Online Appendix

"Evaluating the impact and design of health insurance in low-income countries: A field experiment in India"

Anup Malani, Cynthia Kinnan, Gabriella Conti,
Kosuke Imai, Morgen Miller, Shailender Swaminathan,
Alessandra Voena, and Bartek Woda

A Methods

A.1 Power calculations

Sample size calculations for household-level arms did not consider within village-correlation in outcomes. Moreover, we did not conduct power calculations for the size of our village-level arms.

A.1.1 Implementation of two-stage random assignment

Our two-stage randomization procedure was implemented separately in each district (Gulbarga, Mysore). In each stage, we matched units before randomization because matching reduces orthogonal variation (Imai, King and Clayton, 2009) and thereby increases statistical power.

The first stage was implemented in two steps. First, blocks of 20 matched villages (within each district) were created. Specifically, villages were stratified into quintiles based on the number of eligible households per village. Within each quintile, blocks were constructed using village-level sample averages, Mahalanobis matching on continuous and integer variables (head of household's level of education, age of head of household, number of children and number of rooms in the house), and caliper matching on binary variables (had major illness in last year and head of household was unemployed). These variables were constructed from the listing exercise to determine eligible households in each village of our sample prior to our baseline survey. Second, within each block, villages were randomly assigned to the 5 village-level conditions.

The second stage of our randomization also had two steps. First, households were sorted into blocks of 10 matched households. These blocks were constructed using household-level data gathered during our listing exercise and Mahalanobis caliper matching on the same variables used for constructing village blocks. Second, within each block, households were randomly assigned to 4 household conditions based on the village condition to which we assigned their village in stage one.

A.1.2 Roll-out of intervention

This experiment employed the same enrollment method (mobile enrollment vans that visit villages on a specific day) the government used for RSBY enrollment of below poverty-line households (BPL), a population excluded from our study. However, there were two differences in the marketing of RSBY to the above poverty-line households in our sample relative to the government's marketing to BPL households. First, households were informed of their treatment group assignment and, if appropriate, given a cash transfer roughly 14 days prior to arrival of the enrollment van. Second, study personnel visited households in groups 1-3 the day of enrollment to guide interested households to the enrollment van. By contrast, the government conducted its

enrollment drive by circulating flyers (chits) to eligible households a few days before the van arrived. The government did not guide eligible households to the enrollment van.[1] We collected the purchase price from sample households in groups 2 and 3 (sale of insurance with and without an unconditional cash transfer) that enrolled in RSBY at the van. For all sample households in group 1 (free insurance), we paid for the full purchase price from grant funds.

The Karnataka government automatically renewed RSBY coverage annually for non-study and enrolled study households in 2016 and 2017 without any action—even payment—by enrollees or the study. RSBY technically ended on August 31, 2018, because it was replaced by Pradhan Mantri Jal Arogya Yojana (PMJAY). As of completion of data gathering, Karnataka had agreed to implement PMJAY but had not yet rolled it out. The state effectively transitioned from RSBY to PMJAY in late 2019.[2]

A.2 Data collection

In March to June 2013 and again in November–December 2013, we conducted listing exercises wherein we surveyed 1 adult in 25,000 households in candidate villages to identify eligible households and gather data to construct blocks of similar villages and households prior to randomization.

In August 2013 to January 2014, a baseline survey was administered to the female and male most knowledgeable about household finances and a female of childbearing age in each sample household we could reach. The biomarker survey conducted as part of the baseline was administered to the male most knowledgeable, a woman of childbearing age, and a child under the age of 18 if available in roughly, a randomly-selected one-third of sample households. This subsample was selected in two steps. First, we stratified households by the two districts in our study. Second, we selected one third of villages in each district and conducted the biomarker survey on each sample household in the selected villages. A discrepancy between one-third of households and the number on which the biomarker survey was attempted reflected both the fact that we selected one-third of villages not households and villages have different sample sizes. The actual number of households ultimately surveyed – for both the main and biomarker survey – was less than the number attempted because of non-response. Households were paid INR 250 ($14.27) as a participation incentive for completing major sections of the survey. We performed back checks on 10% of households, a rate known to surveyors ex ante.

In January to May 2017, a midline survey was administered in the same manner as the baseline survey, including the biomarker survey on the same randomly-selected sample households. Households were paid the same participation incentives and back checks were performed in the same manner.

In March to June 2019, we conducted an endline survey of all sample households to measure outcomes after approximately 3.5 years. We asked the female most knowledgeable about household finances from baseline a subset of questions about personal health status and household health care utilization and finances. No biomarker survey was conducted at endline. We paid households INR 50 ($2.85) as a participation incentive since only 1 individual was surveyed and for a shorter period. We performed back checks on 10% of households, a rate known to surveyors ex ante.

Figure A.5 presents the study timeline, both in terms of the intervention and the multiple surveys conducted.

[1] The study's greater advance notice allowed households in the pure insurance condition more time to get funds together to pay the premium, if desired.

[2] Because RSBY ended 6 months before our endline survey, we asked the respondent to recall hospital utilization 6 months before a notable holiday, Dussehra, that occurred just before the intervention ended.

Figure A.6 presents a chart that shows the flow of subjects through each arm of the two-stage design. It also shows attrition at each data collection point.

A.3 Economic calculations

We convert Indian Rupees (INR) to 2019 US Dollars ($) using a purchasing power parity adjusted exchange rate of INR 17.52/dollar (OECD, 2020).

We calculated the demand elasticity for hospital insurance with the following formula:

$$\frac{\text{(Enrollment in Group 1 - Enrollment in Group 2)/Enrollment in 2}}{\text{(Price for insurance in 2 - Price in 1)/Premium in 2}}$$

The price for group 2 is INR 183 ($10.45), including the cost of the insurance card. We do not use the usual arc elasticity formula, which normalizes by the midpoint of enrollment and price, because our change in price is going from full price to zero price. Our formula implies this is a 100% reduction in price while the usual arc elasticity formula would imply this is a nonsensical 200% reduction in price.

A.4 Health data

We examine multiple categories of health outcomes. Each category included multiple individual indicators: self-reported health (2 categories at midline, 3 at endline), objective health indicators (7 midline), chronic disease (15 midline, 17 endline), quality of life (1 midline, 14 endline), mental health (3 endline), childbirth (8 midline, 10 endline), and mortality (4 endline). A final secondary health outcome was an index of health, following Kling, Liebman and Katz (2007), equal to the average of z-scores for individual health outcomes.

Biomarkers. Biomarkers reported in Table A1 were constructed using anthropometric measurements from adult respondents at the midline survey. These included recording an individual's weight, height, waist, hip, and mid-upper arm circumferences, skinfolds, and blood pressure. Mid-upper arm circumference and an aggregate measurement of skinfolds (biceps, triceps, and sub-scapular) were included directly in the model. Using these measurements, we created additional outcomes of interest. Overweight or obese was categorized as a body mass index (BMI) greater than or equal to 25, while underweight was categorized as a BMI less than 18.5 for both adult males and females. Abdominally obese was categorized using an individual's waist-to-hip ratio (WHR); adult males with a WHR greater than 0.9 and adult females with a WHR greater than 0.85 were classified as abdominally obese. Finally, we categorized individuals as having Hypertension, grade 1 or Hypertension, grade 2 based on their systolic and diastolic blood pressure measurements. An individual was considered to have Hypertension, grade 1 if systolic blood pressure was greater than or equal to 130 and less than 140 OR a diastolic blood pressure greater than or equal to 80 and less than 90. Hypertension, grade 2 was defined as systolic blood pressure greater than 140 OR diastolic blood pressure greater than 90.

A.5 LASSO details

Predicted midline medical spending is constructed as follows. Medical spending at midline is winsorized at 0.5% and 99.5%. A model is then estimated which predicts midline medical spending as a function of the full set of available baseline covariates which relate to health and health spending[3], as well as indicators for

[3]The baseline questionnaire is available at https://drive.google.com/file/d/1RA0Rj0wbnDU1R-QU1j6zAI5UL3FCFkTV/view?usp=sharing.

missing data on each baseline variable. The model is estimated with linear regression. Predictions are fitted via 10-folds cross-validated LASSO on the control group of 2152 (or smaller due to missing outcomes). We then predicted the outcomes in treatment group with the trained model. The penalty parameter is selected under the minimum rule. Figure A.7 shows the resulting distribution of predicted values for midline medical spending. The correlation between predicted midline medical spending and actual, winsorized midline medical spending is 0.119, significantly greater ($p < 0.001$) than the 0.057 correlation between actual, winsorized baseline medical spending and actual, winsorized midline medical spending.

Predicted endline medical spending is calculated and employed in the same manner as predicted midline medical spending, with one change. Consistent with the difficulty of forecasting medical spending 3.5 years in the future, LASSO models select only the intercept when we predict endline spending with baseline variables. We therefore construct predicted endline spending using the covariates which are selected by LASSO to predict midline spending. Despite this change, the correlation between predicted endline medical spending and actual, winsorized endline medical spending is 0.071, greater than the 0.054 correlation between actual, winsorized baseline medical spending and actual winsorized midline medical spending, but not significantly so ($p = 0.368$).

A.6 Selection by baseline variables

An alternate approach to testing for adverse selection would be to use baseline health and spending directly as proxies for subsequent health/health costs. Here we describe the this approach and the results, displayed in Table A.3 .

Inasmuch as RSBY insurance covers visits to empanelled facilities, the likelihood of visiting a health care facility is a natural predictor to use when forecasting differential incentives to enroll. Columns 1 to 4 use the baseline realization or predicted midline probability of visiting a medical facility for the male and female respondent.[4] Using baseline values (cols 1 and 2) yields very small and insignificant estimates of the degree of selection (i.e., δ_3); moreover, the sign of the (negligible) coefficient estimate flips sign between specifications using the male vs female respondent. One way to benchmark the magnitude of selection (if any) is to compare the degree of selection implied by the point estimate relative to mean enrollment: using the (insignificant) point estimate for the effect of male facility visits, a one standard deviation (SD) reduction (i.e., lower risk) is associated with a 1.4% increase in the enrollment rate; the number for female health is even smaller in magnitude and opposite in sign (-0.8%). Using the predicted midline values (cols 3 and 4) yields even smaller (and likewise insignificant) estimates of the degree of selection, with a one SD reduction in predicted probability for males leading to a 0.9% reduction in predicted enrollment; and a 0.0% effect associated with changing predicted probability for females. In summary, we find no evidence of selection using either baseline facility visits or predicted midline facility visits. For comparison, the relative average enrollment rates in arm B vs arm C (paid+cash vs. paid) demonstrate that providing a INR 220 unconditional cash transfer causes an increase in enrollment of 22% (71.6pp vs 58.8pp), an order of magnitude larger than any of the (insignificant) selection effects.

Columns 5 to 8 focus on the overall health of the male and female survey respondents. Using baseline health of either (cols 5 and 6), there is no statistically significant selection; δ_3 is not significantly different from zero. In addition to being statistically indistinguishable from zero, the point estimates imply very small

[4] We flip the sign so that a higher number corresponds to better health. We do the same for expenditure, below.

degrees of selection relative to mean enrollment: using the (insignificant) point estimate for the effect of male health, a one standard deviation improvement in baseline health is associated with only a 2.1% reduction in the enrollment rate; the number for female health is similar (2.0%).

We next turn to predicted midline health (cols 7 and 8). Using male health (col 7) shows no detectable selection. In the case of female health (col 8), we do observe marginally statistically significant selection; the sign of $delta_3$ is positive, implying *advantageous* selection. However, the point estimate is small, implying that a one standard deviation improvement in predicted midline female health is associated with only a 3.6% increase in the enrollment rate. This is less than one fifth of the 22% effect of the unconditional cash transfer. In addition, as we discuss below, once we control for additional baseline characteristics and/or correct for multiple testing, the estimate is no longer significantly different from zero at conventional levels.

Next we examine total household medical expenditure (columns 9 and 10). As with visiting a medical facility, this is a potentially important variable which households might forecast and use to determine their willingness to pay to enroll in insurance; it is also arguably the key variable from the perspective of the government forecasting its costs. When we examine baseline medical spending, we find a very small and statistically insignificant δ_3 coefficient of -0.005, which would imply that a 1 SD decrease in baseline medical spending is associated with only a 0.8% decrease in enrollment under cost-sharing. Turning to *predicted* midline health spending, the estimated δ_3 is -0.04, significantly different from zero at the 1% level. Consistent with adverse selection, those with lower predicted spending are differentially less likely to enroll under cost sharing.

B Welfare

In this section, we derive the welfare formulas we report in the main text.

B.1 Does free insurance improve welfare?

Marginal social benefit. Assume that a given consumer i obtains utility $u(g_i, x_i)$ from consuming a government service and other goods x_i, where we make the usual assumptions required for u to be well-behaved. In our case, the government service, i.e., RSBY insurance, is discrete or indivisible and the consumer can only consume one unit of it at a price or user fee of p, i.e., $g_i(p) \in \{0, 1\}$. (Except for the case where we calculate the "*ex ante* value of insurance", however, these equations generalize to any government services, not just insurance.) The consumer has income y_i. We normalize the price of other goods to be 1, but we assume that the consumer must pay a consumption tax of rate τ on those goods.[5] Although the government could finance the government service partly with a user fee and partly with taxes (implying that taxes depend on the price of the government service), we assume that the tax rate is fixed. We justify this later.

The consumer's indirect utility is

$$\begin{aligned} V(y_i, \tau, p) = \max\{ & \max_{x_i} u(1, x_i) + \lambda_i[y_i - p - (1+\tau)x_i, \\ & \max_{x_i} u(0, x_i) + \lambda_i[y_i - (1+\tau)x_i\} \end{aligned} \tag{19}$$

Let $g_i^*(y_i, \tau, p)$ and $x_i^*(y_i, \tau, p)$ be the consumer's optimal choice of government service and other goods, and

[5] In India, individuals must pay a goods and service tax that averages 18%. This generated 53% of government revenue in 2022 (Thakur and Nagarajan, 2023)

let $\lambda_i^*(y_i, \tau, p)$ be the associated Lagrange multiplier. The marginal private benefit of providing insurance (versus not) at price p to consumer i is equal to her willingness to pay for insurance ($WTP_i(y_i, \tau, p)$).[6] In our situation, where the offer price is zero, this is approximately

$$WTP_i(y_i, \tau, 0) \approx \frac{u(1, x^*(y_i, \tau, 0)) - u(0, x^*(y_i, \tau, 0))}{\lambda^*(y_i, \tau, 0)} \tag{20}$$

where we could replace the approximation with an equality if utility were separable in the government service and other goods.

Assuming equal welfare weights, the marginal social benefit at price p is the sum of individual WTP for government service at that price across the population.[7] Let $G(p)$ be aggregate quantity demanded for the government service at price p. If insurance is a small portion of budget or there are no income effects, marginal social benefit at price p is approximately the area under the inverse aggregate Hicksian demand curve $D^H(G)$ and above p.[8] For notational convenience, we will treat aggregate demand curves as continuous, so

$$MSB(p) = \sum_i WTP_i(y_i, \tau, p) \approx \int_0^{G(p)} [D^H(q) - p]dq = \int_0^{G(p)} D^H(q)dq - pG(p). \tag{21}$$

The marginal social benefit from free insurance is this expression evaluated at $p = 0$.

Marginal social cost. The government's net expenditure on consumer i is

$$t_i(y_i, \tau, p) = [c_i^{MC}(p)g_i^*(y_i, \tau, p) - pg_i^*(y_i, \tau, p) - \tau x_i^*(y_i, \tau, p) \tag{22}$$

where $c_i^{MC}(p)$ is the government's marginal cost of providing service g_i^* to consumer i—in our context, the government's expenditure on healthcare for consumer i given her coverage. Marginal cost depends on price because of adverse selection: $\partial c_i^{MC}/\partial p > 0$. We assume income effects are sufficiently small or the user fee is sufficiently small that we can ignore that marginal cost also depends on the tax rate. The government obtains revenue from the price for the government service (the second term in the equation above) and from sales tax (the last term).

The government can finance the provision of its service by a combination of (a) charging for it directly (user fees), (b) taxing other goods, and (c) borrowing the money from other programs or creditors. In this section, we will assume the government relies on user fees and borrowing, and that the government's cost of funds is $R = 1 + r > 1$. (In the next section, we consider a combination of user fees and borrowing.) This assumption is reasonable because the Indian government is unlikely to change the tax rate based on

[6] In the MVPF framework, MSB is equated to WTP for insurance, which we measure using revealed preference for insurance. An alternative, objective measure, might employ the impacts of RSBY access on different dimensions of health and non-medical consumption times WTP for each dimension. We would again face the question of how to measure WTP for each dimension. Moreover, we would have ensure that we do not fail to measure any relevant dimension that might be valued. We have no direct measure of WTP for health and non-medical consumption. Although we have a large number of health measures, there are surely many we miss. But we do measure demand for insurance, so use that our measure of WTP for the insurance.

