Online Appendix

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

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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

[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.

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 again performed back checks on 10% of households, a rate known to surveyors ex ante.

Figure A.7 presents the study timeline, both in terms of the intervention and the multiple surveys conducted.

Figure A.8 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

[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 after the intervention ended.

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 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.10 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 ($p = 0.368$).

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

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.5 .

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 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 Results: Direct and Indirect Effects

In the main text and tables in the main article focus on total effects – direct plus spillover effect assuming 80% treatment saturation in our sample across villages. In tables to this appendix we report a breakdown of total effects into direct and spillover effects. In this section we summarize our spillover effects estimates.

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

Enrollment. Spillover effects in enrollment are not statistically significant (Table A.4, col 2). Prior to enrollment, households were given roughly 2 weeks notice about the treatment arm to which they were assigned. Although it is possible that households communicated, such that there could be spillovers, in practice it appears that there were not learning or other spillovers on the enrollment margin.[5] Although we do not find significant spillovers in enrollment, we do find spillovers in utilization, which we discuss below.

Insurance utilization. Spillover effects play a quantitatively important role in insurance utilization. Table A.7 reports direct, spillover, and total effects for treatment arms $i = 1, 2, 3$.[6] We find that the total effects of insurance access on our measures of utilization are significant, although ITT estimates of the direct effects of insurance access are not separately significant at conventional levels.[7] The CATE effects largely follow a similar pattern. In terms of magnitudes, the spillover effects are of comparable magnitudes as the direct effects: indirect effects, even though they are imprecisely estimated, are quantitatively important for generating the significant total effects for insurance utilization.[8,9]

This spillover result is unlikely to be due to supply constraints because we find that RSBY access and enrollment increase insurance utilization substantially, but hospitalization only a relatively slight amount. These spillover effects are consistent with people learning about insurance via word-of-mouth from neighbors, as reported in prior studies of insurance in Karnataka and Andhra Pradesh (Chatterjee et al., 2018; Debnath and Jain, 2020).[10]

C Welfare

In this section we formalize and extend the welfare analysis in the main text. First, we derive the formula for the welfare effect of free public insurance using the model of adverse selection from Einav and Finkelstein (2011) and the MVPF framework (Hendren, 2016; Finkelstein and Hendren, 2020). Second, we extend our calculations to different measures of demand (specifically, *ex ante* demand per Hendren (2021)) and different counterfactuals (private insurance rather than no insurance). Third, we calculate the optimal price of public insurance.

[5]This contrasts with the findings of Cai, De Janvry and Sadoulet (2015), who find local spillover effects in the decision to enroll in weather insurance in China. In that context, adoption spillovers were driven by diffusion of information from intensive information sessions. Our study did not provide equally intensive information, and baseline knowledge about RSBY is low (Berg et al., 2019).

[6]These effects correspond to β^h (direct), $\gamma^h + .9 \times \phi$ (spillover), and $\beta^h + .9 \times \phi + .9 \times \gamma^h$ (total) from estimating equation (1) with measures of utilization as outcomes. The terms for the village-level treatment intensity, ϕ, and its interaction with the household-level treatment indicators γ^h, are scaled by 0.9, the maximum in-sample share assigned to receive access to insurance.

[7]The ITT effect at 18 months for arm 3, and at 3.5 years for arm 2, are significant at the 10% level.

[8]Recall that our exclusion restriction is that one household's access to insurance cannot affect enrollment or outcomes of other households, but the former's enrollment decision can. This permits, for example, compliers' enrollment and outcomes to affect the enrollment and outcomes of other households.

[9]Total effects of insurance are estimated more precisely than the component parts — direct and spillover effects — for two reasons. Conceptually, the total effect leverages all of the variation in the data, from both village- and individual-level randomization. Econometrically, the covariance terms between β_h, γ_h and ϕ are negative, making the sum more precisely estimated than the components.

[10]To explore learning, we examined how direct and indirect utilization varies by wealth of households — wealth may be a proxy for experience with financial products. (We define a high (low) wealth household as a household with an above (below) median value of on 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.) We find that, at 18 months, high-wealth households experience a direct effect, but no indirect effect, on insurance use; low-wealth households experience the opposite (ITT: not reported, CATE: Table A.13). This evidence is consistent with uninformed, low-wealth households learning from others but informed, high-wealth households being relatively unaffected by the behavior of neighbors.

C.1 Does offering (free) public insurance improve welfare?

Our analysis in the main text compares welfare with free, publicly-financed, insurance against a counterfactual where neither the government nor the private sector offer insurance. If the counterfactual were private insurance, the MVPF spent on free public insurance might be positive due either to social demand exceeding private demand (i.e., positive externalities from, e.g., controlling infectious diseases) or to adverse selection leading to sub-optimal take-up of private insurance. In this analysis, we assume that there are no externalities from consuming insurance. This is in part because we do not estimate all possible externalities from hospital insurance. However, we will explore a counterfactual with private insurance and adverse selection in an extension in Section C.1.1.

We first calculate the marginal social benefit (MSB) of offering a public insurance product at price p (versus not offering insurance).[11] Then we calculate the marginal social cost (MSC) of offering insurance at price p (versus not). This is equal to the cost of covered healthcare minus revenue from premiums. We then estimate whether MSB is greater than MSC at a zero premium using our estimates of demand and insurance cost; we evaluate welfare at $p = 0$ because that is the price the government charged when it expanded RSBY (the program we evaluate) to include above-poverty-line households via PM-JAY (the successor to RSBY).

We do this exercise, first, using information that consumers have at time of enrollment. Then, in an extension in Section C.1.2, we repeat it assuming consumers do not have any information on their expected costs. The former case generates what Hendren (2021) calls *ex post* demand, the latter *ex ante* demand. In this section, we focus on *ex post* demand, which is the demand curve the literature typically works with.

Marginal social benefit of public insurance. Our measure of the marginal social benefit of providing public insurance at price p (versus not providing public insurance) is aggregate willingness to pay for insurance with that price, equivalent to the area under the aggregate Hicksian demand curve for insurance above p:

$$MSB(p) \approx \int_0^{G(p)} [D^H(q) - p]dq = \int_0^{G(p)} D^H(q)dq - pG(p). \tag{7}$$

where $D^H(q)$ is the inverse demand curve for the government service and $G(p)$ is quantity demanded.[12] Without loss of generality, normalize quantity by population so that the units of G are fraction of the population. The marginal social benefit from free insurance is $MSB(0)$.

