents were reached operates at state scale, having mobilised more than 13 million rural households into over one million women's self-help groups,[3] so a village saturated by the platform is a common rather than an anomalous setting in rural Bihar; the platform has itself been evaluated in rural Bihar and shown to change household economic outcomes (Hoffmann et al., 2021). Such platforms have also been used to extend access to services beyond credit, including maternal health care (Saha et al., 2013). Our contribution is to observe the limit of that platform: it carried information about all four schemes, including the three outside its remit, and completed enrolment for one.

5.4 Interpretation

Read through the access framework, approachability is satisfied and conversion is not. Approachability is not the problem: a single embedded worker has solved it for four schemes simultaneously, including three outside her remit. The failures sit in availability and accommodation, because the office is elsewhere, and in appropriateness, since AB-PM-JAY presupposes documentation that its intended beneficiaries disproportionately lack. The ration card that gates PDS also gates AB-PM-JAY enrolment, so the households excluded from one are structurally the same households excluded from the other.

This bears on the dominant policy instrument, though with an important qualification. Information campaigns target approachability. In this village approachability was already satisfied, and mass media reached no household in the sample, so additional information provision had little room to act. That is a statement about the marginal return in a saturated setting. It is not evidence that campaigns are ineffective in general, and we cannot rule out that earlier information work contributed to the high awareness we observe. Where awareness is genuinely low, the first-stage argument for campaigns is untouched by anything reported here.

5.5 A hypothesis worth testing

The pattern suggests an intervention, and we state it as a hypothesis rather than a recommendation, because this study tests no intervention at all. If the binding constraint is that enrolment cannot be completed where households are reached, then relocating enrolment for documentation-dependent schemes into the existing intermediary layer should raise conversion. The resident worker already reaches 94% of households and already carries information about schemes she does not administer, so the marginal cost of adding assisted enrolment at the self-help-group meeting is low.

That proposition is testable and cheap to test. A stepped-wedge or cluster-randomised trial across self-help-group clusters, with AB-PM-JAY card issuance as the outcome, would settle it. Nothing in the present data establishes that the intervention would work; what the data establish is where the loss occurs, which is what makes the hypothesis worth the trial.

5.6 Strengths and limitations

The design's strength is the within-community comparison: four schemes, one set of households, one survey round, so demand-side characteristics cannot explain the between-scheme variation. Its principal limitation is scale. Fifty-one households in one block cannot support claims about Bihar or about India, and the confidence intervals are correspondingly wide. The within-household design removes confounding; it does not create statistical power, and these are different things.

[3] Bihar Rural Livelihoods Promotion Society (JEEViKA), Annual Action Plan and Budget, FY 2024–25. `https://brlps.in/` (accessed August 2026).

Recruitment ran through self-help-group structures, which over-represents households connected to JEEViKA and inflates the absolute JEEViKA figures. We treat this as the study's scope condition rather than as a defect, because the question the paper asks presupposes a saturated setting. It does mean two things. The 94.1% intermediary figure is descriptive of this village and should not be read as generalisable. And the results speak to what remains once awareness is high, not to populations where it is not. In a village with no such intermediary, awareness might well be the constraint that binds, and this study says nothing about that case.

The second sample strengthens but does not validate the finding, and we avoid calling it independent. Both teams recruited through the same village structures and, on the evidence of the instrument description, appear to have used the same questionnaire. Their agreement rules out enumerator effects and household-selection idiosyncrasy, but not a bias common to both, and not instrument effects.

Two measurement problems bear on the central comparison. First, utilisation of AB-PM-JAY is not equivalent to utilisation of the other three schemes. PDS, ICDS and JEEViKA deliver recurring benefits that an enrolled household draws on continuously, whereas AB-PM-JAY pays for hospitalisation and is drawn on only when a household needs inpatient care. A household that was never hospitalised would report no benefit whether or not it was enrolled, so the observed 0.42 mixes failure to enrol with absence of need. Two features of the data argue that enrolment dominates: the 26 non-beneficiary households cited procedural complexity and administrative distance rather than absence of need, and the second team reported independently that households "lacked access to Ayushman Bharat cards due to the unavailability of ration cards". Neither settles the question, and a design that separated card holding from claim making would.

Second, and relatedly, the instrument asked whether the household was currently receiving benefits. For a hospitalisation scheme that phrasing is ambiguous between holding a card and having used care, and we cannot determine which respondents understood. Awareness was also measured as a single binary, which compresses real differences between knowing a scheme's name, its eligibility rules and its enrolment procedure.

Barrier questions used a fixed response list, which constrains the reasons respondents could give. Barriers absent from that list, including cost of documentation, demands for informal payment, caste-based exclusion, digital or biometric authentication failure and problems with bank accounts, could not be reported however important they were.

Awareness and utilisation are self-reported and were not verified against administrative records, so misclassification, recall error and social desirability cannot be excluded. The barrier items were asked of households not receiving benefits from any scheme rather than scheme by scheme, so the reported barriers characterise systemic friction in this setting and cannot be attributed to AB-PM-JAY specifically.

Because all four schemes were reported by the same households, the four measurements are paired rather than independent. We therefore report no test of homogeneity across schemes: the standard tests assume independence, and the exact paired alternatives, such as Cochran's Q or a McNemar-type comparison, require the household-by-scheme matrix, which the available summary data do not contain. The comparison is made on effect sizes and interval estimates instead. Readers who want a formal paired test will need the individual-level matrix, and recovering it is the first item for any replication of this design.