[7] Since we are dealing with a non-marginal change in government service from 0 to 1, this is better described as an incremental social benefit.

[8] Alternatively, if insurance is a small portion of budget or there are no income effects, marginal social benefit at price p is approximately the area under the inverse aggregate Marshallian demand curve $D^M(G)$ and above p.

the provision of public health insurance, if for no other reason than that government expenditures on such insurance are a tiny fraction of its budget.[9]

The marginal social cost of funds spent on providing the government service is the sum of the government's net expenditure on all consumers who purchase the government service at price p:

$$\begin{aligned} MSC(p) &= (1+r)\sum_i [c_i^{MC}(p) - p] g_i^*(y_i, \tau, p) \\ &\approx (1+r)\left[\int_{\overline{p}}^{p} [c^{MC}(z)G(z)]dz - \int_{\overline{p}}^{p} [zG(z)]dz\right] \qquad (23) \\ &= (1+r)\left[\int_0^{G(p)} [c^{MC}(D(w))w]dw - pG(p)\right] \qquad (24) \\ &= (1+r)[c^{AC}(p)G(p) - pG(p)] \qquad (25) \end{aligned}$$

where $D(q)$ is the inverse demand curve for the government service. We treat these marginal cost curves as continuous so that we can approximate them with continuous functions $c^{MC}(p)$ in Eq. (23). We swap axes of integration and integrate over quantity in Eq. (24). In the final step we use the fact that the area under the marginal cost curve from $G = 0$ to $G(p)$ to in the price-quantity plane is equal to average cost at $G(p)$ times $G(p)$: $c^{AC}(p) = \int_{\overline{p}}^{p} [c^{MC}(q)G(q)]dq/G(p)$.

B.1.1 Valuation with *ex ante* demand and linear demand and cost functions

Even though we estimate a linear demand function, inverting that function to obtain *ex ante* willingness to pay (WTP) for insurance in Eq. (12) yields a non-linear function. We can numerically integrate it, but obtaining standard errors on our estimate is non-trivial. To simplify estimation, we use a first-order approximation of the non-linear *ex ante* WTP for insurance.

Ex ante demand has two parts, *ex post* inverse demand $D(p)$ plus a markup $M(p)$. Here we suppress the H superscript because we will vary how we estimate demand, estimating both a Marshallian demand (with group C) or an upper bound on Hicksian demand (with arm B). We need to linearize both $D(p)$ and $(M(p)$. We will indicate linearized functions with a upper-bar: $D^{\overline{E}A}(G) = \bar{D}(G) + \bar{M}(G)$.

Our estimates of demand are, by assumption, already linear. We start with estimates for the linear *ex post* demand in Eq. (7). The implied inverse *ex post* demand is $\bar{D}(G) = [G(0)/\gamma] - [1/\gamma]G$, where we suppress the i subscript that indexes households and we replace lowercase g with capital G because we will be speaking of demand in terms of fractions of all households rather than for an individual household.

Next we linearize the markup $M(G) = G(1-G) \cdot |\partial D/\partial p| \cdot \beta(G)$. We follow Hendren (2021) and start with approximating $\beta(G)$ with $\tilde{\beta}(G) = \sigma[D^H(G(p)) - \int_{G(0)}^{G(p)} D^H(s)ds]$. This changes the (still non-linear) markup to

$$M(G) = G(1-G) \cdot \left|\frac{\partial D}{\partial G}\right| \cdot \tilde{\beta}(G) \qquad (26)$$

If we plug linear demand into $\tilde{\beta}(G)$ we get $\tilde{\beta}(G) \approx \sigma[\bar{D}(G) - (1/2)(G(0) - G)\bar{D}(G)] = \sigma[1 - (1/2)(G(0) - G)]\bar{D}(G)$, where σ is the coefficient of absolute risk aversion.

[9] PMJAY, the successor to RSBY, constitutes less than 10% of the budget of the Ministry of Health & Family Welfare in India. And government spending on health is roughly 3.5% of India's total government budget and less than 1% of India's GDP (National Council of Applied Economic Research, 2023).

We take a first-order approximation around $G(0)$ and obtain $\bar{M}(G)|_{G(0)} \approx M(G(0)) + M'(G(0))[G - G(0)]$. We can zero out the first term $M(G(0))$ right away because $\bar{D}(G(0)) = 0$ implies $\tilde{\beta}(G) = 0$. This leaves us with

$$\bar{M}(G)|_{G(0)} \approx M'(G(0))[G - G(0)] \tag{27}$$

The derivative of the markup evaluated at $G(0)$ is

$$M'(G(0)) = \left[(1 - 2G(0)) \cdot \frac{1}{\gamma} \cdot \tilde{\beta}(G(0))\right] + \left[G(0)[1 - G(0)] \cdot \frac{1}{\gamma} \cdot \tilde{\beta}'(G(0))\right] \tag{28}$$

Let's compute each part. The first term is 0 because $\tilde{\beta}(G(0)) = 0$. The second term depends on $\tilde{\beta}'(G)$, which is

$$\tilde{\beta}'(G) = \sigma \left(\frac{1}{2}\bar{D}(G) - \left[1 - \frac{1}{2}(G(0) - G)\right] \frac{1}{\gamma}\right) \tag{29}$$

Evaluated at $G(0)$, which implies this becomes $\tilde{\beta}'(G) = -\sigma/\gamma$ because $\bar{D}(G(0)) = 0$. This implies $M'(G(0)) = -G(0)[1 - G(0)]\sigma/\gamma^2$. Plugging this into our approximation of the markup yield

$$\bar{M}(G)|_{G(0)} \approx -\frac{\sigma}{\gamma^2} G(0)[1 - G(0)](G - G(0)) > 0 \tag{30}$$

This is positive because $G < G(0)$—quantity is larger at zero price. It converges to 0 as G approaches $G(0)$, maximal demand.

Returning to linearized *ex ante* inverse demand, we plug in linear *ex post* inverse demand and linearized markup to obtain

$$\begin{aligned}
\bar{D}^{EA}(G) &= \left[\frac{1}{\gamma}\right](G(0) - G) - \left[\frac{\sigma}{\gamma^2} G(0)[1 - G(0)]\right](G - G(0)) \\
&= \frac{1}{\gamma}\left(1 + \frac{\sigma}{\gamma} G(0)[1 - G(0)]\right)(G(0) - G) \\
&= \frac{1}{\gamma^{EA}}(G(0) - G)
\end{aligned} \tag{31}$$

where

$$\frac{1}{\gamma^{EA}} = \frac{1}{\gamma}\left(1 + \frac{\sigma}{\gamma} G(0)[1 - G(0)]\right) > \frac{1}{\gamma} > 0 \tag{32}$$

This means that *ex ante* inverse demand as a steeper slope than *ex post* inverse demand. Moreover, because inverse demand is 0 when $G = g(0)$, inverse demand is a rotation around a hinge at $G(0)$ on the x-axis.

B.2 What is the optimal insurance premium?

In this section, we modify our MVPF analysis to ask: what is the optimal price of RSBY insurance, conditional on offering it.

Marginal social benefit. An individual consumer's indirect utility conditional on purchasing the

government service is

$$V(y_i, \tau, p) = u(1, x_i^*) + \lambda_i^*[y_i - p - (1+\tau)x_i^*] \tag{33}$$

where we suppress the reliance of optimal x_i and the multiplier on income, tax rate and government service price. The willingness to pay for an increase in price is marginal utility from increasing price divided by the marginal utility of income: $(\partial V_i/\partial p)/\lambda_i^* = -1$. This is simply Roy's identity. It is negative because higher price lowers utility conditional on buying the government service. Lower price would have the opposite signed effect.

The marginal social benefit of increasing the price of the government service is the sum of private benefits across individuals who buy the service:

$$MSB(p) = -\sum_i \mathbb{I}(g_i^* = 1) = -G(p). \tag{34}$$

This is proportional to aggregate quantity demanded at price p.

Marginal social cost. The social cost of providing the government service at price p is equal to $SC(p) = (1+r)[c^{AC}(p) - p]G(p)$. This is identical to the marginal social cost in the last section because the comparison in the last section was providing insurance or not. Here we assume insurance is provided, but compare value at a higher or lower price. So the marginal social cost is the derivative of social cost in this paragraph with respect to price:

$$MSC(p) = (1+r)\frac{\partial c^{AC}(p)}{\partial p}G(p) - (1+r)G(p) + (1+r)[c^{AC}(p) - p]\frac{\partial G(p)}{\partial p} \tag{35}$$

The first term is new and reflects the change in average cost as price increase. Importantly, this is positive if there the service is insurance and there is adverse selection. The second term is the reduction in expenditure as revenues rise. The third term reflects the reduction in sales with higher price. This is negative if average costs exceed price. (If price were zero to start, then the first term would be positive, but the latter two negative.)

Optimal price. The first-order, necessary condition for p^* to be the optimal price for the government service is that the marginal social benefit equals the marginal social cost of that service: $MSB(p^*) - MSC(p^*) = 0$, i.e.,

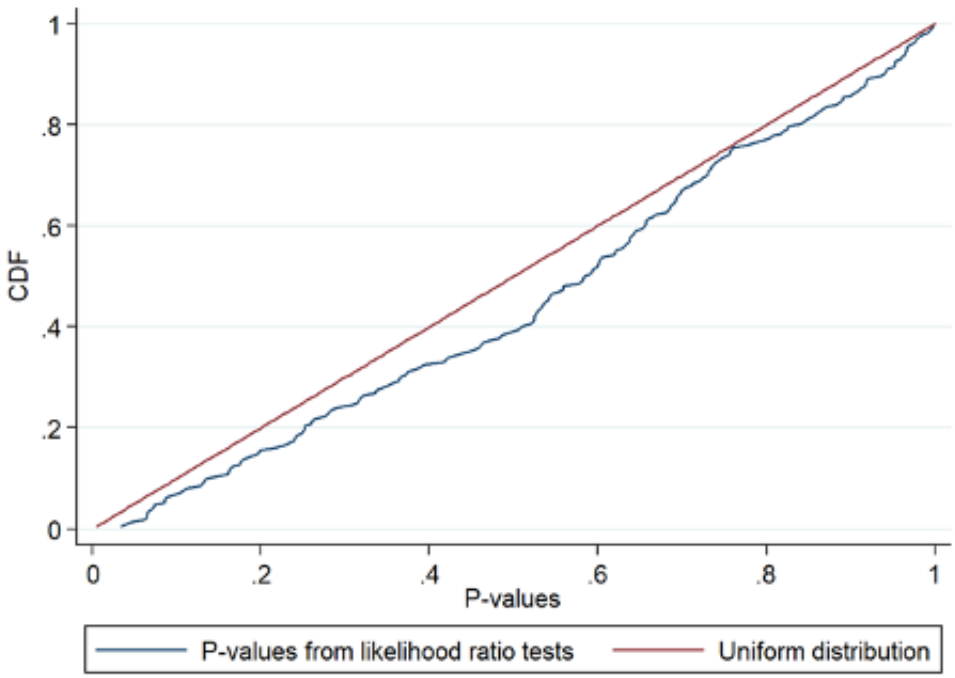
$$-G(p^*) - \left[(1+r)\frac{\partial c^{AC}(p^*)}{\partial p^*}G(p^*) - (1+r)G(p^*) + (1+r)[c^{AC}(p^*) - p^*]\frac{\partial G}{\partial p^*}\right] = 0 \tag{36}$$

$$-\frac{\partial c^{AC}(p^*)}{\partial p^*}G(p^*) + \frac{r}{1+r}G(p^*) - [c^{AC}(p^*) - p^*]\frac{\partial G}{\partial p^*} = 0 \tag{37}$$

The incremental cost to consumers ($G(p^*)$) of raising the price of government service is just a transfer to the government, reducing its expenses, so those terms cancel in the second line. What remains is the government's saving on borrowing costs ($rG(p^*)$). Dividing by $(1+r)$ gives the trade-off in rupees before financing costs. An important constraint on the optimal price is that it must be greater than 0. If it falls below 0, price is below marginal cost, which is non-negative, and incremental consumption produces a social loss.

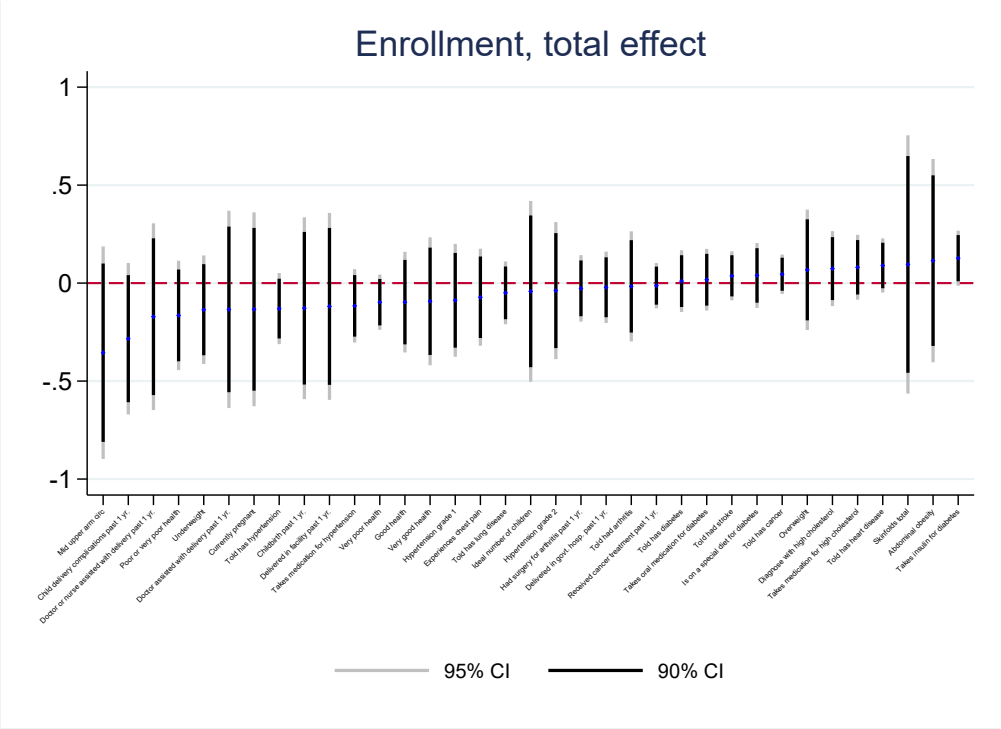
C Figures

Figure A.1: Balancing test result.



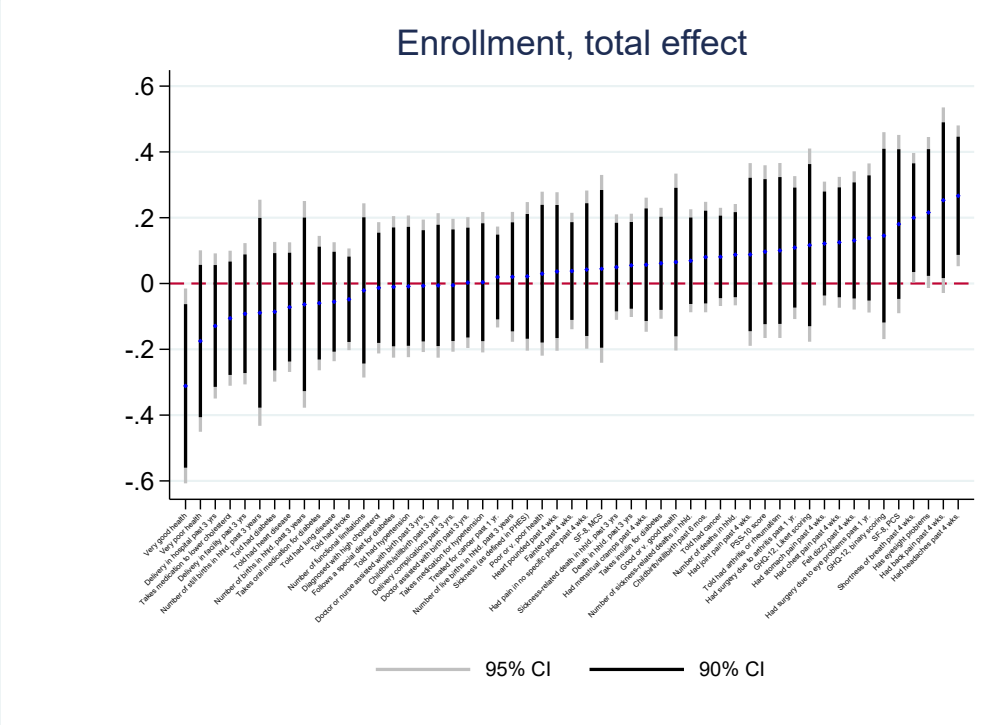
Notes. Figure presents the cumulative distribution of p-values (a) from likelihood ratio tests checking balance in outcomes across arms and (b) from a uniform distribution (capturing perfect randomization).