Marginal social cost of public insurance. We assume that the government pays for insurance through a combination of charged premium p (i.e., a user fee) and financing at a marginal cost of public funds of r. The marginal social cost of funds spent on providing the government service is then the sum of the government's net expenditure on all consumers who purchase the government service at price p:

$$MSC(p) = (1 + r)[c^{AC}(p)G(p) - pG(p)] \tag{8}$$

where $c^{AC}(p)$ is the average cost across all beneficiaries that enroll in insurance at price p. The first element in square brackets is the average cost of providing insurance amongst those who take it up at price p; the second element is the government's revenue from user fees. The net of these is scaled up by $1 + r$ to account for the government's cost of financing.

MVPF of offering public insurance with (i) *ex post* demand and (ii) no private insurance. The decision to provide RSBY insurance at p is welfare-improving if the marginal social benefit is greater than the marginal social cost: MSB(p) - MSC(p) ≥ 0. In the case where $p = 0$, which is policy-relevant and one we evaluate with data,

[11] Marginal social impact in the MVPF framework is not our estimate of health impacts of insurance. Due to issues of power, we may not have power to estimate these with adequate precision. Moreover, there may be health benefits we did not attempt to measure, or could not measure well (e.g., stress). Insurance may have non-health benefits, e.g., smoothing non-medical consumption. Finally, in a subjective utility framework, a product may offer subjective benefits that do not match objective benefits, but which still count towards utility and welfare.

[12] A detailed derivation of MSB(p) (Eq 7) and MSC(p) in Eq. (8) is presented in Appendix Section C.3.1.

MVPF is positive if

$$S_P(0) = \int_0^{G(0)} D^H(q)dq - (1+r)c^{AC}(0)G(0) \geq 0 \tag{9}$$

This condition is not exactly the same as the condition that social surplus should be positive at $G(0)$ because the costs are inflated by $1+r$ due to government borrowing on behalf of consumers. This is the so-called fiscal externality in the MVPF framework.

We illustrate the MVPF trade-off in Figure A.11. Panel A illustrates the calculation using demand and cost curves from midline.[13] The MSB is the area under the aggregate inverse demand curve between quantity demanded at zero price ($q = 0.79$) and zero quantity. The MSC is (i) the area under the marginal cost curve in the same range of quantity times (ii) $(1 + r)$, which captures the cost of public funds. The difference between the marginal cost curve in this figure and in our calculation ($c^{MC}(p)$) is that the figure shows the marginal cost curve as a function of quantity demand rather than price, i.e., it shows $c^{MC}(D(G(p))$. The MVPF can also be illustrated with the average cost curve. The MSB is the same. But the MSC is now (i) the average cost at the zero offer price ($\approx$ 500 INR, \$29) times the quantity demanded at that price ($q = 0.79$), times (ii) $(1+r)$. The MSC, and thus the result of the MVPF calculation, is the same whether one uses the marginal or average cost curve.

Application with estimates of linear demand and average cost curves. We apply the analysis above to our context by, first, estimating individual *ex post* demand curves and average cost curves. We impose a linear specification for both curves, partly because we only observe behavior at two prices (zero premium in group A and full premium in groups B and C) and partly to keep things simple:

$$g_i(p_i) = g(0) - \gamma p_i + \epsilon_i \tag{10}$$

$$c_i^{AC}(p_i) = c^{AC}(0) + \kappa p_i + \upsilon_i \tag{11}$$

where i indexes households, $g_i(p_i) \in \{0, 1\}$ is household i's demand, p_i is the premium in the insurance-access treatment group to which the households is assigned, c_i^{AC} measures an enrolled household's cost to the insurance pool, $\gamma > 0$ measures the slope of demand, and $\kappa > 0$ if there is adverse selection. These are the same demand and average-cost equations introduced in the main text (Eqs. (5) and (6)), restated here for convenience; for the derivations that follow we denote individual demand by g and its population aggregate by G.[14]

We simultaneously estimate both equations using linear regression. Household demand is a binary variable that indicates enrollment. Price is determined by treatment group. We estimate the demand equation on two samples. Our preferred sample includes (A) the free-insurance group (charged a price of zero) and (B) the sale-plus-transfer group (charged the full premium). This sample produces an upper bound on Hicksian (i.e., compensated) demand, which is the relevant curve for estimating the willingness to pay. The unconditional cash transfer, which is equal to the premium, is a sort of compensation. However, because even households that do not purchase insurance receive the compensation, we may overestimate Hicksian (compensated) demand. Nevertheless, this sample yields our preferred estimates for demand as liquidity constraints are likely important in LMIC contexts (Berkouwer and Dean, 2022; Casaburi and Willis, 2018).

As a robustness check, in the appendix we estimate demand and welfare with a second sample that includes the (A) free-insurance and (C) sale-of-insurance groups. This sample produces estimates of Marshallian demand. That

[13] Einav and Finkelstein (2023) make an analogous figure using data from an RCT in Pakistan that randomized the price of insurance, to demonstrate adverse selection (Fischer, Frölich and Landmann, 2023). An important difference between Einav and Finkelstein (2023) and this paper is that the former uses the figure to calculate the welfare loss from adverse selection, while we leverage the graph to employ the MVPF framework to determine the optimal price of public insurance.

[14] Our average cost equation does not link average cost to quantity but to price. However, we can use it just the same in our MVPF calculation. We cannot identify a cost-quantity equation because quantity is not exogenous. Instead, we estimate the reduced form equation (8) and then use the demand equation (5) to translate price to quantity when calculating MVPF, using the delta method to calculate standard errors.

is a lower bound on demand because income effects are surely positive.[15]

Household average cost to the insurance pool is measured in two ways. One is hospital expenditure at midline (18 months), the other is hospital expenditure at endline (3.5 years).[16] Neither is the measure we use for estimating adverse selection in Section 4.5. There the goal was to use predicted expenditure based on information available prior to enrollment and to avoid including *ex post* moral hazard in our prediction; here want to use actual expenditure to measure actual cost, including moral hazard, because that contributes to the insurance company's (or government's) cost. The sample for the cost regression only includes households in treatment arms (groups A and C, not the control group) that actually enrolled in insurance. We exclude the sale-plus-transfer group because, outside this experiment, uncompensated (Marshallian) demand determines enrollment. We exclude the control group because they cannot enroll under our experiment.

In both regressions, the free insurance group A is coded as paying a price of 0 and the sale-plus-transfer and sale-of-insurance groups B and C are coded as paying a price of 203 in Mysore and 173 in Gulbarga. This is the government premium in each district plus the INR 30 paid for the insurance card. We cluster standard errors at the village level (as in our ITT model). However, we do not include village allocations in our specification. Because allocation is also randomized, its omission does not cause bias. One should interpret the results as the total effect of price including a full direct effect and 80% of an indirect effect, because on average 80% of other sample households receive some access to insurance across arms.