Finally, the corpus from which the corroborating data were drawn is postgraduate coursework of variable quality. In the course of verification we identified at least one report whose results table contained values that could not have arisen from field measurement. Only material traced to a primary source chart or table was used in this paper; nothing was carried forward from secondary summary. Readers should nonetheless treat the corroborating analyses as supporting rather than confirmatory.

6 Conclusion

Four government schemes, delivered to the same 51 households in the same month, converted awareness into use at rates between 0.98 and 0.42. The three obtained at a point inside the village converted at 0.79 or above; the one requiring documented enrolment at an office outside it converted at 0.42, despite being better known than one of the three. Households that were not receiving benefits said why: the application is complicated and the office is far.

In a setting where a resident intermediary has already carried information to almost every household, awareness is not what remains binding. We cannot say how that awareness was achieved, and campaigns may have helped produce it. What this design shows is where the loss now occurs, which is after the household knows and before it obtains. The wider point is methodological: comparing several schemes inside the same households turns a question about populations into a question about architectures, and architecture is what policy can change.

Reflexivity statement

I was a member of the postgraduate cohort whose fieldwork generated the data analysed here, and I conducted one of the twenty team studies. That position gives me direct knowledge of how the instruments were administered, what the field conditions were, and which reports can be relied on, knowledge that would not be available to an external analyst and that materially shaped the decision to build this paper on three teams rather than twenty. It also means I am not an independent assessor of the corpus's quality, and readers should weigh my judgements about which data to include accordingly.

The research question was formulated after fieldwork, by me alone, and was not shaped by the communities surveyed. Residents of the study villages had no role in setting the research question, interpreting the findings or reviewing this manuscript, and I claim no participatory basis for the work. Enumeration was conducted in Hindi by postgraduate students visiting rural households for a fixed period; the power distance between enumerator and respondent was real and is likely to have shaped what respondents chose to report, particularly on questions about entitlements they may have believed the enumerators could influence.

I publish as sole author because the synthesis, re-analysis and argument are mine. Field data collection was collective, and all twenty teams are named in the acknowledgements with a standing invitation to claim authorship. No external funding was involved and I have no financial interest in any of the schemes studied.

Declarations

Funding. None.

Competing interests. None declared.

Ethics. Ethical approval for this type of study is not required by the author's institute: its Research and Publication Ethics Committee exempts studies conducted by students to fulfil a course requirement, and does not grant retrospective clearance. The instrument recorded respondent names, and all analyses used de-identified aggregates. See Methods.

Data availability. The de-identified aggregate data underlying all figures and tables, together with the analysis code, are provided as a replication package deposited on Zenodo under a Creative Commons Attribution 4.0 International licence at `https://doi.org/10.5281/zenodo.21800150`. Because the field instrument recorded respondent names, the raw individual-level records are not anonymous and are not distributed; they remain in the author's custody. Source reports are held by the author.

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Appendix A. Survey instrument (labelled reconstruction)

The survey was administered as a Hindi-language digital form entitled "Community Immersion Program: Data Collection". Table A1 is a faithful English reconstruction of that instrument, organised by its five pages, mapping each item to the access dimension it informs in the present analysis. It is a labelled reconstruction translated from the deployed form, not a facsimile of the original, which was presented in Hindi, and the mapping in the final column is analytic and imposed here rather than a feature of the original coursework instrument. The form opened with a name field, so responses were not anonymous at the point of collection; that field is shown for completeness and was removed before any analysis reported in this paper (see Methods, Ethics).

Table A1: Survey instrument mapped to access dimensions (labelled reconstruction). Response sets are listed in the note below.

Instrument item	Response	Access dimension informed
Page 1. Respondent and household		
Respondent name (removed at de-identification)	Short text	Identifier; not used in analysis
Age	Single item	Demand-side characteristic
Gender	Single choice	Demand-side characteristic
Education level	Single choice	Demand-side characteristic (ability to perceive and engage)
Household size	Short text	Demand-side characteristic
Page 2. Awareness of and access to schemes		
Awareness of each of the four schemes	Select all	Approachability (A_s)
Information source for the schemes	Select all	Approachability; intermediary channel
Frequency of benefit use	Single choice	Utilisation intensity
Page 3. Role of the resident intermediary		
Intermediary provides services regularly	Yes or No	Availability and accommodation
Intermediary listens to and resolves problems	Yes or No	Acceptability
Intermediary effective for health and nutrition	Yes or No	Acceptability; perceived appropriateness
Page 4. Utilisation and benefit		
Household drawing benefits from each scheme	Select all	Utilisation (U_s); the conversion outcome
Non-receipt reason: lack of information	Select all	Approachability
Non-receipt reason: application process complex		Appropriateness; compliance costs
Non-receipt reason: office too far		Availability and accommodation (geographic)
Non-receipt reason: no intermediary support		Availability and accommodation (assistance)

Table A1 continued

Instrument item	Response	Access dimension informed
Any other government service used	Short text	Context
Page 5. Challenges and suggestions		
Problems with services (delays, information, irregularity)	Select all	Availability and accommodation; acceptability
Any other problem	Short text	Context
Suggestions to improve the schemes	Long text	Context
Rating of local health and nutrition services	Single choice	Overall perceived appropriateness
Expectation of a new scheme, and its type	Single choice; short text	Context

Response sets. Schemes (awareness and utilisation): Anganwadi services (ICDS), Ayushman Bharat, Public Distribution System, JEEViKA. Information sources: gram panchayat; ASHA or Anganwadi worker; JEEViKA Didi; newspaper or television; other. Non-receipt reasons: lack of information; application process complex; office far; no support from the intermediary. Benefit frequency: monthly; occasionally; never. Service rating: very good; good; average; poor. The original was administered in Hindi; item wording here is an English reconstruction.

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