Figure A.2: Estimates of total effects of insurance (CATE) on a randomly-selected set of health outcomes from midline (18 months).



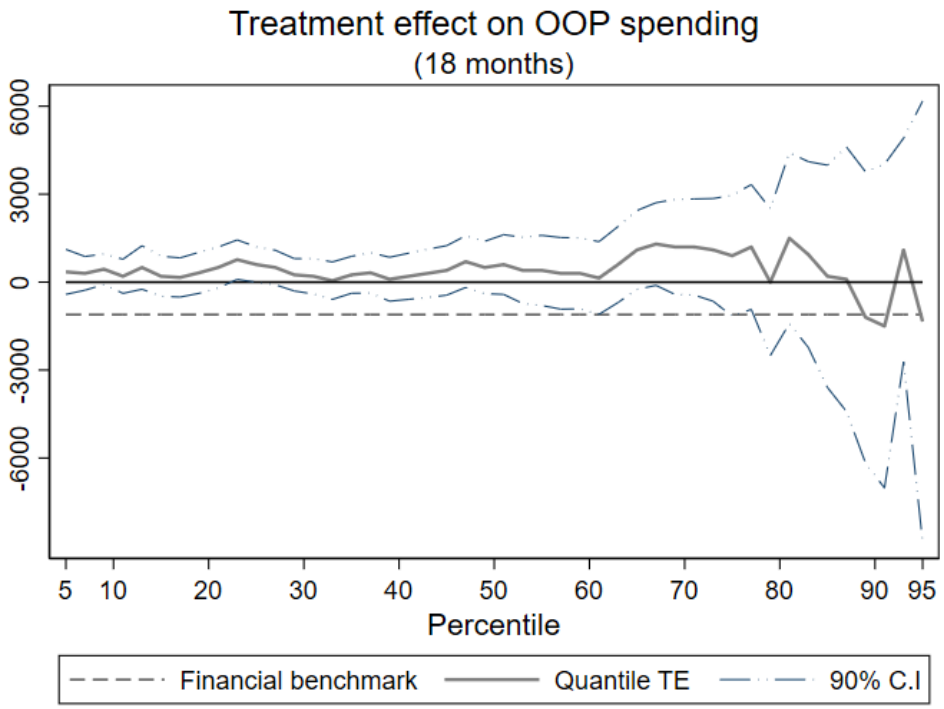
Notes. Figure presents a coefficient plot of estimates of total effects based on IIT coefficients for a randomly-selected set of health outcomes from midline (18 months after treatment).

Figure A.3: Estimates of total effects of insurance (CATE) on a randomly-selected set of health outcomes from endline (3.5 years).



Notes. Figure presents a coefficient plot of estimates of total effects based on CATE coefficients for a randomly-selected set of health outcomes from endline (3.5 years after treatment).

Figure A.4: Quantile treatment effects on OOP spending



Notes. The solid gray line plots the quantile treatment effects of access to RSBY (a pooled indicator for assignment to treatment arms A, B or C) on midline out-of-pocket (OOP) medical spending from the 5th to 95th percentiles. The dashed line shows the effect on OOP spending which would be expected if insurance was purely financial: the control mean of medical OOP spending (INR 28,777) multiplied by the pooled treatment effect on RSBY utilization (3.85 percentage points).

Figure A.5: Timeline of study.

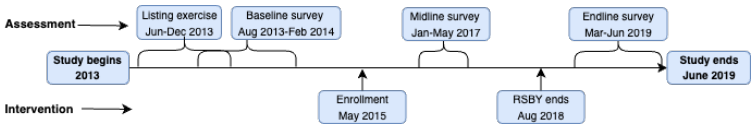
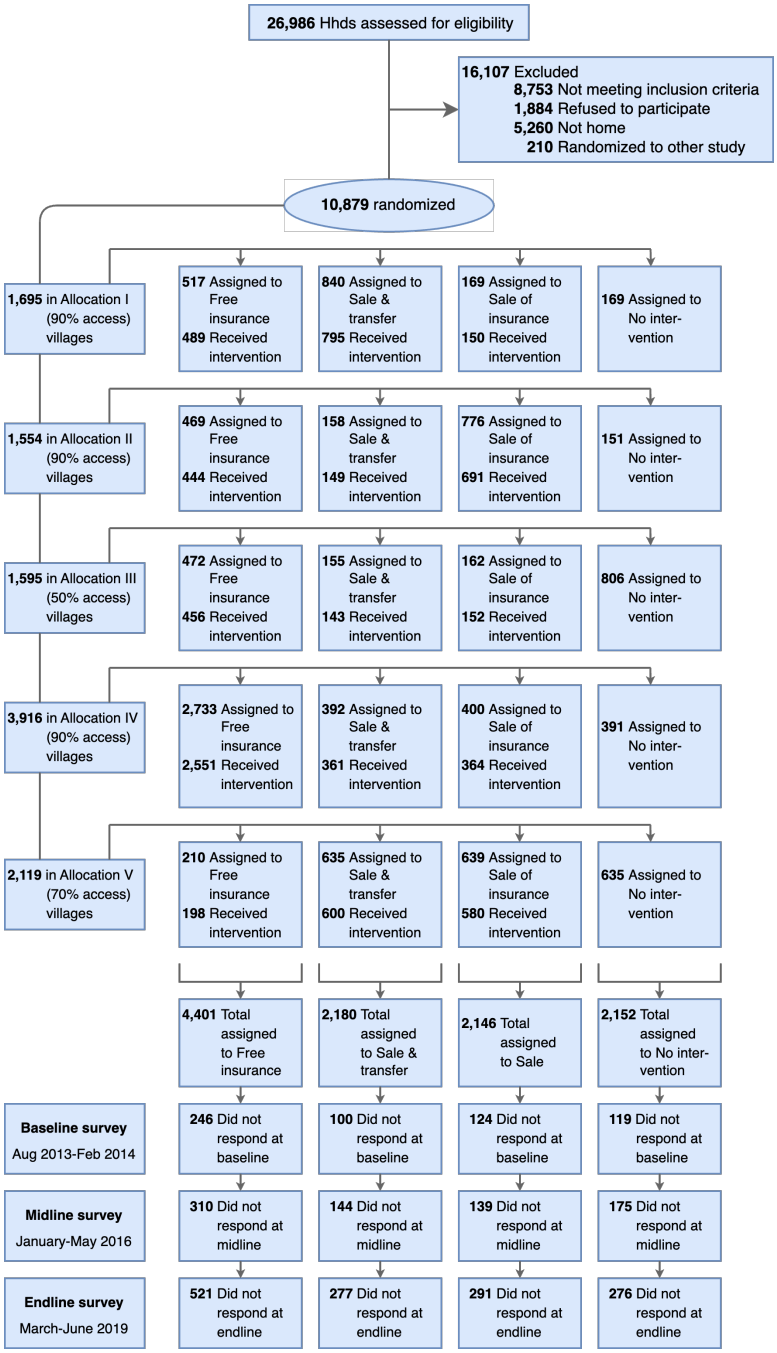
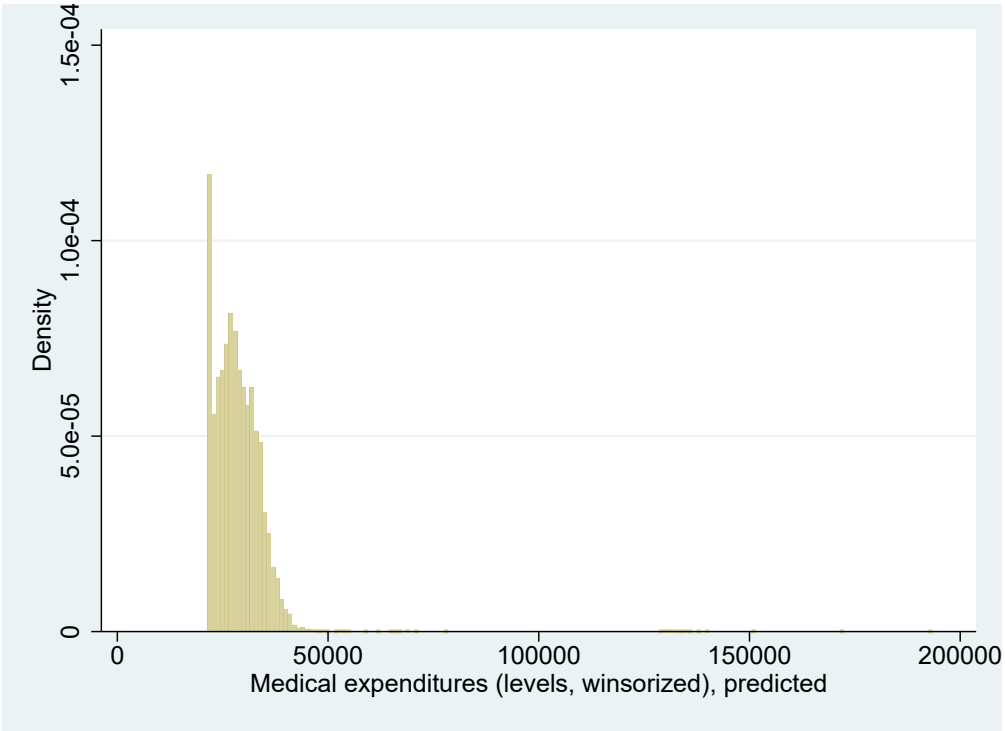


Figure A.6: Subject flowchart, with exclusions and attrition by endline.



Notes. In column 1, X% "access villages" means that in these villages, X% of households were assigned to either groups A, B, or C. In rows 1-5, the difference between N "Assigned to" a group and M "Received intervention" is that our randomization algorithm assigned M to the relevant group but that, when we went to the village to inform households of their method of access and to enroll household, we were only able to contact M our of N of those households.

Figure A.7: Predicted medical expenditures



D Tables

Table A.1: Outcomes measured by topic at midline (18 months post-intervention) and endline (3.5 years post-intervention) surveys.

	Midline (18 months)	Endline (3.5 years)
Utilization		
Inpatient or overnight hospital stay	x	x
Successful RSBY use for treatment	x	x
Other utilization metrics		
Outpatient (day) surgery		x
Failed RSBY use for treatment	x	x
Health value		
Sickness		x
Good or very good health	x	x
Very good health	x	x
Poor or very poor health	x	x
Very poor health	x	x
Chronic disease		
Told had hypertension	x	x
Takes medication for hypertension	x	x
Told had diabetes	x	x
Takes oral medication for diabetes	x	x
Takes insulin for diabetes	x	x
Follows a special diet for diabetes	x	x
Told had cancer	x	x
Treated for cancer past 1 yr.	x	x
Told had lung disease	x	x
Told had heart disease	x	x
Told had stroke	x	x
Told had arthritis or rheumatism	x	x
Had surgery due to arthritis past 1 yr.	x	x
Diagnosed with high cholesterol	x	x
Takes medication to lower cholesterol	x	x
Has eyesight problems		x
Had surgery due to eye problems past 1 yr.		x

Note. Table presents outcomes in first column, and an indicator (x = yes, blank = no) for whether the outcome was measured at midline (column 2) and endline (column 3). Abbreviations: RSBY, Rashtriya Swasthya Bima Yojana; hhld, household.; resp., respondent; yr., year; mo., month; wk., week; kg., kilogram; SF-8, Short-form 8; PCS, physical component score; MCS, mental component score; PSS-10, 10-item Perceived Stress Scale; GHQ-12, 12-item General Health Questionnaire.

Table A.1 (continued): Outcomes measured by topic at midline (18 months post-intervention) and endline (3.5 years post-intervention) surveys.

	Midline (18 months)	Endline (3.5 years)
Mental and emotional health		
GHQ-12, Likert scoring		x
GHQ-12, binary scoring		x
PSS-10 score		x
Quality of life		
Number of functional limitations		x
SF-8, PCS		x
SF-8, MCS		x
Had stomach pain past 4 wks.		x
Had back pain past 4 wks.		x
Had chest pain past 4 wks.	x	x
Had joint pain past 4 wks.		x
Had headaches past 4 wks.		x
Had menstrual cramps past 4 wks.		x
Had pain in no specific place past 4 wks.		x
Fainted past 4 wks.		x
Felt dizzy past 4 wks.		x
Shortness of breath past 4 wks.		x
Heart pounded past 4 wks.		x
Childbirth		
Childbirth/stillbirth past 6 mos.	x	x
Childbirth/stillbirth past 3 yrs.	x	x
Number of births in hhld. past 3 yrs.		x
Number of live births in hhld. past 3 yrs.		x
Number of still births in hhld. past 3 yrs.		x
Delivery in hospital past 3 yrs.	x	x
Delivery in facility past 3 yrs.	x	x
Doctor assisted with birth past 3 yrs.	x	x
Doctor or nurse assisted with birth past 3 yrs.	x	x
Delivery complications past 3 yrs.	x	x
Ideal number of children	x	
Biomarkers		
Overweight or obese	x	
Underweight	x	
Abdominally obese	x	
Mid-upper arm circumference	x	
Hypertension, grade 1	x	
Hypertension, grade 2	x	
Skinfolds total	x	
Mortality		
Death in hhld. past 3 yrs.		x
Number of deaths in hhld.		x
Sickness-related death in hhld. past 3 yrs.		x
Number of sickness-related deaths in hhld.		x

Note. Table presents outcomes in first column, and an indicator (x = yes, blank = no) for whether the outcome was measured at midline (column 2) and endline (column 3). Abbreviations: RSBY, Rashtriya Swasthya Bima Yojana; hhld, household.; resp., respondent; yr., year; mo., month; wk., week; kg., kilogram; SF-8, Short-form 8; PCS, physical component score; MCS, mental component score; PSS-10, 10-item Perceived Stress Scale; GHQ-12, 12-item General Health Questionnaire.

Table A.2: Effects of different premium & subsidy combinations on insurance enrollment.

	Direct effects	Spillover effects	Total effects
	Coefficient (SE) P-value	Coefficient (SE) P-value	Coefficient (SE) P-value
(A) Free-insurance	72.96%	6.88%	79.15%
	(7.13%)	(8.27%)	(1.08%)
	0.000	0.406	0.000
(B) Sale-plus-transfer	65.01%	5.04%	69.55%
	(11.09%)	(13.24%)	(1.87%)
	0.000	0.704	0.000
(C) Sale-of-insurance	46.80%	14.03%	59.43%
	(13.48%)	(16.54%)	(2.82%)
	0.001	0.397	0.000
(A) Free-insurance x hhld. expenditure	-0.02%	0.02%	0.00%
	(0.04%)	(0.05%)	(0.01%)
	0.655	0.601	0.588
(B) Sale-plus-transfer x hhld. expenditure	0.02%	0.01%	0.03%
	(0.07%)	(0.08%)	(0.01%)
	0.756	0.879	0.003
(C) Sale-of-insurance x hhld. expenditure	0.02%	0.00%	0.02%
	(0.10%)	(0.12%)	(0.02%)
	0.862	0.984	0.432
N	9080	9080	9080

Notes. Table presents direct and indirect effect of assignment of sample household to different premium and subsidy combinations, interacted with total household expenditures, on enrollment in RSBY insurance. The first column lists the premium/subsidy group. The second column reports direct effects of assigning a household to a premium/subsidy group on enrollment of that same household into RSBY. The third column reports the effect, for a given household assigned to the arm listed in column 1, of assigning other sample households in the village to arms A - C on enrollment of the given household. The fourth columns gives the sum of the direct effect and 90% of the indirect effect. We chose 90% of the indirect effect because in the study the maximum percentage of households assigned to arms A-C in any village was 90%. Each observation is a household. Treatment variables are household assignments: free insurance (A), sale of insurance plus cash transfer (B), and sale of insurance (C). Estimates are intent-to-treat effects; all models estimated with OLS. Each treatment arm was interacted with the share of the village allocated to A, B, or C (combined). Standard errors were clustered at the village level. Coefficients were transformed to show percentage point changes from the control group D. Enrollment rate is 0 in the control group D. The direct effect only includes the coefficient on treatment A, B, or C. The spillover effect is the estimated effect on a treated household of assigning all other sample households to at least some form of access to RSBY insurance. The total effect is constructed as the sum of the direct effect and 0.9*(spillover effect).