We can plug our estimates of Eqs. (5) and (6)—which are reported in Table A.29 and plotted in the A panels of Figures A.11 and A.12—into Eq. (9) to obtain the condition required for free insurance to be a welfare-improving use of public funds from the perspective of *ex post* demand:

$$S_P(0) = \frac{g(0)}{2\gamma} - (1+r)c^{AC}(0) \geq 0 \tag{12}$$

Using a MCPF of $r = 1.25$ to account for the inefficiency of lower-income country tax systems (such as India[17]) and the free-insurance arm (A) and sale-plus-transfer arm (B) to estimate demand,[18] we calculate that free public

[15] A common assumption in demand estimation in health economics is that there are no income effects. In that case, Marshallian demand is equal to Hicksian demand. We suppose this assumption is mainly for convenience because there is also a sizable literature finding that income increases healthcare expenditure, though micro and macro estimates differ on magnitude (Acemoglu, Finkelstein and Notowidigdo, 2013).

[16] Our measure of midline cost is two times the product of (a) a household's hospital expenditure at midline and (b) whether the household used RSBY insurance to pay for care in the last 6 months before midline. We use endline hospital expenditures rather than midline medical expenditure because we did not define hospital expenditure at midline and many households labeled non-acute clinic care as hospital care. We corrected the survey at endline by defining hospital care as care at a facility with overnight stays. Our measure of midline hospital costs assumes midline and endline hospital costs are roughly the same given the long time-span between them. We convert endline hospital expenditures to midline costs from use by multiplying endline hospital expenditures by midline use of RSBY to pay for hospital care. We multiply by two to get annual costs because endline use, a binary variable, covers use over 6 months rather than 12 months.

Our measure of endline cost is two times the product of (a) a household's hospital expenditure at endline and (b) whether the household used RSBY insurance to pay for care in the last 6 months before endline.

We provide MVPF calculations using using other measures of cost, including midline medical expenditures, in the appendix (Table A.26). While cost curves differ, the MVPF calculations yield similar results.

[17] Our estimate is at the lower end of the range used for MCPF for such countries. Historical data on the MCPF from India suggest an $r = 1.5$, but those estimates are from the mid-1980s (Ahmad and Stern, 1987). A more recent survey of the MCPF from Africa suggests a median estimate of $r = 1$ (Auriol and Warlters, 2012). (Basri et al., 2021), studying the optimal tax rate in Indonesia, focus on the cases where $r = 1.5$ and 2. These estimates are higher than convention for US-focused studies, which use $r = 0.3$ (Finkelstein and Hendren, 2020).

[18] We use arm B rather than sale-of-insurance arm C because it is a more realistic estimate of demand. As Table A.26 shows, demand is greater and has flatter slope when using arm B enrollment. While group B overestimates Hicksian demand, group C underestimates it. We believe that the latter error is more serious. Some of the lower uptake in C is driven by liquidity constraints, which we think would be relaxed in an expansion of RSBY: enrollment drives would be predictable and the PMJAY program that replaced RSBY allowed year-round enrollment at hospitals when required. Moreover, the magnitude of the premium in our study ($\sim$ 200 INR, \$11.42) is small relative to annual

insurance reduces welfare by INR 63 ($3.60) per household at midline (though our estimate is imprecise[19]) and increases welfare by INR 516 ($29) per household at endline (Table A.29, row 1).

Our findings are driven by the level of utilization, the costs that the government must finance, and by the marginal cost of public funds. If we include in our measure of utilization not just successful utilization, but also failed attempts at utilization (to capture the idea that households may utilize successfully more often over time), then free insurance reduces welfare by 534 INR ($30) per household even at endline (Table A.29, column 4). Moreover, B panel of Figures A.11 and A.12 plot the welfare from free insurance (magenta line) as the MCPF increases. Welfare falls as r rises because the costs of financing utilization increases. An important policy implication is that even if public insurance is not valuable today, it may become valuable as the tax system becomes more efficient.

To further determine how robust our findings are, we calculate the value of free insurance using sale-of-insurance arm (C) rather than arm B to estimate *ex post* demand and other measures of hospitalization costs (see Appendix table A.26). Our results are qualitatively similar: free insurance lowers welfare at our realistic marginal costs of public funds (MCPF). Versions of B panels in Figures A.11 and A.12 for those alternative demand and cost curves (not reported) show that free insurance loses value as MCPF rises. However, in some cases, when MCPF is sufficiently low (usually around levels observed in higher-income countries), free insurance can improve welfare, much as what we see in panel B of Figure A.11.

C.1.1 MVPF of public insurance with *ex post* demand and private insurance

An alternative counterfactual against which to judge public insurance is private insurance, specifically a private insurance plan identical to the public plan and offered at a community-rated price with zero load.[20] Here we calculate the MVPF under free public insurance against this counterfactual in two steps. First, we calculate the surplus S_P from public insurance, and then subtract the surplus from private insurance S_M. Since we have already discussed how we calculate S_P, here we focus on how we calculate S_M.

Marginal social benefit of private insurance. The MSB of private insurance is the aggregate willingness to pay for such insurance sold in a market at a private insurance equilibrium price, assuming that such insurance is sold at all. To determine whether private insurance is sold and at what price, we use the model of Einav and Finkelstein (2011). Under community rating, price is determined by the average cost curve rather than the marginal cost curve. If the average cost curve is always above the demand curve or crosses the demand curve from above, there will be no private policy offered in the market. Either it will be cost-prohibitive from the start or will collapse due to adverse selection, respectively. If average cost intersects demand form below, as in Panel A of Figure A.11, the private market price p_m will be the price at the intersection of average cost and demand. In the latter case, the marginal social benefit of private insurance is the social surplus from insurance, i.e., the area (i) under the demand curve to the left of $G(p_M)$ and (ii) above the average cost at $G(p_M)$. Because price is equal to average cost, this is identical to the area under the demand curve and above the price p_M.

Marginal social cost of private insurance. Assuming it is offered in a market, the MSC of private insurance is zero. To see why, note that the cost of insurance is given by equation (8) except where one uses the capital cost r appropriate for a private insurance firm. However, the private firm chooses a (community-rated) price equal to average cost: i.e., $p_m = c^{AC}(p_m)$. Therefore, $MSC(p_m) = 0$. Note, there is a private cost to private insurance, but we have included this in the MSB calculation discussed in the previous paragraph.

MVPF of offering public insurance where there is private insurance. The marginal social surplus

income, so likely has a small income effect.

[19] Standard errors on welfare calculations are obtained using the delta method.

[20] The private insurance policy may not be the same as the public insurance. Because the possibilities are innumerable and difficult to model, to make our problem tractable we assume the private policy is identical to the public policy. We assume zero load because we implicitly assume that in public insurance, the cost of which is equated to out-of-pocket consumer expenditures reduced. We assume community rating (price equal to average cost) because Indian insurers have poor information on individual health risk, especially in rural areas.

with private, market insurance is MSB(p_M) - MSC(p_M), or

$$S_M(p_M) = \max\left\{0, \int_0^{G(p_M)} D^H(q)dq - c^{AC}(p_M)G(p_M)\right\} \quad (13)$$

There are two cases to consider. First, if there is no private insurance offered, the social surplus from private insurance is zero, i.e., $S_M = 0$. Second, if average cost intersects demand from below, then $S_M > 0$.

The MVPF for public insurance when there is private insurance is welfare under public insurance minus welfare under private insurance, or $S_P(0) - S_M(p_M)$. Consider the same two cases we discussed in the last paragraph. First, if there is no private insurance offered, then the incremental value of public insurance taking into account private insurance is the same as when there is no private insurance, i.e., $S_P(0) - S_M(p_M) = S_P(0)$. Second, if private insurance is offered in the market, then the value of public insurance when there is private insurance is greater than public insurance when there is no private insurance: $S_P(0) - S_M(p_M) < S_P(0)$, which flows directly from the fact that $S_M(p_M) \geq 0$.

Application using estimates of linear demand and average cost curves. To calculate the value of public insurance where there is private insurance, we first have to solve for the private market price of insurance. Setting average cost in Eq. (6) equal to price in Eq. (5), we get a market clearing price of $p_M = c(0)/(1-\kappa)$. This is positive if $\kappa < 1$ and there is private sale of insurance if $g(0) > c(0)$. With this price we can plug our estimates of demand from Eq. (5) and average cost from Eq. (6) into Eq. (13) to obtain the surplus from private insurance with linear demand and cost:

$$S_M(p_M) = \frac{1}{2\gamma}[g(p_M)]^2 = \frac{1}{2\gamma}\left[g(0) - \frac{\gamma}{1-\kappa}c(0)\right]^2 \quad (14)$$

Then the condition required for free insurance to be a welfare-improving use of public funds from the perspective of *ex post* demand is that $S_P(0)$ from Eq. (12) minus $S_M(p_M)$ from Eq. (14) is greater than zero.

Using a MCPF of $r = 1.25$ and the free-insurance arm (A) and sale-plus-transfer arm (B) to estimate demand, we calculate that free public insurance reduces welfare by INR 1219 ($70) per household at midline and INR 397 ($23) at endline (second panel of Table A.29). Our findings are graphically illustrated in the C Panels of Figures A.11 and A.12, respectively. The surplus from private insurance is INR 1151 and 912 ($66 and 52) per household at midline and endline, respectively, so (zero-load, community-rated) private insurance is offered in equilibrium without public insurance. But free public insurance crowds out positive-price private insurance and the social surplus from public insurance is INR -69 and 515 (-$3.93 and $29) at midline and endline, respectively, less than the surplus with private insurance.

C.1.2 MVPF of public insurance with *ex ante* demand and no private insurance

Let us return to the counterfactual where there is no private insurance offered in the absence of public insurance. The condition in (9) for whether free insurance is a positive MVPF policy uses an *ex post* demand to value insurance, i.e., values insurance after individuals have some private information about their expected costs, though before the insurance contract is signed and all covered costs are revealed. The willingness to pay for insurance may be on average higher if measured behind a veil of ignorance, before consumers have any private information on their expected costs (Hirshleifer, 1971; Hendren, 2021), and if there is adverse selection. After some information is revealed, those with low expected cost may decide not to buy insurance, raising the average cost and thus premiums for the remaining population. Before information is revealed, consumers know there is a risk that information will reveal they have high expected costs, causing them to face a higher premium. If they are risk averse, consumers will be willing to pay some amount to avoid the risk of a higher premium. This amount is proportional to the difference in the marginal utility of those who buy insurance after the cost realization and those who do not, because the former pay higher prices (and have lower consumption) and the latter get the opposite.

Hendren (2021) provides an adjustment to *ex post* inverse demand—demand after some information is revealed—that transforms it into *ex ante* (EA) inverse demand before information is revealed. This adjustment shifts demand from $D^H(G)$ to

$$D^{H,EA}(G) = D^H(G) + M(G) \quad \text{where} \quad M(G) = G(1-G)\left|\frac{\partial D^H}{\partial G}\right|\beta(G) \tag{15}$$

where the additive markup $M(G)$ is intended to capture the additional amount households are willing to pay to avoid variation in insurance prices after their expected costs become apparent, and $\beta(G)$ is the percentage difference in marginal utilities of income for the insured relative to the uninsured.[21] If there is adverse selection, then information revelation increases the premiums for those who enroll. This implies that enrollees have lower consumption and higher marginal utility of consumption than non-enrollees, so that $\beta(G)$ is positive. Moreover, under some assumptions,[22] a first-order Taylor approximation of $\beta(G(p))$ is $\sigma[D^H(G(p)) - \int_{G(0)}^{G(p)} D^H(s)ds]$, the difference between willingness to pay of the marginal enrollee at price p and the average willingness to pay of non-enrollees at that price, scaled by σ, the coefficient of absolute risk aversion.

The condition for the MVPF spent on free public insurance to be positive when we use *ex ante* demand for insurance and assume no insurance in the absence of public insurance is given by Eq. (9), except that one replaces $D^H(q)$ with $D^{H,EA}$ in Eq. (9) to capture *ex ante* demand.

Application using estimates of linear demand and average cost curves. To calculate the *ex ante* value of free insurance, we take three steps. First, we solve the linear demand in Eq. (5) for price. Second, we estimate the markup $M(G)$ using the first-order Taylor approximation for $\beta(G)$ suggested by Hendren (2021). We add this to the price estimated in the first step to obtain the function $D^{H,EA}(G)$.[23] We illustrate this *ex ante* demand with the dashed blue line in the A Panels of Figures A.11 and A.11. Third, we take a first-order Taylor approximation of the markup. This reveals that, if we define

$$\frac{1}{\gamma^{EA}} = \frac{1}{\gamma}\left(1 + \frac{\sigma}{\gamma}G(0)[1-G(0)]\right) > \frac{1}{\gamma} > 0 \tag{16}$$

we can replace γ with γ^{EA} in Eq. (12) to approximate the value of free insurance.[24] In our calculations, we assume a coefficient of risk aversion of $\sigma = 5 \times 10^{-3}$, in the range of estimates in India and other lower-income countries (Binswanger, 1981; Just and Lybbert, 2012).