Table A.3: Enrollment by health (education, raven scores and risk aversion controlled)

	(1) Enroll-ment	(2) Enroll-ment	(3) Enroll-ment	(4) Enroll-ment	(5) Enroll-ment	(6) Enroll-ment	(7) Enroll-ment	(8) Enroll-ment	(9) Enroll-ment	(10) Enroll-ment	(11) Enroll-ment
Pay + Cash (B)	-0.15***	-0.14***	-0.15***	-0.13**	-0.14***	-0.16***	-0.13**	-0.13**	-0.14**	-0.14***	-0.15***
	(0.052)	(0.052)	(0.052)	(0.053)	(0.053)	(0.052)	(0.051)	(0.053)	(0.054)	(0.052)	(0.056)
Pay (C)	-0.19***	-0.19***	-0.19***	-0.19***	-0.17***	-0.20***	-0.19***	-0.20***	-0.17***	-0.19***	-0.20***
	(0.058)	(0.058)	(0.058)	(0.059)	(0.057)	(0.059)	(0.059)	(0.059)	(0.058)	(0.057)	(0.062)
Health		0.0079	-0.0069	0.014**	-0.0022	0.0039	-0.020***	-0.018**	0.0035	-0.0058	-0.00045
		(0.0081)	(0.0046)	(0.0071)	(0.0073)	(0.0068)	(0.0070)	(0.0073)	(0.0061)	(0.0080)	(0.0069)
B × health		-0.0070	-0.012	-0.012	-0.014	-0.0023	0.032**	0.028**	-0.027**	0.026**	0.025**
		(0.012)	(0.0088)	(0.013)	(0.012)	(0.012)	(0.013)	(0.012)	(0.013)	(0.011)	(0.010)
C × health		-0.012	-0.017	-0.012	-0.013	0.0097	0.0044	0.0079	-0.0038	0.047***	0.0059
		(0.014)	(0.011)	(0.015)	(0.014)	(0.014)	(0.014)	(0.013)	(0.013)	(0.017)	(0.014)
Asset	0.062***	0.065***	0.063***	0.063***	0.078***	0.065***	0.055***	0.066***	0.078***	0.064***	0.065***
	(0.014)	(0.015)	(0.014)	(0.014)	(0.015)	(0.016)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)
B × asset	-0.033	-0.035	-0.034	-0.036	-0.041*	-0.034	-0.023	-0.040*	-0.044*	-0.042*	-0.049**
	(0.022)	(0.023)	(0.022)	(0.022)	(0.023)	(0.023)	(0.022)	(0.022)	(0.023)	(0.023)	(0.024)
C × asset	-0.034	-0.039	-0.035	-0.040	-0.049*	-0.038	-0.031	-0.042	-0.050*	-0.051*	-0.030
	(0.026)	(0.027)	(0.026)	(0.026)	(0.027)	(0.028)	(0.026)	(0.026)	(0.027)	(0.027)	(0.028)
Share in A, B, or C	0.076	0.077	0.076	0.091*	0.072	0.082*	0.075	0.097**	0.074	0.074	0.086*
	(0.047)	(0.047)	(0.047)	(0.048)	(0.047)	(0.047)	(0.047)	(0.048)	(0.048)	(0.047)	(0.051)
Dep. var. mean		0.718	0.718	0.733	0.728	0.719	0.719	0.733	0.728	0.718	0.725
Dep. var. SD		0.450	0.450	0.442	0.445	0.450	0.450	0.442	0.445	0.450	0.446
N	8727	8727	8727	7619	7903	8488	8675	7611	7917	8727	7630
Health variable		General health, male, midline predicted	General health, female, midline predicted	General health, male, baseline	General health, female, baseline	- Pr(visiting medical facility, male)	- Pr(visiting medical facility, female)	- Visited medical facility, male	- Visited medical facility, female	Medical expendi-ture, predicted	Medical expendi-ture, baseline
C × Health × SD/Mean enrollment		-0.021	-0.031	-0.020	-0.022	0.016	0.007	0.013	-0.006	0.079	0.010
Sharpened q-value		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.06	1.00

Notes. *** p<0.01, ** p<0.05, * p<0.1. SE clustered at village level. Health variables are standardized by the sample mean and standard deviation. Controls for levels and interactions with education, raven score, and risk aversion are included but not reported. Education is a categorical variable recording the educational attainment of household head (1 = Never attended class 1, 2 = Class 1-5, 3 = Class 6-8, 4 = Class 9-10, 5 = Class 11-12, 6 = Graduate and above). Risk aversion is a dummy variable that equals 1 if respondent had a certain equivalence smaller than 180 in a gamble game. Missing indicators of assets, raven scores, risk aversion and education are included.

Table A.4: Effect of insurance access on total and out-of-pocket (OOP) medical expenditures (CATE).

			Direct	Spillover	Total
		Control mean (SD)	Coefficient (SE) P-value	Coefficient (SE) P-value	Coefficient (SE) P-value
Medical spending at 18 months					
Annual medical spending	N = 10030	28717.69	12848.66	-1.6e+04	515.70
		(31601.59)	(5148.08)	(9680.63)	(5047.78)
			.01	.11	.92
Log annual medical spending	N = 10030	9.57	0.59	-1.34	-0.47
		(1.94)	(0.31)	(0.48)	(0.37)
			.06	.006	.21
Annual medical non-hospital spending	N = 10030	24072.39	5794.11	-7181.20	142.23
		(26111.22)	(4200.31)	(8399.11)	(4581.71)
			.17	.39	.98
Log annual medical non-hospital spending	N = 10030	9.35	0.35	-1.09	-0.51
		(2.07)	(0.32)	(0.50)	(0.38)
			.28	.03	.18
Medical spending at 4 years					
OOP medical spending (most serious event)	N = 9396	20444.06	6670.52	-1.7e+04	-6380.67
		(1.3e+05)	(22178.69)	(20511.80)	(12548.28)
			.76	.42	.61
Log OOP medical spending (most serious event)	N = 9396	4.74	-0.93	1.50	0.25
		(4.76)	(0.62)	(1.01)	(0.70)
			.13	.14	.72

Notes. Table presents estimates of the effect of enrollment in RSBY insurance on medical expenditures. Abbreviations: SD, standard deviation; SE, standard error; mos, months; yr, year; hosp., hospital. Each observation is a household. Treatment variable is enrollment. Estimates are complier average treatment effects. Observations are weighted so each household has equal weight. Standard errors were clustered at the village level. Mean and standard deviation in the control group are statistics from the control group D. Coefficients were transformed to show changes relative to the control group D. The direct effect is the estimated effect of enrolling one household, assuming no other sample households in the village are enrolled. The spillover effect is the estimated effect on an enrolled household of enrolling all other sample households in the village. Total effects are the sum of direct and (spillover effects)*(uptake into free insurance). The total effect of free insurance on uptake is estimated as 0.7871 in Table 3.

Table A.5: Effect of insurance enrollment on use of insurance for hospital care and on hospital utilization (CATE), by wealth of household.

			Direct			Spillover			Total		
		Control mean (SD)	High wealth Coefficient (SE) P-value	Low wealth Coefficient (SE) P-value	Difference Coefficient (SE) P-value	High wealth Coefficient (SE) P-value	Low wealth Coefficient (SE) P-value	Difference Coefficient (SE) P-value	High wealth Coefficient (SE) P-value	Low wealth Coefficient (SE) P-value	Difference Coefficient (SE) P-value
Insurance use at 18 months											
Successful use (past 6 mos.)	N = 9391	3.88%	8.59%	-1.34%	-9.94%	-2.10%	10.64%	12.74%	6.94%	7.03%	0.09%
		(19.32%)	(4.00%)	(3.54%)	(4.83%)	(5.55%)	(5.66%)	(6.27%)	(3.14%)	(3.07%)	(3.31%)
			.03	.70	.04	.71	.06	.04	.03	.02	.98
Failed use (past 6 mos.)	N = 9391	1.50%	6.11%	0.01%	-6.10%	-2.81%	2.96%	5.77%	3.90%	2.34%	-1.56%
		(12.15%)	(2.73%)	(2.38%)	(3.41%)	(3.63%)	(3.71%)	(4.78%)	(1.75%)	(1.56%)	(2.19%)
			.03	.00	.07	.44	.43	.23	.03	.14	.48
Insurance use at 4 years											
Successful use (past 6 mos.)	N = 8871	0.49%	1.85%	5.08%	3.23%	-1.19%	-4.15%	-2.95%	0.91%	1.81%	0.90%
		(6.99%)	(1.70%)	(1.86%)	(2.57%)	(2.31%)	(2.32%)	(3.27%)	(0.70%)	(0.88%)	(1.05%)
			.28	.006	.21	.61	.07	.37	.19	.04	.39
Successful use (most serious event)	N = 8863	0.13%	-0.88%	1.62%	2.50%	2.92%	-1.33%	-4.25%	1.42%	0.58%	-0.84%
		(3.59%)	(0.65%)	(1.56%)	(1.68%)	(1.14%)	(1.75%)	(2.05%)	(0.31%)	(0.74%)	(0.80%)
			.18	.30	.14	.01	.45	.04	p<.001	.44	.29
Failed used (most serious event)	N = 8864	0.57%	-0.59%	3.68%	4.27%	2.38%	-3.30%	-5.68%	1.29%	1.08%	-0.21%
		(7.52%)	(1.46%)	(2.72%)	(2.52%)	(2.12%)	(3.64%)	(3.31%)	(0.76%)	(0.82%)	(1.07%)
			.69	.18	.09	.26	.36	.09	.09	.19	.85
Healthcare use at 18 months											
Hospitalized on last visit (past 1 yr.)	N = 8559	20.82%	-3.94%	3.31%	7.24%	6.37%	6.88%	0.51%	1.08%	8.72%	7.64%
		(40.61%)	(8.43%)	(10.06%)	(13.22%)	(13.58%)	(15.68%)	(14.14%)	(9.89%)	(10.41%)	(7.83%)
			.64	.74	.58	.64	.66	.97	.91	.40	.33
Healthcare use at 4 years											
Overnight stay for treatment	N = 8892	22.97%	-13.21%	-10.09%	3.12%	14.16%	10.13%	-4.03%	-2.07%	-2.12%	-0.05%
		(42.07%)	(7.49%)	(10.51%)	(13.22%)	(8.30%)	(11.57%)	(12.99%)	(5.36%)	(5.92%)	(7.21%)
			.08	.34	.81	.09	.38	.76	.70	.72	.99
Outpatient (day) surgery	N = 8887	6.76%	-7.22%	0.60%	7.81%	13.16%	6.68%	-6.48%	3.14%	5.85%	2.71%
		(25.11%)	(4.48%)	(5.58%)	(7.24%)	(5.08%)	(6.81%)	(7.78%)	(3.26%)	(3.53%)	(4.16%)
			.11	.91	.28	.010	.33	.40	.33	.10	.52

Notes. Notes. Table presents estimates of the effect of enrollment in RSBY insurance on use of insurance and visits to medical facilities, stratified by level of wealth. Abbreviations: SD, standard deviation; CI, confidence interval; mos, months; yr, year; hosp., hospital. Each observation is a household. Treatment variable is enrollment. Estimates are complier average treatment effects. Observations are weighted so each household has equal weight. Standard errors were clustered at the village level. Coefficients were transformed to show percentage point changes from the control group. Mean and standard deviation in the control group are statistics from the unenrolled group. The direct effect is the estimated effect of enrolling one household, assuming no other sample households in the village are enrolled. The spillover effect is the estimated effect on an enrolled household of enrolling all other sample households in the village. Total effects are the sum of direct and (spillover effects)*(uptake into free insurance). The total effect of free insurance on uptake is estimated as 0.7871 in Table 3. Successful use means the household used RSBY to pay for medical treatment. Failed use means that the household attempted to use RSBY to pay for care but were unable to (for many possible reasons, Table A6). The most serious event is defined as an accident which caused a household member to miss at least two days of work, a childbirth or a stillbirth, or three functional limitations. If none of those occurred, it is defined as the most expensive health event or the one that led to the longest hospital stay. Hospitalized on last visit (past 1 yr.) indicates that the respondent was hospitalized on their most recent visit to a healthcare provider within the past year. This question was administered to both the male or the female respondent within the adult health module. A high (low) wealth household is a household with an above (below) median value of a wealth index created by taking the average of the following: z-score of the value of farm animals, z-score of the amount of silver, z-score of the amount of gold, the average of z-scores of different durable goods (stoves, fridges, etc.), z-score of land, z-score of the number of rooms in the household, and z-score of savings.

Table A.6: Reasons given for respondents' inability to use RSBY insurance card, by survey and utilization status.

	Midline (18 months)		Endline (3.5 years)	
	Did not try to use RSBY (N=2551)	Tried but failed to use RSBY (N=160)	Did not try to use RSBY (N=2763)	Tried but failed to use RSBY (N=84)
Forgot papers at home	13%	10%	9%	2%
Has not received papers	5%	3%	21%	1%
Didn't know card could be used for this purpose	15%	13%	20%	2%
Patient wasn't on the card	2%	1%	1%	1%
Card used up	1%	1%	0%	0%
Didn't want to use card for treatment	21%	9%	1%	6%
Doctor didn't accept card	15%	55%	9%	69%
Card machine didn't work	2%	1%	1%	8%
Treatment not covered	5%	8%	2%	7%
Hospital that accepted card was too far	3%	6%	0%	1%
Didn't know card would reduce payments	3%	3%	2%	0%
Didn't know card would make treatment free	12%	6%	3%	0%
Other reasons	2%	0%	2%	10%
Didn't know where to use card			30%	5%
Didn't know how to use card			29%	6%
Insurance company didn't accept card			1%	12%
Didn't need to use card			2%	1%
Didn't trust doctor would accept card			3%	1%
Didn't trust the card would work			3%	0%

Note. Table only includes respondents who enrolled in RSBY insurance. At midline, all respondents who reported having an RSBY card were asked about utilization attempts. At endline, all respondents whose households had a serious health event were asked about utilization attempts. Percentages do not add up to 100 as respondents were allowed to report multiple reasons.

Table A.7: Effect of different premium & subsidy combinations on midline (18 mos.) health outcomes (intent to treat estimate).