The resulting welfare calculations for the case where $r = 1.25$ are presented in the third panel of Table A.29. *Ex ante* demand is sufficiently greater than *ex post* demand that free insurance is now always positive for welfare. The D panels of Figures A.11 and A.12 show that using *ex ante* demand to value free insurance raises the welfare value of free insurance at all levels of r. However, using midline estimates of cost, free insurance remains a welfare-reducing policy for MCPF above $r = 1.5$.

C.2 What is the optimal public insurance premium?

In this section, we modify our MVPF analysis to ask: what is the optimal price of RSBY insurance, conditional on offering it. We first derive optimal price using *ex post* demand, and then with *ex ante* demand.

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

$$MSB(p) = -\sum_i \mathbb{I}(g_i^* = 1) = -G(p). \tag{17}$$

where we are again working with *ex post* (Marshallian) demand. This is proportional to aggregate quantity demanded

[21] See Propositions 1 and 2 in Hendren (2021).

[22] The two assumptions are that the utility from non-medical consumption and health are separable and that there are no differences in average income of the insured and uninsured. Propositions 3 and 4 in Hendren (2021) derive the approximation.

[23] See Appendix C.3.2 for details.

[24] A derivation is presented in Appendix Section C.3.2.

at price p due to Roy's identity. Intuitively, raising price by INR 1 does not change demand much, but does reduce consumer surplus by 1 INR for each unit purchased. Note that this MSB is different than the MSB of offering a free service, which was the area under the demand curve. The reason for the difference is the counterfactual. Before it was no service at all, while here it is differently (lower) priced service.

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:

$$MSC(p) = (1+r)\frac{\partial c^{AC}(p)}{\partial p}G(p) - (1+r)G(p) + (1+r)[c^{AC}(p) - p]\frac{\partial G(p)}{\partial p} \tag{18}$$

The first term is new and reflects the change in average cost as price increase. Importantly, this is positive if 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^*, 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.,

$$-\frac{\partial c^{AC}(p^*)}{\partial p^*}G(p^*) + \frac{r}{1+r}G(p^*) - [c^{AC}(p^*) - p^*]\frac{\partial G(p^*)}{\partial p^*} = 0 \tag{19}$$

(A full derivation is presented in Appendix Section C.3.3.) 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.[25]

Optimal price using the *ex ante* demand value of insurance. The condition above for the optimal price for the government service uses an *ex post* valuation of insurance, i.e., after individuals have some private information about their expected costs. The willingness to pay for insurance is higher if measured behind a veil of ignorance. This will affect both the marginal social benefits and costs of raising the price of insurance. To implement this change we need to invert the Marshallian analogue to the demand function in Eq. (15). To do so define $D^{EA}(p) = D^M(G) + G(1-G)[\partial D^M(G)/\partial p]\beta(G)$ and $G^{EA}(p)$ as the inverse of this function. The optimal price is given by a version of Eq. (19) that replaces $G(p^*)$ and $\partial G/\partial p^*$ with $G^{EA}(p^*)$ and $\partial G^{(EA)}(p^*)/\partial p^*$.

Application with linear demand and cost. Using the linear demand (5) and average cost (6) curves we estimated with our experiment, we can solve analytically for the price that balances marginal social costs and benefit using the *ex post* demand value of insurance:

$$p^* = \frac{\left[\kappa - \frac{r}{1+r}\right]g(0) - c^{AC}(0)\gamma}{\left[\kappa - \frac{r}{1+r}\right]\gamma + [\kappa - 1]\gamma} \tag{20}$$

This is a maximum if the second order condition is satisfied:

$$\kappa < 1 - \frac{1}{2}\left(\frac{1}{1+r}\right) \tag{21}$$

i.e., adverse selection is not too severe.

[25] An incidental question the reader may have is whether the insurance companies that provided insurance under RSBY made or lost money under the premiums that the government paid them in Gulbarga and Mysore. The answer is that insurance companies lost money at midline because average cost was always above the roughly INR 200 ($11.42) premiums. However, at endline, the companies barely broke even when the government subsidized insurance prices to make it free to consumers.

With $r = 1.25$, we estimate that the optimal price is INR 1052 ($60) using cost estimates from midline, or INR 528 ($30) using the lower cost at endline (Table A.29, row 2). Adverse selection is sufficiently low that the optimal price rises with costs (columns 3 and 4).[26] The B panels of Figures A.11 and A.12 show that optimal price rises with the MCPF at midline and endline, respectively. As financing costs rise, the government wants to reduce public expenditures. Since we have fixed the RSBY contract, the government cannot reduce its healthcare spending via cost-sharing. But it can raise more revenue by charging consumers a higher premium.

Our main takeaway from our MVPF calculations using the *ex post* value of insurance is that, although estimated levels of adverse selection limit the value of raising premiums, high financing costs swamp the benefits of subsidized public insurance in India.

To calculate the optimal price using the *ex ante* demand value of insurance, before consumers have any information on their own expected cost, we take three steps. First, we invert our estimate of the linear function $D^{H,EA}$ from our value-of-free-insurance calculations, so we have quantity as a function of price $G^{EA}(p)$. Second, we replace $G(p^*)$ with $G^E A(p^*)$ in the first-order condition (20) and solve for p^*. The resulting welfare calculations for the case where $r = 1.25$ are presented in the third panel of Table A.29.

Although free public insurance is a positive MVPF policy, the optimal price for public insurance is still positive, though generally below where the optimal price using *ex post* demand. The D panels of Figures A.11 and A.12 show that using the *ex ante* demand function increases the range of r (MCPF) over which free insurance is optimal at midline and endline, respectively. However, for higher r, the optimal price actually increases. The reason is that *ex ante* demand is greater, but has lower slope—which exerts mixed effects on the marginal social cost of raising premiums in Eq. (18). Moreover, the marginal social cost function weights the effects of demand and the slope of demand with the MCPF.

C.3 Derivations

In this section, we derive the welfare formulas we report in the main text and the two sections above.

C.3.1 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.[27] 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

$$\begin{aligned} V(y_i, \tau, p) = \max\{ &\max_{x_i} u(1, x_i) + \lambda_i[y_i - p - (1+\tau)x_i, \\ &\max_{x_i} u(0, x_i) + \lambda_i[y_i - (1+\tau)x_i\} \end{aligned} \tag{22}$$

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 let $\lambda_i^*(y_i, \tau, p)$ be the associated Lagrange multiplier. The marginal private benefit of providing insurance (versus not)

[26] We obtain qualitatively similar optimal prices when we use the sale-of-insurance arm (C) to and/or other measures of *ex post* costs to estimate demand and average costs. See Table A.26.

[27] 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)

at price p to consumer i is equal to her willingness to pay for insurance ($WTP_i(y_i, \tau, p)$).[28] In our situation, where the offer price is zero, this is approximately

$$WTP_i(y_i, \tau, 0) \approx \frac{u(1, x^*(y_i, \tau, 0)) - u(0, x^*(y_i, \tau, 0))}{\lambda^*(y_i, \tau, 0)} \tag{23}$$

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.[29] 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.[30] For notational convenience, we will treat aggregate demand curves as continuous, so

$$MSB(p) = \sum_i WTP_i(y_i, \tau, p) \approx \int_0^{G(p)} [D^H(q) - p]dq = \int_0^{G(p)} D^H(q)dq - pG(p). \tag{24}$$

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

$$t_i(y_i, \tau, p) = [c_i^{MC}(p)g_i^*(y_i, \tau, p) - pg_i^*(y_i, \tau, p) - \tau x_i^*(y_i, \tau, p) \tag{25}$$

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 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.[31]

The marginal social cost of funds spent on providing the government service is the sum of the government's

[28] 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.

[29] 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.

[30] 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.

[31] 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).

net expenditure on all consumers who purchase the government service at price p:

$$\begin{aligned}
MSC(p) &= (1+r)\sum_i [c_i^{MC}(p) - p]g_i^*(y_i,\tau,p) \\
&\approx (1+r)\left[\int_{\overline{p}}^{p}[c^{MC}(z)G(z)]dz - \int_{\overline{p}}^{p}[zG(z)]dz\right] && (26)\\
&= (1+r)\left[\int_{0}^{G(p)}[c^{MC}(D(w))w]dw - pG(p)\right] && (27)\\
&= (1+r)[c^{AC}(p)G(p) - pG(p)] && (28)
\end{aligned}$$

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. (26). We swap axes of integration and integrate over quantity in Eq. (27). 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 $G(p)$: $c^{AC}(p) = \int_{\overline{p}}^{p}[c^{MC}(q)G(q)]dq/G(p)$.

C.3.2 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. (15) 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: $D^{\bar{E}A}(G) = \bar{D}(G) + \bar{M}(G)$.

Our estimates of demand are, by assumption, already linear. We start with estimates for the linear *ex post* demand in Eq. (5). 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

$$M(G) = G(1-G)\cdot\left|\frac{\partial D}{\partial G}\right|\cdot\tilde{\beta}(G) \tag{29}$$

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.

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

$$\bar{M}(G)|_{G(0)} \approx M'(G(0))[G-G(0)] \tag{30}$$

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

$$M'(G(0)) = \left[(1-2G(0))\cdot\frac{1}{\gamma}\cdot\tilde{\beta}(G(0))\right] + \left[G(0)[1-G(0)]\cdot\frac{1}{\gamma}\cdot\tilde{\beta}'(G(0))\right] \tag{31}$$

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

$$\tilde{\beta}'(G) = \sigma\left(\frac{1}{2}\bar{D}(G) - \left[1-\frac{1}{2}(G(0)-G)\right]\frac{1}{\gamma}\right) \tag{32}$$

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

$$\bar{M}(G)|_{G(0)} \approx -\frac{\sigma}{\gamma^2}G(0)[1-G(0)](G-G(0)) > 0 \tag{33}$$

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

$$\begin{aligned}\bar{D}^{EA}(G) &= \left[\frac{1}{\gamma}\right](G(0)-G) - \left[\frac{\sigma}{\gamma^2}G(0)[1-G(0)]\right](G-G(0))\\ &= \frac{1}{\gamma}\left(1+\frac{\sigma}{\gamma}G(0)[1-G(0)]\right)(G(0)-G)\\ &= \frac{1}{\gamma^{EA}}(G(0)-G) \end{aligned} \tag{34}$$

where

$$\frac{1}{\gamma^{EA}} = \frac{1}{\gamma}\left(1+\frac{\sigma}{\gamma}G(0)[1-G(0)]\right) > \frac{1}{\gamma} > 0 \tag{35}$$

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.

C.3.3 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

$$V(y_i,\tau,p) = u(1,x_i^*) + \lambda_i^*[y_i - p - (1+\tau)x_i^*] \tag{36}$$

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 a higher price lowers utility conditional on buying the government service. A 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:

$$MSB(p) = -\sum_i \mathbb{I}(g_i^* = 1) = -G(p). \tag{37}$$

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:

$$MSC(p) = (1+r)\frac{\partial c^{AC}(p)}{\partial p}G(p) - (1+r)G(p) + (1+r)[c^{AC}(p)-p]\frac{\partial G(p)}{\partial p} \tag{38}$$

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.,

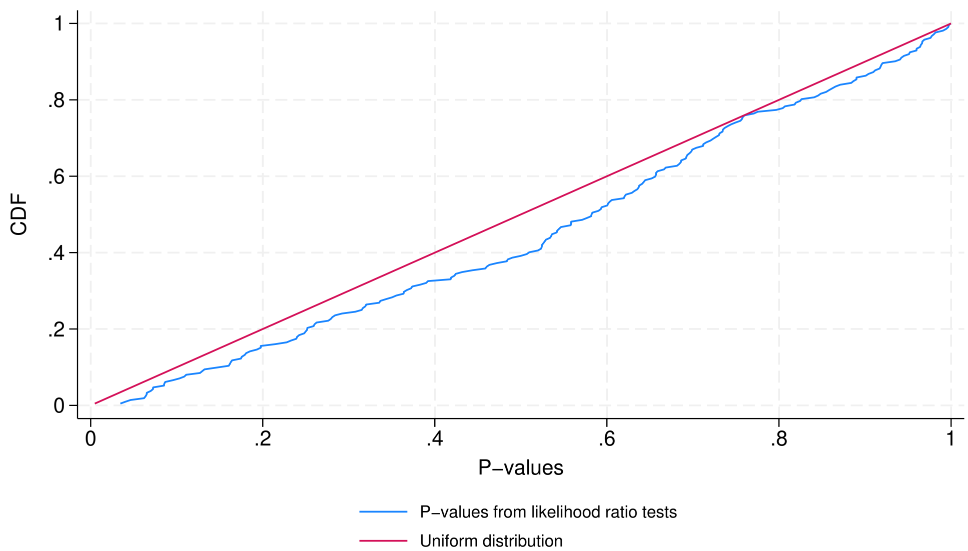
$$-G(p^*) - \left[(1+r)\frac{\partial c^{AC}(p^*)}{\partial p^*}G(p^*) - (1+r)G(p^*) + (1+r)[c^{AC}(p^*) - p^*]\frac{\partial G}{\partial p^*}\right] = 0 \tag{39}$$

$$-\frac{\partial c^{AC}(p^*)}{\partial p^*}G(p^*) + \frac{r}{1+r}G(p^*) - [c^{AC}(p^*) - p^*]\frac{\partial G}{\partial p^*} = 0 \tag{40}$$

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.