			Free insurance			Sale of insurance + transfer			Sale of insurance		
	N	Control mean (SD)	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value
					Health value						
Good health	18983	0.662	0.055	-0.091	-0.027	0.061	-0.046	0.020	0.146	-0.192	-0.027
		(0.473)	(0.040)	(0.070)	(0.061)	(0.069)	(0.091)	(0.061)	(0.074)	(0.099)	(0.060)
			.18	.19	.65	.38	.62	.74	.05	.05	.65
Very good health	18983	0.155	0.064	-0.086	-0.014	0.044	-0.038	0.009	0.043	-0.033	0.013
		(0.362)	(0.036)	(0.064)	(0.063)	(0.069)	(0.094)	(0.065)	(0.068)	(0.093)	(0.066)
			.07	.18	.83	.52	.68	.89	.53	.72	.84
Poor or very poor health	18983	0.056	-0.012	-0.022	-0.032	-0.029	-0.006	-0.034	-0.012	-0.020	-0.030
		(0.231)	(0.024)	(0.030)	(0.034)	(0.033)	(0.038)	(0.034)	(0.038)	(0.045)	(0.035)
			.62	.46	.35	.39	.87	.32	.75	.66	.39
Very poor health	18983	0.008	-0.000	-0.004	-0.003	0.008	-0.014	-0.005	0.002	-0.005	-0.003
		(0.090)	(0.010)	(0.010)	(0.007)	(0.011)	(0.010)	(0.006)	(0.012)	(0.013)	(0.007)
			.00	.72	.60	.47	.16	.40	.86	.69	.69
					Chronic disease						
Told had hypertension	18939	0.190	0.028	-0.098	-0.060	-0.140	0.114	-0.038	-0.026	-0.032	-0.055
		(0.392)	(0.046)	(0.049)	(0.036)	(0.057)	(0.069)	(0.038)	(0.053)	(0.062)	(0.037)
			.55	.05	.10	.02	.10	.32	.63	.61	.14
Takes medication for hypertension	18960	0.131	-0.018	-0.044	-0.057	-0.125	0.089	-0.045	-0.082	0.037	-0.048
		(0.338)	(0.037)	(0.045)	(0.033)	(0.047)	(0.060)	(0.034)	(0.043)	(0.051)	(0.033)
			.63	.34	.08	.009	.14	.19	.06	.47	.15
Told had diabetes	18913	0.068	-0.005	-0.003	-0.008	-0.040	0.047	0.002	-0.032	0.033	-0.002
		(0.252)	(0.023)	(0.028)	(0.023)	(0.037)	(0.043)	(0.024)	(0.036)	(0.036)	(0.023)
			.85	.90	.75	.28	.28	.95	.37	.36	.92
Takes oral medication for diabetes	18948	0.050	-0.002	-0.000	-0.002	-0.023	0.030	0.004	-0.027	0.025	-0.004
		(0.217)	(0.020)	(0.023)	(0.020)	(0.031)	(0.037)	(0.021)	(0.031)	(0.032)	(0.020)
			.93	.99	.92	.47	.42	.84	.39	.43	.84
Takes insulin for diabetes	18952	0.018	-0.001	0.019	0.016	-0.016	0.042	0.021	-0.006	0.027	0.019
		(0.133)	(0.011)	(0.011)	(0.011)	(0.016)	(0.018)	(0.012)	(0.017)	(0.018)	(0.011)
			.94	.09	.14	.30	.02	.08	.73	.13	.10
Is on a special diet for diabetes	18962	0.046	-0.000	-0.003	-0.003	-0.044	0.055	0.005	-0.038	0.047	0.005
		(0.210)	(0.018)	(0.024)	(0.021)	(0.028)	(0.032)	(0.021)	(0.030)	(0.030)	(0.021)
			.98	.91	.89	.12	.09	.82	.21	.12	.83
Told had cancer	18946	0.004	-0.006	0.010	0.002	-0.003	0.009	0.004	-0.005	0.005	0.000
		(0.064)	(0.005)	(0.006)	(0.004)	(0.009)	(0.010)	(0.004)	(0.008)	(0.009)	(0.004)
			.22	.11	.54	.69	.40	.23	.55	.55	.94

Notes. Table presents (in all panels but the last one) estimates of intent-to-treat effects of access to insurance at different prices and subsidies on specific midline (18 mos.) health outcomes. The outcomes are listed in the first column. The last panel provides critical p-values that control the false discovery rate for different groups of outcomes listed in the first column. Each observation in our regressions is a household. Treatment variables are household assignments: free insurance (A), sale of insurance + cash transfer (B), sale of insurance (C). Estimates are intent-to-treat effects; all models estimated with OLS. Each treatment arm was interacted with the share of the village allocated to A, B, or C (combined). The omitted category is the control group (D). Standard errors were clustered at the village level. The direct effect only includes the coefficient on treatment A, B, or C. The spillover effect is the estimated effect on a treated household of assigning all other sample households to at least some form of access to RSBY insurance. The total effect is constructed as the sum of the direct effect and 0.9*(spillover effect). Mean and standard deviation in the control group are statistics from group D without access to insurance. Abbreviations: SD, standard deviation; SE, standard error; mos, months; yr, year.

Table A.7 (cont'd): Effect of different premium & subsidy combinations on midline (18 mos.) health outcomes (intent to treat estimate).

			Free insurance			Sale of insurance + transfer			Sale of insurance		
	N	Control mean (SD)	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value
Received cancer treatment past 1 yr.	18998	0.002	0.002	-0.002	0.000	-0.004	0.005	0.000	0.003	-0.002	0.001
		(0.049)	(0.005)	(0.005)	(0.003)	(0.004)	(0.004)	(0.003)	(0.007)	(0.009)	(0.003)
			.66	.67	.95	.38	.28	.87	.70	.81	.75
Told had lung disease	18907	0.034	-0.017	0.014	-0.005	0.012	-0.022	-0.008	0.002	-0.002	-0.000
		(0.181)	(0.020)	(0.017)	(0.017)	(0.028)	(0.028)	(0.017)	(0.028)	(0.030)	(0.017)
			.39	.42	.78	.66	.43	.66	.95	.95	.99
Told had heart disease	18868	0.020	0.009	0.008	0.016	0.023	-0.014	0.010	-0.001	0.018	0.016
		(0.141)	(0.017)	(0.017)	(0.011)	(0.019)	(0.020)	(0.010)	(0.017)	(0.018)	(0.011)
			.60	.63	.15	.24	.48	.33	.97	.31	.13
Told had stroke	18826	0.007	0.003	0.003	0.006	0.009	-0.005	0.004	-0.000	0.006	0.005
		(0.086)	(0.010)	(0.009)	(0.007)	(0.012)	(0.012)	(0.007)	(0.011)	(0.012)	(0.007)
			.76	.77	.42	.45	.67	.50	.99	.60	.42
Told had arthritis	18894	0.176	-0.093	0.060	-0.038	-0.067	0.017	-0.051	-0.127	0.092	-0.044
		(0.381)	(0.038)	(0.065)	(0.056)	(0.076)	(0.094)	(0.057)	(0.058)	(0.072)	(0.055)
			.01	.36	.49	.38	.85	.38	.03	.20	.42
Had surgery for arthritis past 1 yr.	18933	0.018	-0.015	0.004	-0.011	-0.035	0.024	-0.013	-0.053	0.048	-0.010
		(0.135)	(0.014)	(0.018)	(0.014)	(0.019)	(0.022)	(0.014)	(0.017)	(0.019)	(0.014)
			.29	.81	.41	.07	.28	.35	.002	.01	.47
Diagnose with high cholesterol	18871	0.019	-0.001	0.016	0.013	0.010	0.007	0.016	0.005	0.014	0.017
		(0.137)	(0.011)	(0.018)	(0.015)	(0.019)	(0.029)	(0.016)	(0.019)	(0.022)	(0.015)
			.91	.37	.39	.62	.81	.31	.81	.53	.26
Takes medication for high cholesterol	19032	0.014	0.004	0.008	0.010	-0.006	0.019	0.011	-0.009	0.027	0.015
		(0.116)	(0.012)	(0.013)	(0.011)	(0.017)	(0.020)	(0.012)	(0.017)	(0.022)	(0.012)
			.76	.56	.34	.73	.35	.34	.60	.22	.20
Health-related quality of life, ADLs, and physical health symptoms											
Experiences chest pain	18888	0.081	-0.029	0.021	-0.011	0.003	-0.018	-0.014	-0.008	-0.002	-0.010
		(0.273)	(0.024)	(0.041)	(0.035)	(0.044)	(0.053)	(0.036)	(0.040)	(0.049)	(0.034)
			.23	.61	.76	.95	.73	.71	.84	.97	.78
Fertility											
Currently pregnant	9262	0.055	0.020	-0.050	-0.025	-0.002	-0.031	-0.030	-0.071	0.078	-0.000
		((0.227))	(0.026)	(0.068)	(0.061)	(0.039)	(0.068)	(0.062)	(0.057)	(0.105)	(0.068)
			.44	.46	.68	.97	.65	.63	.21	.46	.99
Childbirth past 1 yr.	8299	0.049	0.028	-0.056	-0.022	-0.009	-0.006	-0.015	-0.023	-0.009	-0.030
		((0.217))	(0.026)	(0.060)	(0.051)	(0.034)	(0.051)	(0.052)	(0.038)	(0.039)	(0.051)
			.28	.35	.66	.79	.90	.78	.55	.83	.55
Delivered in govt. hosp. past 1 yr.	8297	0.015	0.009	-0.013	-0.002	-0.002	0.014	0.011	-0.016	0.018	0.000
		((0.120))	(0.017)	(0.015)	(0.012)	(0.022)	(0.023)	(0.013)	(0.017)	(0.019)	(0.013)
			.57	.41	.86	.94	.53	.38	.34	.34	.00
Delivered in facility past 1 yr.	8297	0.047	0.023	-0.051	-0.023	-0.000	-0.016	-0.015	-0.032	0.002	-0.031
		((0.211))	(0.026)	(0.059)	(0.051)	(0.034)	(0.049)	(0.052)	(0.036)	(0.037)	(0.051)
			.36	.39	.66	.99	.75	.77	.37	.96	.55
Doctor assisted with delivery past 1 yr.	8299	0.038	0.023	-0.051	-0.023	0.007	-0.029	-0.019	-0.038	0.014	-0.025
		((0.191))	(0.022)	(0.059)	(0.050)	(0.031)	(0.046)	(0.050)	(0.037)	(0.036)	(0.050)
			.31	.38	.64	.82	.53	.70	.31	.71	.61

Table A.7 (cont'd): Effect of different premium & subsidy combinations on midline (18 mos.) health outcomes (intent to treat estimate).

			Free insurance			Sale of insurance + transfer			Sale of insurance		
	N	Control mean (SD)	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value
Doctor or nurse assisted with delivery past 1 yr.	8299	0.043	0.012	-0.052	-0.035	-0.011	-0.023	-0.031	-0.036	-0.004	-0.040
		((0.203))	(0.026)	(0.059)	(0.050)	(0.032)	(0.047)	(0.051)	(0.037)	(0.039)	(0.051)
			.64	.38	.49	.73	.63	.54	.33	.91	.43
Child delivery complications past 1 yr.	8293	0.015	-0.010	-0.021	-0.029	-0.007	-0.020	-0.024	-0.020	-0.007	-0.026
		((0.122))	(0.013)	(0.026)	(0.021)	(0.018)	(0.031)	(0.022)	(0.017)	(0.018)	(0.022)
			.44	.41	.17	.72	.52	.28	.25	.70	.23
Ideal number of children	7881	2.516	-0.133	0.063	-0.076	-0.136	0.167	0.015	0.013	-0.086	-0.064
		((1.215))	(0.159)	(0.318)	(0.295)	(0.278)	(0.385)	(0.294)	(0.278)	(0.424)	(0.299)
			.41	.84	.80	.63	.66	.96	.96	.84	.83
Biomarkers											
Overweight or obese	4853	0.271	-0.034	0.003	-0.031	-0.065	0.073	0.001	-0.113	0.137	0.010
		(0.445)	(0.088)	(0.100)	(0.073)	(0.128)	(0.141)	(0.075)	(0.118)	(0.130)	(0.071)
			.70	.97	.67	.61	.61	.99	.34	.30	.89
Underweight	4853	0.084	0.059	-0.123	-0.051	-0.097	0.057	-0.046	-0.045	-0.005	-0.050
		(0.277)	(0.055)	(0.075)	(0.041)	(0.067)	(0.080)	(0.041)	(0.059)	(0.073)	(0.042)
			.28	.10	.22	.15	.48	.26	.44	.94	.23
Abdominally obese	4723	0.713	-0.108	0.204	0.076	-0.046	0.051	-0.000	-0.052	0.091	0.030
		(0.452)	(0.104)	(0.101)	(0.118)	(0.155)	(0.186)	(0.124)	(0.154)	(0.175)	(0.120)
			.30	.05	.52	.77	.79	.00	.74	.60	.80
Mid-Upper Arm Circumference	4815	27.032	-1.680	0.215	-1.486	-2.213	0.504	-1.760	-1.772	0.086	-1.695
		(3.562)	(0.656)	(1.234)	(0.990)	(1.008)	(1.314)	(0.935)	(1.144)	(1.385)	(0.923)
			.01	.86	.14	.03	.70	.06	.12	.95	.07
Hypertension, grade 1	4878	0.449	-0.073	-0.010	-0.082	-0.092	0.000	-0.092	-0.176	0.102	-0.084
		(0.498)	(0.078)	(0.095)	(0.081)	(0.100)	(0.119)	(0.082)	(0.111)	(0.142)	(0.087)
			.35	.91	.31	.36	.00	.27	.12	.47	.34
Hypertension, grade 2	4878	0.191	-0.083	0.086	-0.005	0.030	-0.031	0.002	-0.078	0.070	-0.015
		(0.393)	(0.068)	(0.072)	(0.077)	(0.090)	(0.112)	(0.078)	(0.085)	(0.106)	(0.077)
			.22	.23	.95	.74	.78	.98	.36	.51	.85
Skinfolds total	4065	26.326	-2.131	2.868	0.450	-1.608	1.477	-0.279	-0.994	1.845	0.666
		(9.464)	(2.100)	(3.953)	(3.374)	(3.565)	(4.701)	(3.297)	(3.824)	(5.551)	(3.425)
			.31	.47	.89	.65	.75	.93	.80	.74	.85
FWER crit. values											
Health value			0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Chronic disease			0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Health-related quality of life, ADLs, and physical health symptoms			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Fertility			0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006

Notes. Table presents (in all panels but the last one) estimates of intent-to-treat effects of access to insurance at different prices and subsidies on specific midline (18 mos.) health outcomes. The outcomes are listed in the first column. The last panel provides critical p-values that control the false discovery rate for different groups of outcomes listed in the first column. Each observation in our regressions is a household. Treatment variables are household assignments: free insurance (A), sale of insurance + cash transfer (B), sale of insurance (C). Estimates are intent-to-treat effects; all models estimated with OLS. Each treatment arm was interacted with the share of the village allocated to A, B, or C (combined). The omitted category is the control group (D). Standard errors were clustered at the village level. The direct effect only includes the coefficient on treatment A, B, or C. The spillover effect is the estimated effect on a treated household of assigning all other sample households to at least some form of access to RSBY insurance. The total effect is constructed as the sum of the direct effect and 0.9*(spillover effect). Mean and standard deviation in the control group are statistics from group D without access to insurance. Abbreviations: SD, standard deviation; SE, standard error; mos, months; yr, year.

Table A.8: Effect of different premium & subsidy combinations on endline (3.5 yrs.) health outcomes (intent to treat estimate).

			Free insurance			Sale of insurance + transfer			Sale of insurance		
	N	Control mean (SD)	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value
					Health value						
		(0.340)	(0.043)	(0.047)	(0.042)	(0.058)	(0.068)	(0.043)	(0.060)	(0.079)	(0.044)
			.67	.77	.89	.65	.88	.69	.62	.65	.95
Good health	9492	0.516	0.014	-0.011	0.005	-0.172	0.225	0.031	0.015	-0.026	-0.008
		(0.500)	(0.077)	(0.089)	(0.073)	(0.098)	(0.110)	(0.074)	(0.097)	(0.108)	(0.074)
			.86	.90	.95	.08	.04	.67	.87	.81	.91
Very good health	9492	0.076	0.027	-0.120	-0.081	-0.061	-0.016	-0.075	-0.047	-0.043	-0.086
		(0.265)	(0.044)	(0.058)	(0.042)	(0.052)	(0.054)	(0.043)	(0.046)	(0.053)	(0.043)
			.54	.04	.05	.24	.77	.08	.30	.41	.04
Poor health	9492	0.102	-0.033	0.036	-0.001	-0.036	0.033	-0.006	-0.037	0.038	-0.003
		(0.303)	(0.048)	(0.048)	(0.043)	(0.061)	(0.063)	(0.044)	(0.062)	(0.063)	(0.043)
			.49	.45	.99	.55	.60	.89	.54	.54	.94
Very poor health	9492	0.021	-0.042	0.006	-0.037	-0.052	0.021	-0.033	-0.033	-0.007	-0.040
		(0.143)	(0.022)	(0.018)	(0.023)	(0.025)	(0.027)	(0.024)	(0.027)	(0.023)	(0.023)
			.05	.75	.11	.04	.44	.16	.22	.75	.08
					Chronic disease						
Told had hypertension	9476	0.233	-0.039	0.013	-0.027	-0.110	0.099	-0.021	-0.169	0.178	-0.008
		(0.423)	(0.057)	(0.060)	(0.053)	(0.076)	(0.080)	(0.055)	(0.083)	(0.085)	(0.056)
			.50	.83	.61	.15	.22	.70	.04	.04	.88
Takes medication for hypertension	9495	0.197	-0.041	0.037	-0.008	-0.062	0.064	-0.004	-0.117	0.141	0.010
		(0.398)	(0.053)	(0.053)	(0.049)	(0.070)	(0.076)	(0.050)	(0.073)	(0.076)	(0.051)
			.44	.49	.87	.38	.40	.93	.11	.06	.84
Told had diabetes	9479	0.121	-0.049	-0.019	-0.066	-0.131	0.082	-0.058	-0.149	0.104	-0.055
		(0.326)	(0.048)	(0.048)	(0.040)	(0.059)	(0.061)	(0.041)	(0.057)	(0.056)	(0.041)
			.30	.70	.10	.03	.18	.16	.009	.06	.18
Takes oral medication for diabetes	9499	0.107	-0.046	-0.003	-0.049	-0.109	0.073	-0.044	-0.126	0.098	-0.037
		(0.310)	(0.048)	(0.046)	(0.036)	(0.055)	(0.059)	(0.037)	(0.052)	(0.054)	(0.036)
			.33	.95	.18	.05	.22	.24	.02	.07	.30
Takes insulin for diabetes	9489	0.024	0.018	-0.007	0.011	0.018	-0.007	0.011	-0.005	0.022	0.014
		(0.152)	(0.019)	(0.019)	(0.015)	(0.026)	(0.029)	(0.015)	(0.025)	(0.026)	(0.015)
			.35	.70	.46	.49	.80	.46	.84	.41	.35
Follows a special diet for diabetes	9495	0.077	-0.035	0.012	-0.024	-0.075	0.064	-0.017	-0.073	0.064	-0.015
		(0.267)	(0.041)	(0.039)	(0.032)	(0.048)	(0.051)	(0.033)	(0.048)	(0.051)	(0.033)
			.40	.76	.47	.12	.21	.61	.13	.21	.65

Notes. Table presents (in all panels but the last one) estimates of intent-to-treat effects of access to insurance at different prices and subsidies on specific endline (3.5 yrs.) health outcomes. The outcomes are listed in the first column. The last panel provides critical p-values that control the false discovery rate for different groups of outcomes listed in the first column. Each observation in our regressions is a household. Treatment variables are household assignments: free insurance (A), sale of insurance + cash transfer (B), sale of insurance (C). Estimates are intent-to-treat effects; all models estimated with OLS. Each treatment arm was interacted with the share of the village allocated to A, B, or C (combined). The omitted category is the control group (D). Standard errors were clustered at the village level. The direct effect only includes the coefficient on treatment A, B, or C. The spillover effect is the estimated effect on a treated household of assigning all other sample households to at least some form of access to RSBY insurance. The total effect is constructed as the sum of the direct effect and 0.9*(spillover effect). Mean and standard deviation in the control group are statistics from group D without access to insurance. Abbreviations: SD, standard deviation; SE, standard error; mos, months; yr, year.