D Figures

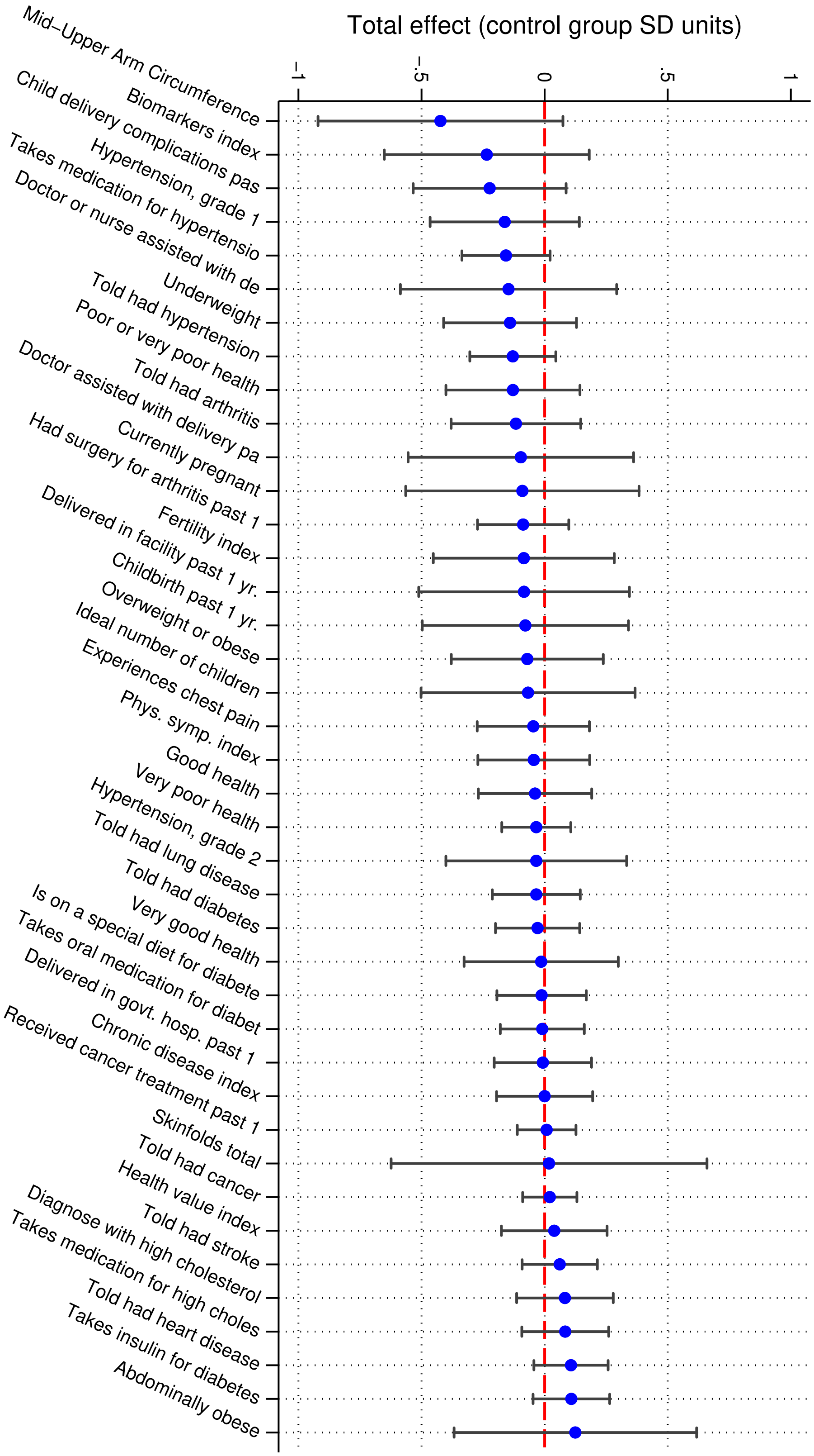
Figure A.1: Balancing test result.



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).