Table A.8 (cont'd): Effect of different premium & subsidy combinations on endline (3.5 yrs.) health outcomes (intent to treat estimate).

			Free insurance			Sale of insurance + transfer			Sale of insurance		
	N	Control mean (SD)	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value
Told had cancer	9470	0.004	-0.005	0.012	0.006	0.006	0.001	0.007	0.001	0.001	0.002
		(0.065)	(0.008)	(0.006)	(0.006)	(0.014)	(0.018)	(0.007)	(0.008)	(0.007)	(0.006)
			.51	.06	.35	.68	.96	.32	.93	.84	.73
Treated for cancer past 1 yr.	9496	0.002	0.000	0.000	0.000	-0.007	0.009	0.001	-0.002	0.002	0.000
		(0.046)	(0.006)	(0.006)	(0.004)	(0.005)	(0.005)	(0.004)	(0.006)	(0.006)	(0.004)
			.99	.94	.91	.14	.08	.87	.75	.69	.97
Told had lung disease	9479	0.060	-0.035	0.021	-0.016	-0.004	-0.017	-0.019	-0.038	0.017	-0.022
		(0.238)	(0.030)	(0.029)	(0.024)	(0.037)	(0.045)	(0.025)	(0.039)	(0.037)	(0.024)
			.25	.46	.50	.91	.71	.45	.34	.64	.35
Told had heart disease	9473	0.047	0.018	-0.048	-0.026	-0.069	0.049	-0.025	-0.072	0.050	-0.027
		(0.211)	(0.035)	(0.033)	(0.025)	(0.033)	(0.037)	(0.025)	(0.036)	(0.035)	(0.025)
			.62	.15	.30	.04	.19	.32	.05	.16	.28
Told had stroke	9446	0.006	-0.011	0.005	-0.006	-0.022	0.016	-0.008	0.002	-0.017	-0.013
		(0.080)	(0.013)	(0.011)	(0.009)	(0.012)	(0.011)	(0.009)	(0.015)	(0.014)	(0.009)
			.41	.63	.48	.06	.15	.36	.88	.21	.13
Told had arthritis or rheumatism	9482	0.193	-0.064	0.118	0.043	0.038	-0.013	0.026	0.031	0.002	0.033
		(0.395)	(0.062)	(0.063)	(0.055)	(0.082)	(0.096)	(0.054)	(0.076)	(0.090)	(0.056)
			.31	.06	.44	.64	.89	.63	.68	.99	.56
Had surgery due to arthritis past 1 yr.	9497	0.042	0.024	0.010	0.033	0.005	0.021	0.024	0.027	0.007	0.033
		(0.200)	(0.028)	(0.029)	(0.022)	(0.032)	(0.035)	(0.023)	(0.034)	(0.041)	(0.024)
			.38	.74	.14	.87	.55	.29	.44	.86	.16
Diagnosed with high cholesterol	9449	0.026	0.012	-0.003	0.010	0.003	0.007	0.010	0.015	-0.005	0.010
		(0.160)	(0.021)	(0.020)	(0.016)	(0.024)	(0.022)	(0.016)	(0.024)	(0.022)	(0.016)
			.56	.89	.55	.89	.75	.55	.54	.82	.53
Takes medication to lower cholesterol	9496	0.013	-0.002	-0.004	-0.005	-0.017	0.015	-0.003	-0.006	0.000	-0.006
		(0.115)	(0.014)	(0.009)	(0.011)	(0.014)	(0.011)	(0.012)	(0.014)	(0.010)	(0.012)
			.88	.70	.65	.23	.15	.79	.66	.00	.61
Has eyesight problems	9480	0.329	-0.025	0.145	0.106	-0.031	0.168	0.120	0.017	0.099	0.106
		(0.470)	(0.067)	(0.069)	(0.064)	(0.088)	(0.093)	(0.064)	(0.095)	(0.096)	(0.065)
			.71	.04	.10	.72	.07	.06	.86	.30	.11
Had surgery due to eye problems past 1 yr.	9497	0.074	-0.042	0.091	0.040	0.020	0.014	0.032	-0.020	0.061	0.035
		(0.261)	(0.039)	(0.036)	(0.035)	(0.054)	(0.056)	(0.036)	(0.055)	(0.074)	(0.040)
			.28	.01	.26	.72	.80	.36	.71	.41	.38
Health-related quality of life, ADLs, and physical health symptoms											
Number of functional limitations	9413	0.674	-0.170	0.034	-0.139	-0.389	0.257	-0.158	-0.378	0.295	-0.112
		(1.523)	(0.192)	(0.247)	(0.224)	(0.271)	(0.323)	(0.230)	(0.281)	(0.333)	(0.230)
			.38	.89	.53	.15	.43	.49	.18	.38	.63
SF-8, PCS	9510	2.260	-0.120	0.273	0.125	-0.066	0.212	0.125	-0.206	0.425	0.176
		(0.930)	(0.172)	(0.151)	(0.140)	(0.180)	(0.200)	(0.141)	(0.176)	(0.197)	(0.143)
			.48	.07	.37	.71	.29	.38	.24	.03	.22
SF-8, MCS	9510	1.491	-0.012	0.042	0.025	0.085	-0.121	-0.024	-0.287	0.377	0.052
		(0.789)	(0.107)	(0.140)	(0.129)	(0.153)	(0.176)	(0.131)	(0.168)	(0.190)	(0.134)
			.91	.77	.84	.58	.49	.85	.09	.05	.70
Had stomach pain past 4 wks.	8999	0.061	0.065	-0.034	0.035	0.005	0.037	0.039	-0.014	0.070	0.049
		(0.240)	(0.039)	(0.045)	(0.025)	(0.041)	(0.048)	(0.026)	(0.047)	(0.054)	(0.027)
			.10	.45	.17	.90	.43	.14	.76	.20	.07

Table A.8 (cont'd): Effect of different premium & subsidy combinations on endline (3.5 yrs.) health outcomes (intent to treat estimate).

			Free insurance			Sale of insurance + transfer			Sale of insurance		
	N	Control mean (SD)	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value
Had back pain past 4 wks.	8999	0.254	0.079	0.044	0.119	0.052	0.060	0.106	-0.068	0.219	0.129
		(0.435)	(0.060)	(0.083)	(0.069)	(0.085)	(0.099)	(0.070)	(0.079)	(0.096)	(0.071)
			.19	.59	.09	.54	.54	.13	.38	.02	.07
Had chest pain past 4 wks.	8999	0.074	0.056	-0.020	0.038	0.011	0.029	0.037	-0.016	0.069	0.045
		(0.262)	(0.042)	(0.039)	(0.031)	(0.047)	(0.046)	(0.031)	(0.046)	(0.044)	(0.031)
			.18	.61	.22	.81	.53	.23	.72	.12	.15
Had joint pain past 4 wks.	8999	0.578	-0.065	0.108	0.032	-0.004	0.049	0.040	-0.107	0.202	0.075
		(0.494)	(0.076)	(0.078)	(0.076)	(0.090)	(0.112)	(0.077)	(0.099)	(0.115)	(0.077)
			.39	.17	.68	.96	.66	.60	.28	.08	.33
Had headaches past 4 wks.	8999	0.194	0.007	0.132	0.126	0.099	0.059	0.152	0.040	0.101	0.131
		(0.396)	(0.053)	(0.057)	(0.047)	(0.079)	(0.090)	(0.048)	(0.071)	(0.083)	(0.050)
			.90	.02	.008	.21	.51	.002	.57	.23	.009
Had menstrual cramps past 4 wks.	8999	0.038	0.021	-0.001	0.020	0.025	-0.009	0.017	0.022	0.010	0.031
		(0.190)	(0.023)	(0.029)	(0.021)	(0.030)	(0.036)	(0.021)	(0.036)	(0.043)	(0.021)
			.36	.97	.34	.41	.81	.41	.55	.81	.15
Had pain in no specific place past 4 wks.	8999	0.044	0.016	-0.022	-0.004	-0.015	0.008	-0.008	-0.073	0.071	-0.008
		(0.205)	(0.034)	(0.035)	(0.030)	(0.039)	(0.043)	(0.030)	(0.037)	(0.038)	(0.030)
			.65	.52	.89	.70	.86	.79	.05	.06	.78
Fainted past 4 wks.	9451	0.012	0.010	-0.004	0.007	0.021	-0.015	0.007	0.011	-0.006	0.005
		(0.110)	(0.016)	(0.014)	(0.012)	(0.020)	(0.025)	(0.012)	(0.021)	(0.021)	(0.011)
			.51	.80	.53	.30	.54	.56	.60	.76	.65
Felt dizzy past 4 wks.	9451	0.133	0.058	-0.012	0.047	0.032	0.036	0.064	-0.058	0.159	0.085
		(0.339)	(0.047)	(0.049)	(0.040)	(0.057)	(0.064)	(0.040)	(0.057)	(0.067)	(0.042)
			.22	.81	.23	.57	.58	.11	.30	.02	.04
Shortness of breath past 4 wks.	9451	0.049	0.036	0.011	0.045	0.038	0.004	0.042	-0.029	0.094	0.055
		(0.216)	(0.029)	(0.028)	(0.025)	(0.040)	(0.041)	(0.025)	(0.037)	(0.039)	(0.026)
			.22	.70	.07	.34	.93	.10	.43	.02	.03
Heart pounded past 4 wks.	9451	0.064	0.018	-0.023	-0.003	-0.025	0.027	-0.001	-0.060	0.076	0.009
		(0.245)	(0.034)	(0.043)	(0.035)	(0.046)	(0.052)	(0.036)	(0.053)	(0.057)	(0.037)
			.60	.59	.93	.59	.60	.99	.26	.18	.81
Mental and emotional health and cognitive function											
GHQ-12, Likert scoring	9510	9.329	0.385	0.165	0.533	-0.428	0.711	0.212	-2.151	3.292	0.812
		(6.728)	(0.895)	(1.270)	(1.061)	(1.219)	(1.480)	(1.072)	(1.144)	(1.467)	(1.101)
			.67	.90	.62	.73	.63	.84	.06	.03	.46
GHQ-12, binary scoring	9510	2.331	0.679	-0.258	0.447	-0.195	0.512	0.265	-0.828	1.573	0.588
		(3.297)	(0.467)	(0.714)	(0.557)	(0.633)	(0.771)	(0.562)	(0.603)	(0.844)	(0.589)
			.15	.72	.42	.76	.51	.64	.17	.06	.32
PSS-10 score	9510	17.785	0.036	0.128	0.151	0.127	-0.225	-0.076	-1.031	1.245	0.089
		(3.494)	(0.458)	(0.580)	(0.511)	(0.722)	(0.913)	(0.523)	(0.695)	(0.809)	(0.527)
			.94	.83	.77	.86	.81	.88	.14	.12	.87
Fertility											
Childbirth/stillbirth past 6 mos.	9493	0.046	0.020	0.002	0.022	-0.016	0.050	0.029	0.033	-0.013	0.021
		(0.210)	(0.031)	(0.032)	(0.020)	(0.038)	(0.041)	(0.020)	(0.034)	(0.040)	(0.021)
			.53	.95	.28	.67	.22	.16	.34	.75	.31

Table A.8 (cont'd): Effect of different premium & subsidy combinations on endline (3.5 yrs.) health outcomes (intent to treat estimate).

			Free insurance			Sale of insurance + transfer			Sale of insurance		
	N	Control mean (SD)	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value
Childbirth/stillbirth past 3 yrs.	9510	0.192	0.032	-0.015	0.018	-0.095	0.120	0.013	0.069	-0.075	0.002
		(0.394)	(0.058)	(0.064)	(0.048)	(0.072)	(0.078)	(0.048)	(0.070)	(0.086)	(0.050)
			.58	.81	.70	.18	.12	.80	.33	.39	.97
Number of births in hhld. past 3 years	9510	0.315	0.124	-0.111	0.024	0.063	-0.094	-0.022	0.160	-0.161	0.016
		(0.920)	(0.133)	(0.237)	(0.139)	(0.159)	(0.235)	(0.136)	(0.162)	(0.273)	(0.152)
			.35	.64	.86	.69	.69	.87	.32	.56	.92
Number of live births in hhld. past 3 years	9510	0.205	0.049	-0.027	0.025	-0.153	0.197	0.024	0.060	-0.055	0.010
		(0.487)	(0.069)	(0.079)	(0.058)	(0.083)	(0.088)	(0.059)	(0.086)	(0.092)	(0.059)
			.48	.73	.67	.06	.03	.68	.48	.55	.86
Number of still births in hhld. past 3 years	9510	0.110	0.075	-0.084	-0.001	0.216	-0.291	-0.046	0.100	-0.106	0.005
		(0.777)	(0.102)	(0.210)	(0.127)	(0.140)	(0.223)	(0.127)	(0.133)	(0.237)	(0.140)
			.46	.69	.00	.12	.19	.72	.45	.66	.97
Delivery in hospital past 3 yrs	9510	0.141	-0.008	-0.034	-0.039	-0.078	0.042	-0.040	-0.027	-0.021	-0.046
		(0.349)	(0.052)	(0.049)	(0.045)	(0.065)	(0.067)	(0.045)	(0.062)	(0.066)	(0.046)
			.87	.49	.39	.23	.54	.37	.66	.75	.32
Delivery in facility past 3 yrs	9510	0.152	-0.008	-0.031	-0.036	-0.128	0.109	-0.029	-0.008	-0.047	-0.050
		(0.359)	(0.052)	(0.052)	(0.045)	(0.067)	(0.069)	(0.046)	(0.063)	(0.071)	(0.047)
			.88	.55	.43	.06	.11	.53	.90	.51	.28
Doctor assisted with birth past 3 yrs.	9510	0.156	-0.001	0.011	0.009	-0.101	0.125	0.011	0.012	-0.020	-0.007
		(0.363)	(0.052)	(0.053)	(0.042)	(0.067)	(0.069)	(0.043)	(0.055)	(0.067)	(0.044)
			.99	.84	.83	.13	.07	.79	.84	.76	.88
Doctor or nurse assisted with birth past 3 yrs.	9510	0.164	0.007	-0.003	0.005	-0.123	0.142	0.005	0.031	-0.048	-0.012
		(0.371)	(0.056)	(0.056)	(0.044)	(0.067)	(0.069)	(0.045)	(0.061)	(0.072)	(0.046)
			.90	.96	.91	.07	.04	.91	.61	.51	.79
Delivery complications past 3 yrs.	9510	0.039	-0.005	0.018	0.011	0.047	-0.047	0.005	-0.004	0.023	0.016
		(0.194)	(0.027)	(0.024)	(0.023)	(0.037)	(0.038)	(0.023)	(0.034)	(0.032)	(0.023)
			.86	.46	.64	.21	.21	.84	.90	.48	.50
Mortality											
Death in hhld. past 3 yrs	9482	0.121	0.010	0.043	0.049	-0.018	0.067	0.043	0.090	-0.068	0.029
		(0.327)	(0.049)	(0.046)	(0.029)	(0.051)	(0.057)	(0.031)	(0.062)	(0.067)	(0.030)
			.84	.34	.09	.72	.24	.17	.15	.31	.35
Deaths in the HH past 3 yrs	9474	0.125	0.022	0.049	0.066	0.004	0.063	0.060	0.111	-0.067	0.050
		(0.345)	(0.051)	(0.048)	(0.030)	(0.052)	(0.059)	(0.032)	(0.068)	(0.075)	(0.032)
			.67	.31	.03	.94	.28	.06	.10	.37	.12
Sickness-related death in hhld. past 3 yrs	9482	0.079	-0.009	0.049	0.035	-0.013	0.055	0.037	0.102	-0.097	0.014
		(0.270)	(0.042)	(0.036)	(0.025)	(0.043)	(0.046)	(0.026)	(0.052)	(0.055)	(0.026)
			.84	.18	.16	.77	.23	.16	.05	.08	.59
Number of sickness-related deaths in hhld.	9482	0.081	-0.005	0.053	0.042	-0.008	0.055	0.042	0.104	-0.090	0.023
		(0.281)	(0.044)	(0.038)	(0.026)	(0.044)	(0.046)	(0.027)	(0.055)	(0.059)	(0.027)
			.90	.16	.10	.86	.24	.12	.06	.13	.39

Table A.8 (cont'd): Effect of different premium & subsidy combinations on endline (3.5 yrs) health outcomes (intent to treat estimate).

			Free insurance			Sale of insurance + transfer			Sale of insurance		
	N	Control mean (SD)	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value	Direct Coefficient (SE) P-value	Spillover Coefficient (SE) P-value	Total Coefficient (SE) P-value
FWER crit. values											
Health value			0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Chronic disease			0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Health-related quality of life, ADLs, and physical health symptoms			0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Mental and emotional health and cognitive function			0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017
Fertility			0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Mortality			0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013

Notes. Table presents (in all panels but the last one) estimates of intent-to-treat effects of access to insurance at different prices and subsidies on specific endline (3.5 yrs.) health outcomes. The outcomes are listed in the first column. The last panel provides critical p-values that control the false discovery rate for different groups of outcomes listed in the first column. Each observation in our regressions is a household. Treatment variables are household assignments: free insurance (A), sale of insurance + cash transfer (B), sale of insurance (C). Estimates are intent-to-treat effects; all models estimated with OLS. Each treatment arm was interacted with the share of the village allocated to A, B, or C (combined). The omitted category is the control group (D). Standard errors were clustered at the village level. The direct effect only includes the coefficient on treatment A, B, or C. The spillover effect is the estimated effect on a treated household of assigning all other sample households to at least some form of access to RSBY insurance. The total effect is constructed as the sum of the direct effect and 0.9*(spillover effect). Mean and standard deviation in the control group are statistics from group D without access to insurance. Abbreviations: SD, standard deviation; SE, standard error; mos, months; yr, year.

Table A.9: Effect of insurance enrollment on midline (18 mos.) health outcomes (complier average treatment effect estimates).

			Direct	Spillover	Total
		Control mean (SD)	Coefficient (SE) P-value	Coefficient (SE) P-value	Coefficient (SE) P-value
		Health value			
Good health	18983	0.657	0.084	-0.165	-0.046
		(0.475)	(0.049)	(0.092)	(0.062)
			.09	.07	.46
Very good health	18983	0.155	0.100	-0.169	-0.034
		(0.362)	(0.048)	(0.080)	(0.060)
			.04	.04	.58
Poor or very poor health	18983	0.053	-0.013	-0.028	-0.035
		(0.225)	(0.029)	(0.036)	(0.031)
			.65	.44	.25
Very poor health	18983	0.008	0.003	-0.014	-0.008
		(0.088)	(0.010)	(0.013)	(0.006)
			.76	.28	.18
		Chronic disease			
Told had hypertension	18939	0.189	-0.028	-0.029	-0.051
		(0.392)	(0.047)	(0.062)	(0.036)
			.56	.64	.16
Takes medication for hypertension	18960	0.130	-0.059	0.026	-0.039
		(0.336)	(0.037)	(0.052)	(0.032)
			.11	.61	.22
Told had diabetes	18913	0.069	-0.013	0.020	0.003
		(0.253)	(0.026)	(0.032)	(0.021)
			.62	.53	.90
Takes oral medication for diabetes	18948	0.051	-0.010	0.018	0.004
		(0.220)	(0.022)	(0.027)	(0.018)
			.64	.51	.83
Takes insulin for diabetes	18952	0.019	-0.003	0.026	0.017
		(0.135)	(0.012)	(0.014)	(0.010)
			.80	.06	.08
Is on a special diet for diabetes	18962	0.048	-0.010	0.023	0.008
		(0.214)	(0.020)	(0.025)	(0.018)
			.62	.35	.64
Told had cancer	18946	0.005	-0.007	0.013	0.003
		(0.071)	(0.006)	(0.008)	(0.004)
			.27	.12	.38
Received cancer treatment past 1 yr.	18998	0.003	0.002	-0.004	-0.001
		(0.051)	(0.005)	(0.005)	(0.003)
			.64	.49	.82
Told had lung disease	18907	0.035	-0.003	-0.008	-0.009
		(0.185)	(0.023)	(0.025)	(0.015)
			.91	.74	.54
Told had heart disease	18868	0.022	0.015	-0.003	0.013
		(0.147)	(0.016)	(0.020)	(0.010)
			.35	.88	.20
Told had stroke	18826	0.008	0.005	-0.002	0.003
		(0.091)	(0.010)	(0.012)	(0.006)
			.61	.85	.56
Told had arthritis	18894	0.177	-0.102	0.122	-0.006
		(0.381)	(0.048)	(0.082)	(0.055)
			.03	.14	.91

Notes. Table presents (in all panels but the last one) estimates of complier average treatment effects of enrollment in insurance at different prices and subsidies on specific midline (18 mos.) health outcomes. The outcomes are listed in the first column. The last panel provides critical p-values that control the false discovery rate for different groups of outcomes listed in the first column. Each observation in our regressions is a household. Treatment variables are enrollment in insurance, the share of sample households in the village that enrolled in insurance, and the interaction of these variables. Enrollment is instrumented with household assignments: free insurance (A), sale of insurance + cash transfer (B), sale of insurance (C). Share enrolled is instrumented with the share of study households assigned to arms (A)-(C) in the same village. The interaction is instrumented with the interaction of household assignment and share of households assigned to (A)-(C). Standard errors were clustered at the village level. The direct effect only includes the coefficient on enrollment. The spillover effect is the estimated effect on an enrolled household of enrolling all other sample households in RSBY insurance. The total effect is constructed as the sum of the direct effect and 0.787*(spillover effect), since 78.7% is the maximum share of households that enroll in insurance in any arm. Mean and standard deviation in the control group are statistics from group D without access to insurance. Abbreviations: SD, standard deviation; SE, standard error; mos, months; yr, year.

Table A.9 (cont'd): Effect of insurance enrollment on midline (18 mos.) health outcomes (complier average treatment effect estimates).

			Direct	Spillover	Total
		Control mean (SD)	Coefficient (SE) P-value	Coefficient (SE) P-value	Coefficient (SE) P-value
Had surgery for arthritis past 1 yr.	18933	0.020	-0.024	0.026	-0.004
		(0.140)	(0.015)	(0.020)	(0.012)
			.12	.19	.76
Diagnose with high cholesterol	18871	0.022	0.013	-0.003	0.011
		(0.145)	(0.014)	(0.022)	(0.014)
			.34	.89	.45
Takes medication for high cholesterol	19032	0.016	0.008	0.003	0.010
		(0.124)	(0.015)	(0.018)	(0.011)
			.58	.88	.34
Health-related quality of life, ADLs, and physical health symptoms					
Experiences chest pain	18888	0.078	-0.023	0.005	-0.019
		(0.268)	(0.029)	(0.048)	(0.034)
			.42	.91	.57
Fertility					
Currently pregnant	9262	0.058	0.036	-0.085	-0.030
		(0.233)	(0.037)	(0.065)	(0.057)
			.33	.20	.60
Childbirth past 1 yr.	8299	0.040	0.010	-0.044	-0.025
		(0.195)	(0.029)	(0.050)	(0.046)
			.74	.38	.59
Delivered in govt. hosp. past 1 yr.	8297	0.013	0.006	-0.010	-0.003
		(0.115)	(0.016)	(0.018)	(0.011)
			.73	.56	.82
Delivered in facility past 1 yr.	8297	0.038	0.005	-0.035	-0.022
		(0.191)	(0.028)	(0.048)	(0.046)
			.85	.47	.63
Doctor assisted with delivery past 1 yr.	8299	0.031	0.008	-0.040	-0.023
		(0.174)	(0.026)	(0.048)	(0.044)
			.76	.41	.60
Doctor or nurse assisted with delivery past 1 yr.	8299	0.036	-0.004	-0.035	-0.032
		(0.187)	(0.028)	(0.049)	(0.045)
			.88	.48	.48
Child delivery complications past 1 yr.	8293	0.011	-0.013	-0.020	-0.029
		(0.105)	(0.016)	(0.026)	(0.020)
			.41	.44	.15
Ideal number of children	7881	2.479	-0.005	-0.060	-0.052
		(1.235)	(0.207)	(0.393)	(0.291)
			.98	.88	.86
Biomarkers					
Overweight or obese	4853	0.282	0.014	0.031	0.038
		(0.450)	(0.096)	(0.134)	(0.073)
			.89	.82	.60
Underweight	4853	0.088	-0.001	-0.042	-0.034
		(0.283)	(0.050)	(0.082)	(0.043)
			.98	.61	.43
Abdominally obese	4723	0.700	-0.158	0.233	0.025
		(0.458)	(0.134)	(0.180)	(0.126)
			.24	.20	.84
Mid-Upper Arm Circumference	4815	26.883	-2.363	1.363	-1.291
		(3.507)	(0.889)	(1.676)	(0.995)
			.008	.42	.19
Hypertension, grade 1	4878	0.449	-0.113	0.067	-0.060
		(0.498)	(0.087)	(0.120)	(0.078)
			.19	.58	.44
Hypertension, grade 2	4878	0.201	-0.075	0.090	-0.005
		(0.401)	(0.067)	(0.092)	(0.075)
			.26	.33	.95
Skinfolds total	4065	26.851	-0.884	2.357	0.972
		(9.859)	(2.627)	(5.267)	(3.504)
			.74	.65	.78
FWER crit. values					
Health value			0.013	0.013	0.013
Chronic disease			0.003	0.003	0.003
Health-related quality of life, ADLs, and physical health symptoms			0.05	0.05	0.05
Fertility			0.006	0.006	0.006

Notes. See Table A.9

Table A.10: Effect of insurance enrollment on endline (3.5 yrs.) health outcomes (complier average treatment effect estimates).

			Direct	Spillover	Total
		Control mean (SD)	Coefficient (SE) P-value	Coefficient (SE) P-value	Coefficient (SE) P-value
		Health value			
Good health	9492	0.516	0.000	0.041	0.033
		(0.500)	(0.080)	(0.106)	(0.068)
			.00	.70	.63
Very good health	9492	0.068	-0.023	-0.069	-0.078
		(0.252)	(0.041)	(0.052)	(0.038)
			.57	.19	.04
Poor health	9492	0.104	-0.039	0.061	0.009
		(0.305)	(0.051)	(0.056)	(0.038)
			.44	.28	.81
Very poor health	9492	0.019	-0.050	0.032	-0.025
		(0.136)	(0.025)	(0.024)	(0.020)
			.04	.18	.21
		Chronic disease			
Told had hypertension	9476	0.235	-0.074	0.089	-0.004
		(0.424)	(0.063)	(0.068)	(0.046)
			.24	.19	.94
Takes medication for hypertension	9495	0.196	-0.066	0.086	0.002
		(0.397)	(0.058)	(0.059)	(0.042)
			.26	.15	.97
Told had diabetes	9479	0.119	-0.077	0.063	-0.027
		(0.324)	(0.049)	(0.051)	(0.034)
			.11	.22	.43
Takes oral medication for diabetes	9499	0.106	-0.071	0.067	-0.018
		(0.308)	(0.047)	(0.051)	(0.031)
			.13	.18	.57
Takes insulin for diabetes	9489	0.027	0.020	-0.013	0.009
		(0.161)	(0.020)	(0.022)	(0.013)
			.33	.54	.48
Follows a special diet for diabetes	9495	0.078	-0.044	0.053	-0.003
		(0.268)	(0.042)	(0.044)	(0.029)
			.29	.23	.93
Told had cancer	9470	0.005	-0.001	0.008	0.006
		(0.068)	(0.008)	(0.009)	(0.005)
			.93	.36	.29
Treated for cancer past 1 yr.	9496	0.002	-0.003	0.005	0.001
		(0.048)	(0.006)	(0.006)	(0.003)
			.58	.36	.80
Told had lung disease	9479	0.055	-0.049	0.046	-0.012
		(0.229)	(0.031)	(0.036)	(0.021)
			.12	.20	.55
Told had heart disease	9473	0.043	-0.028	0.017	-0.015
		(0.202)	(0.034)	(0.039)	(0.021)
			.41	.67	.47
Told had stroke	9446	0.006	-0.012	0.010	-0.004
		(0.077)	(0.013)	(0.012)	(0.007)
			.34	.40	.54
Told had arthritis or rheumatism	9482	0.199	-0.052	0.116	0.040
		(0.399)	(0.064)	(0.086)	(0.054)
			.42	.17	.46
Had surgery due to arthritis past 1 yr.	9497	0.042	0.019	0.003	0.022
		(0.201)	(0.029)	(0.035)	(0.022)
			.50	.93	.32

Notes. Table presents (in all panels but the last one) estimates of complier average treatment effects of enrollment in insurance at different prices and subsidies on specific mendline (3.5 yrs.) health outcomes. The outcomes are listed in the first column. The last panel provides critical p-values that control the false discovery rate for different groups of outcomes listed in the first column. Each observation in our regressions is a household. Treatment variables are enrollment in insurance, the share of sample households in the village that enrolled in insurance, and the interaction of these variables. Enrollment is instrumented with household assignments: free insurance (A), sale of insurance + cash transfer (B), sale of insurance (C). Share enrolled is instrumented with the share of study households assigned to arms (A)-(C) in the same village. The interaction is instrumented with the interaction of household assignment and share of households assigned to (A)-(C). Standard errors were clustered at the village level. The direct effect only includes the coefficient on enrollment. The spillover effect is the estimated effect on an enrolled household of enrolling all other sample households in RSBY insurance. The total effect is constructed as the sum of the direct effect and 0.787*(spillover effect), since 78.7% is the maximum share of households that enroll in insurance in any arm. Mean and standard deviation in the control group are statistics from group D without access to insurance. Abbreviations: SD, standard deviation; SE, standard error; mos, months; yr, year.

Table A.10 (cont'd): Effect of insurance enrollment on endline (3.5 yrs.) health outcomes (complier average treatment effect estimates).

			Direct	Spillover	Total
		Control mean (SD)	Coefficient (SE) P-value	Coefficient (SE) P-value	Coefficient (SE) P-value
Diagnosed with high cholesterol	9449	0.022	0.004	-0.007	-0.002
		(0.147)	(0.022)	(0.023)	(0.014)
			.87	.77	.90
Takes medication to lower cholesterol	9496	0.010	-0.014	0.006	-0.009
		(0.097)	(0.015)	(0.012)	(0.009)
			.37	.62	.31
Has eyesight problems	9480	0.324	0.011	0.115	0.101
		(0.468)	(0.075)	(0.082)	(0.055)
			.89	.16	.07
Had surgery due to eye problems past 1 yr.	9497	0.080	-0.012	0.065	0.039
		(0.272)	(0.045)	(0.051)	(0.033)
			.78	.20	.23
Health-related quality of life, ADLs, and physical health symptoms					
Number of functional limitations	9413	0.681	-0.241	0.266	-0.032
		(1.528)	(0.207)	(0.268)	(0.203)
			.24	.32	.88
SF-8, PCS	9510	2.250	-0.068	0.291	0.161
		(0.899)	(0.171)	(0.186)	(0.124)
			.69	.12	.19
SF-8, MCS	9510	1.508	-0.027	0.079	0.035
		(0.789)	(0.121)	(0.153)	(0.116)
			.82	.61	.76
Had stomach pain past 4 wks.	8999	0.071	0.052	-0.028	0.031
		(0.256)	(0.038)	(0.051)	(0.024)
			.16	.59	.21
Had back pain past 4 wks.	8999	0.264	0.074	0.047	0.111
		(0.441)	(0.064)	(0.090)	(0.063)
			.25	.61	.08
Had chest pain past 4 wks.	8999	0.075	0.038	-0.009	0.032
		(0.264)	(0.043)	(0.046)	(0.026)
			.37	.85	.22
Had joint pain past 4 wks.	8999	0.586	-0.031	0.095	0.044
		(0.493)	(0.077)	(0.098)	(0.070)
			.68	.33	.53
Had headaches past 4 wks.	8999	0.202	0.056	0.065	0.108
		(0.401)	(0.060)	(0.076)	(0.044)
			.34	.39	.01
Had menstrual cramps past 4 wks.	8999	0.044	0.035	-0.030	0.011
		(0.206)	(0.024)	(0.033)	(0.020)
			.14	.36	.58
Had pain in no specific place past 4 wks.	8999	0.041	-0.006	0.019	0.009
		(0.198)	(0.035)	(0.039)	(0.025)
			.86	.63	.73
Fainted past 4 wks.	9451	0.012	0.014	-0.012	0.004
		(0.108)	(0.016)	(0.018)	(0.010)
			.38	.49	.67
Felt dizzy past 4 wks.	9451	0.132	0.082	-0.048	0.044
		(0.338)	(0.047)	(0.057)	(0.036)
			.08	.40	.22
Shortness of breath past 4 wks.	9451	0.056	0.035	0.011	0.044
		(0.230)	(0.032)	(0.034)	(0.022)
			.28	.74	.05
Heart pounded past 4 wks.	9451	0.071	0.011	-0.003	0.009
		(0.256)	(0.035)	(0.045)	(0.031)
			.75	.95	.77
Mental and emotional health and cognitive function					
GHQ-12, Likert scoring	9510	9.259	0.091	0.863	0.771
		(6.821)	(0.926)	(1.348)	(0.990)
			.92	.52	.44
GHQ-12, binary scoring	9510	2.451	0.424	0.065	0.476
		(3.323)	(0.482)	(0.739)	(0.524)
			.38	.93	.36
PSS-10 score	9510	17.842	-0.162	0.648	0.348
		(3.502)	(0.515)	(0.751)	(0.481)
			.75	.39	.47

Notes. See Table A.10

Table A.10 (cont'd): Effect of insurance enrollment on endline (3.5 yrs.) health outcomes (complier average treatment effect estimates).

			Direct	Spillover	Total
		Control mean (SD)	Coefficient (SE) P-value	Coefficient (SE) P-value	Coefficient (SE) P-value
		Fertility			
Childbirth/stillbirth past 6 mos.	9493	0.045	0.009	0.010	0.017
		(0.207)	(0.029)	(0.034)	(0.018)
			.74	.78	.35
Childbirth/stillbirth past 3 yrs.	9510	0.187	-0.005	0.003	-0.002
		(0.390)	(0.059)	(0.073)	(0.045)
			.93	.96	.96
Number of births in hhld. past 3 years	9510	0.310	0.097	-0.199	-0.059
		(0.927)	(0.133)	(0.273)	(0.148)
			.46	.47	.69
Number of live births in hhld. past 3 years	9510	0.202	-0.006	0.020	0.010
		(0.491)	(0.067)	(0.079)	(0.051)
			.93	.80	.84
Number of still births in hhld. past 3 years	9510	0.109	0.103	-0.219	-0.069
		(0.778)	(0.105)	(0.242)	(0.136)
			.33	.37	.61
Delivery in hospital past 3 yrs	9510	0.136	-0.039	-0.007	-0.045
		(0.343)	(0.054)	(0.055)	(0.039)
			.46	.90	.25
Delivery in facility past 3 yrs	9510	0.149	-0.054	0.026	-0.033
		(0.356)	(0.053)	(0.055)	(0.040)
			.31	.63	.40
Doctor assisted with birth past 3 yrs.	9510	0.152	-0.038	0.049	0.001
		(0.359)	(0.052)	(0.058)	(0.037)
			.47	.39	.98
Doctor or nurse assisted with birth past 3 yrs.	9510	0.161	-0.036	0.043	-0.003
		(0.368)	(0.054)	(0.059)	(0.039)
			.51	.47	.95
Delivery complications past 3 yrs.	9510	0.038	0.011	-0.015	-0.001
		(0.192)	(0.029)	(0.030)	(0.019)
			.71	.62	.96
		Mortality			
Death in hhld. past 3 yrs	9482	0.127	-0.005	0.029	0.018
		(0.333)	(0.047)	(0.053)	(0.026)
			.92	.58	.49
Deaths in the HH past 3 yrs	9474	0.133	0.018	0.016	0.031
		(0.362)	(0.050)	(0.057)	(0.028)
			.72	.78	.26
Sickness-related death in hhld. past 3 yrs	9482	0.080	-0.018	0.040	0.013
		(0.271)	(0.041)	(0.044)	(0.022)
			.66	.37	.54
Number of sickness-related deaths in hhld.	9482	0.084	-0.012	0.040	0.019
		(0.290)	(0.043)	(0.046)	(0.022)
			.77	.38	.39
		FWER crit. values			
Health value			0.01	0.01	0.01
Chronic disease			0.003	0.003	0.003
Health-related quality of life, ADLs, and physical health symptoms			0.004	0.004	0.004
Mental and emotional health and cognitive function			0.017	0.017	0.017
Fertility			0.005	0.005	0.005
Mortality			0.013	0.013	0.013

Notes. See Table A.10

Table A.11: Number of significant health outcomes per category, without multiple testing adjustments.

	18 months (midline)				3.5 years (endline)			
	ITT			CATE	ITT			CATE
	(A) Free insurance	(B) Sale of insurance + transfer	(C) Sale of insurance	Enrollment	(A) Free insurance	(B) Sale of insurance + transfer	(C) Sale of insurance	Enrollment
Self-reported health								
Total outcomes	2	2	2	2	3	3	3	3
Significant direct effect	0	0	0	1	0	1	0	1
Significant spillover effect	0	0	0	1	1	0	0	0
Significant total	0	0	0	0	0	0	1	1
Chronic disease								
Total outcomes	15	15	15	15	17	17	17	17
Significant direct effect	1	2	2	1	0	3	4	0
Significant spillover effect	1	1	1	0	2	0	1	0
Significant total	0	1	0	1	0	1	0	1
Quality of life								
Total outcomes	1	1	1	1	14	14	14	14
Significant direct effect	0	0	0	0	0	0	0	0
Significant spillover effect	0	0	0	0	1	0	5	0
Significant total	0	0	0	0	1	1	4	2
Mental and behavioral health								
Total outcomes	0	0	0	0	3	3	3	3
Significant direct effect					0	0	0	0
Significant spillover effect					0	0	1	0
Significant total					0	0	0	0
Childbirth								
Total outcomes	8	8	8	8	10	10	10	10
Significant direct effect	0	0	0	0	0	0	0	0
Significant spillover effect	0	0	0	0	0	2	0	0
Significant total	0	0	0	0	0	0	0	0
Biomarkers								
Total outcomes	7	7	7	7	0	0	0	0
Significant direct effect	1	1	0	1				
Significant spillover effect	1	0	0	0				
Significant total	0	0	0	0				
Mortality								
Total outcomes	0	0	0	0	4	4	4	4
Significant direct effect					0	0	0	0
Significant spillover effect					0	0	0	0
Significant total					1	0	0	0

Notes. Treatment variables in intent-to-treat (ITT) analysis are household assignments: free insurance (A), sale of insurance + cash transfer (B), sale of insurance (C). Treatment variables in complier averate treatment effect (CATE) analyses are enrollment in insurance; enrollment is instrumented with assignment to groups A, B or C. All models estimated with OLS. Each treatment arm was interacted with the share of the village allocated to A, B, or C (combined) to estimate spillover effects in ITT analysis. Each treatment arm was interacted with the share of the village enrolled to estimate spillover effects in CATE analysis; the instrument for the share enrolled is the fraction allocated to groups A, B, or C. Standard errors were clustered at the village level. Significant health outcomes are identified using traditional critical p-value at the 5% significance level without making any multiple testing adjustments.

Table A.12: Estimates of demand and average cost using multiple different measures of cost.

	(1) Predicted	(2) Midline	(3) Mixed	(4) Endline	(5) ML attempt	(6) Mix attempt	(7) EL attempt
Price	0.3024	0.0219	0.6208	0.5095	0.1228	0.6260	0.6577
	(0.597)	(0.961)	(0.809)	(0.592)	(1.217)	(1.066)	(1.064)
Constant	754.9922	625.4481	455.1337	195.5689	1018.1084	779.6266	662.2843
	(60.463)	(97.754)	(81.974)	(60.045)	(123.958)	(108.652)	(107.910)
Observations	5008	4709	4988	4446	4685	4668	4447
AC curve:							
Constant	1332.916	667.235	1641.703	1169.459	1252.814	1976.070	1919.300
Quantity	-735.525	-53.182	-1510.150	-1239.472	-298.711	-1522.718	-1599.807
Welfare							
Demand LB: Group C (p)							
Free ins.	-1347.255	-1055.780	-672.573	-88.552	-1939.266	-1402.682	-1138.662
	0.000	0.000	0.001	0.504	0.000	0.000	0.000
Opt. price	981.233	661.854	1303.684	424.839	1009.435	2404.939	2458.271
	0.280	0.079	0.826	0.007	0.368	0.879	0.898
SOC	-0.475	-0.756	-0.157	-0.268	-0.655	-0.152	-0.120
	0.504	0.437	0.874	0.689	0.571	0.897	0.914
Demand UB: Group B (p)							
Free ins.	-743.078	-451.604	-68.397	515.624	-1335.090	-798.506	-534.486
	0.004	0.151	0.792	0.014	0.001	0.016	0.077
Opt. price	1302.995	1088.416	1052.488	528.483	1408.625	2124.629	1944.579
	0.008	0.000	0.084	0.639	0.068	0.812	0.827
SOC	-0.475	-0.756	-0.157	-0.268	-0.655	-0.152	-0.120
	0.504	0.437	0.874	0.689	0.571	0.897	0.914

Note. Top panel presents regressions of average cost (measured 7 ways, corresponding to column headings) on price. Each cell provides coefficient estimate and standard error in parentheses. Units of price and cost are INR. The 7 measures of cost are:

1. Predicted midline medical expenditures (same as outcome in Table 9) × midline successful use over 6 months × 2
2. Midline medical expend. × hospital share of endline medical expend. × midline successful use over 6 months × 2
3. Hospital expend. at endline × midline successful use over 6 months × 2 (same as column 1 in Table 10)
4. Hospital expend. at endline × endline successful use over 6 months × 2 (same as column 2 in Table 10)
5. Midline medical expend. × hospital share of endline medical expend. × midline attempted (successful or failed) use over 6 months × 2
6. Hospital expend. at endline × midline attempted use over 6 months × 2 (same as column 3 in Table 10)
7. Hospital expend. at endline × endline attempted use over 6 months × 2 (same as column 4 in Table 10)

Second panel presents estimates of a linear average cost curve: AC = Constant - β Quantity, where Constant and β are derived from estimates from top panel. Each cell provides a coefficient estimate. Third panel presents welfare calculations associated with a lower bound estimate of the Hicksian demand curve and each measure of cost. Calculations include the net welfare benefit of free insurance, the price of insurance that satisfies the first-order condition (FOC) for optimal premium, and the value of the second-order condition (SOC). If the SOC is negative, then the price that satisfied the FOC is the welfare-maximizing price. Units are INR. Demand is estimated using data on households in the free-insurance arm (A) and the sale-of-insurance arm (C) only. The demand curve is assumed to be linear. This demand curve is a Marshallian demand because arm C is not compensated; if there are income effects, this is a lower-bound on Hicksian demand. Fourth panel provides same calculations as the thurd panel, except that it employs an estimate of an upper bound on the demand curve. Specifically, demand is estimated using data on arm A and the sale-plus-transfer arm (B). The demand curve is assumed to be linear. This demand curve shows demand that is greater than the Hicksian demand curve. The Hicksian demand curve would compensate those household who purchase insurance; however, this demand curve compensates all households, even those who do not purchase insurance. Those non-complier households experience a raw income effect.

Table A.13: Sample size per insurance access group and response rates by survey and insurance access group.

	Insurance access group						
	(A) Free-insurance	(B) Sale-plus-transfer	(C) Sale-of-insurance	(D) No access (control)	Total	Non-response	Attrition
			Initial sample				
Main surveys	4,401	2,180	2,146	2,152	10,879		
Biomarker surveys	1,363	718	737	833	3,651		
			Baseline survey				
Main survey	4,155	2,080	2,022	2,033	10,290	558	31
	(94%)	(95%)	(94%)	(94%)	(95%)	(5%)	(0.2%)
Biomarker survey	1145	588	615	692	3040	611	
	(84%)	(82%)	(83%)	(83%)	(83%)	(17%)	
			Midline (18 mos.) survey				
Main survey	4,091	2,036	2,007	1,977	10,111	439	329
	(93%)	(93%)	(94%)	(92%)	(93%)	(4%)	(3%)
Biomarker survey	1043	546	555	628	2772	879	
	(77%)	(76%)	(75%)	(75%)	(76%)	(24%)	
			Endline (3.5 yr.) survey				
Main survey	3,879	1,902	1,855	1,874	9,510	1,369	
	(88%)	(87%)	(86%)	(87%)	(87%)	(13%)	

Note. Table presents number of households in initial sample (top panel) and the number of households that respond to each survey (remaining panels), by insurance access arm (columns 1-4) and in total across arms (column 5). Column 6 provides the number of households that do not respond to a survey. Column 7 presents numbner of households that attrited out of the study at each survey. Abbreviations: mos., months; yr., year. Cells in top panel report the number of households. Cells in remaining panels report the number of households and (in parentheses) the percent of initial sample in an arm or in total sample that respond to a given survey. Percentages for non-response are number of households that do not respond to a survey devided by the total sample for that survey (from top panel), times 100.

Table A.14: Respondent and response rate by module and insurance access group.

	Insurance (access) group				
	(A) Free-Insurance	(B) Sale-plus-Insurance	(C) Sale-of-Insurance	(D) No access (control)	Total
Initial sample					
Main survey	4,401	2,180	2,146	2,152	10,879
Biomarker survey	1,363	718	737	833	3,651
Module & Respondent					
Baseline survey					
1. Most knowledgeable female.	4,063	2,033	1,980	1,979	10,055
	(92%)	(93%)	(92%)	(92%)	(92%)
2. Most knowledgeable female. If none present, most knowledgeable male.	4,125	2,070	2,007	2,010	10,212
	(94%)	(95%)	(94%)	(93%)	(94%)
3. Most knowledgeable male. If none present, most knowledgeable female.	3,831	1,955	1,873	1,892	9,551
	(87%)	(90%)	(87%)	(88%)	(88%)
4. Female respondent.	1114	566	603	656	2939
	(82%)	(79%)	(82%)	(79%)	(80%)
5. Male respondent.	1053	545	565	634	2797
	(77%)	(76%)	(77%)	(76%)	(77%)
Midline (18 months) survey					
1. Baseline respondent. Otherwise, most knowledgeable male.	3,972	1,977	1,930	1,922	9,801
	(90%)	(91%)	(90%)	(89%)	(90%)
2. Baseline respondent.	4,091	2,034	2,006	1,977	10,108
	(93%)	(93%)	(93%)	(92%)	(93%)
3. Baseline respondent.	3,887	1,913	1,913	1,868	9,581
	(88%)	(88%)	(89%)	(87%)	(88%)
4. Baseline respondent. Otherwise, male respondent.	970	514	525	574	2583
	(71%)	(72%)	(71%)	(69%)	(71%)
5. Baseline respondent. Otherwise, female respondent.	928	483	473	526	2410
	(68%)	(67%)	(64%)	(63%)	(66%)

Note. Different modules of the baseline and midline surveys are directed towards different household members. This table presents number of households in initial sample (top panel) and the respondent to whom each module is directed (remaining panels). Columns 2-7 present number of households where respondent answered the survey module (in parentheses) the implied response rate, for each of the 4 study arms and overall. Respondent and response rates are reported for baseline and midline surveys only since the endline survey was administered to a single respondent. Module 1 measures intra-household allocation, fertility and family planning, maternal and newborn health, child care and development, child health and investment, adult health behavior, adult health, cognitive survey, expectations (midline only). Module 2 measures household composition, household characteristics, household income, household expenditures, household indebtedness, savings, demonetization (midline only). Module 3 measures cognitive task, trust, cognitive survey, adult health behavior, adult health, risk unincentivized, expectations (midline only). Module 4 measures female biomarkers, child biomarkers. Module 5 measures male biomarkers.