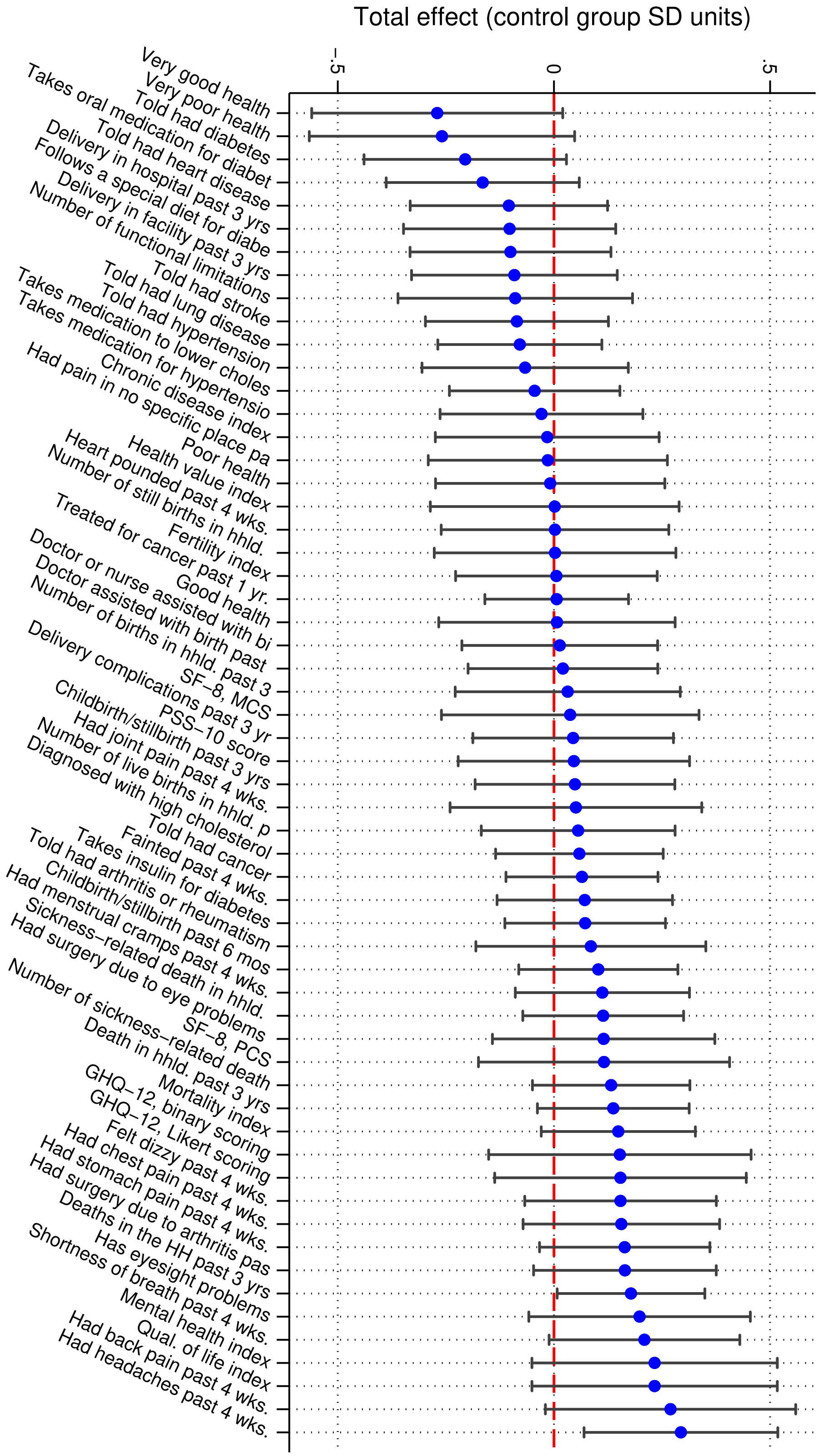
A-19

Figure A.2: Estimates of total effects of free insurance (IIT, group A) on health outcomes from midline (18 months).



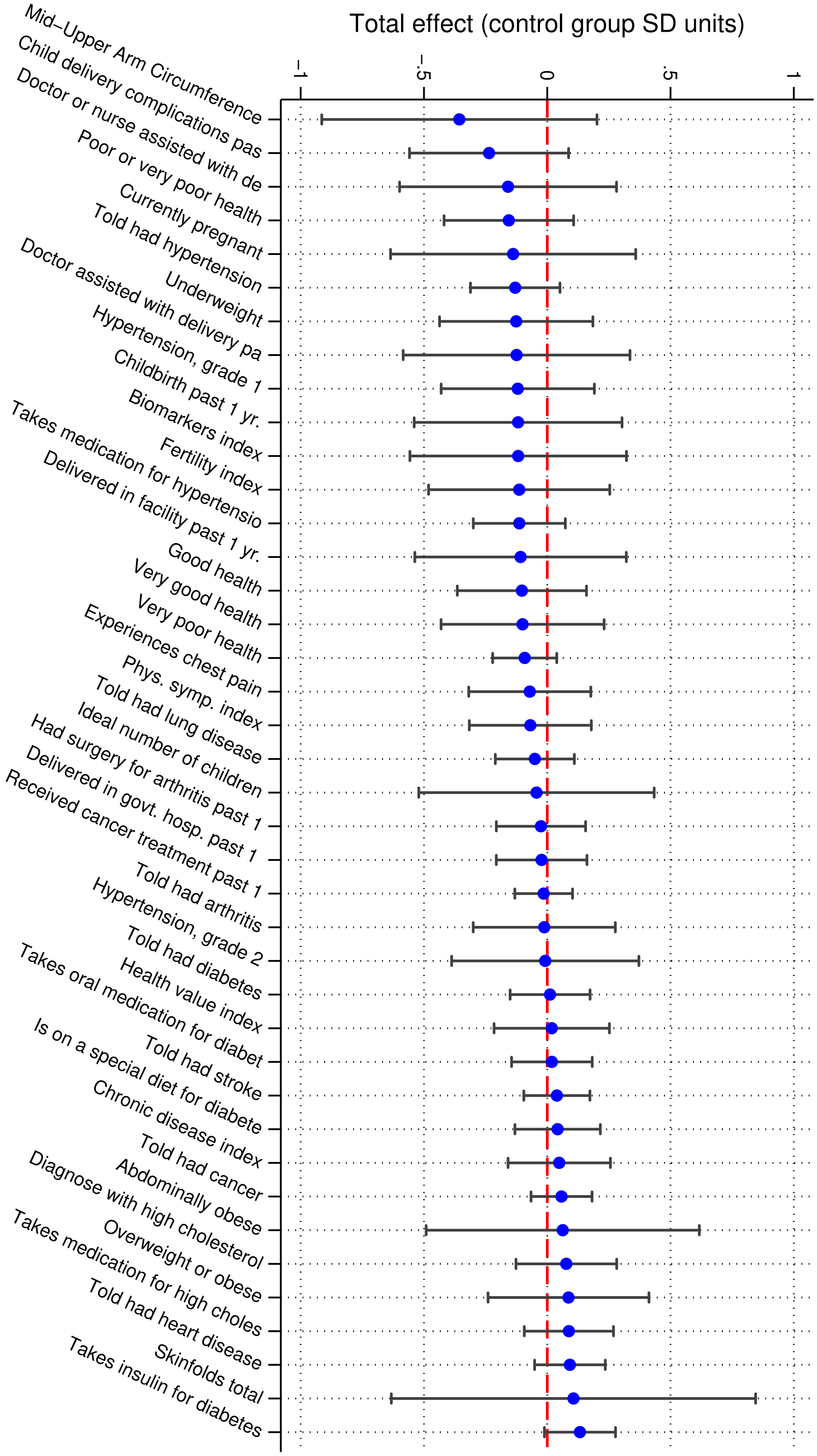
Notes. Figure presents a coefficient plot of estimates of total effects of free insurance based on ITT coefficients for health outcomes from group A at midline (18 months after treatment). Blue dots are coefficient estimates. Whiskers are 95% confidence intervals. Confidence intervals are based on standard errors that do not correct for multiple testing.

Figure A.3: Estimates of total effects of free insurance (ITT, group A) on health outcomes from endline (3.5 years).



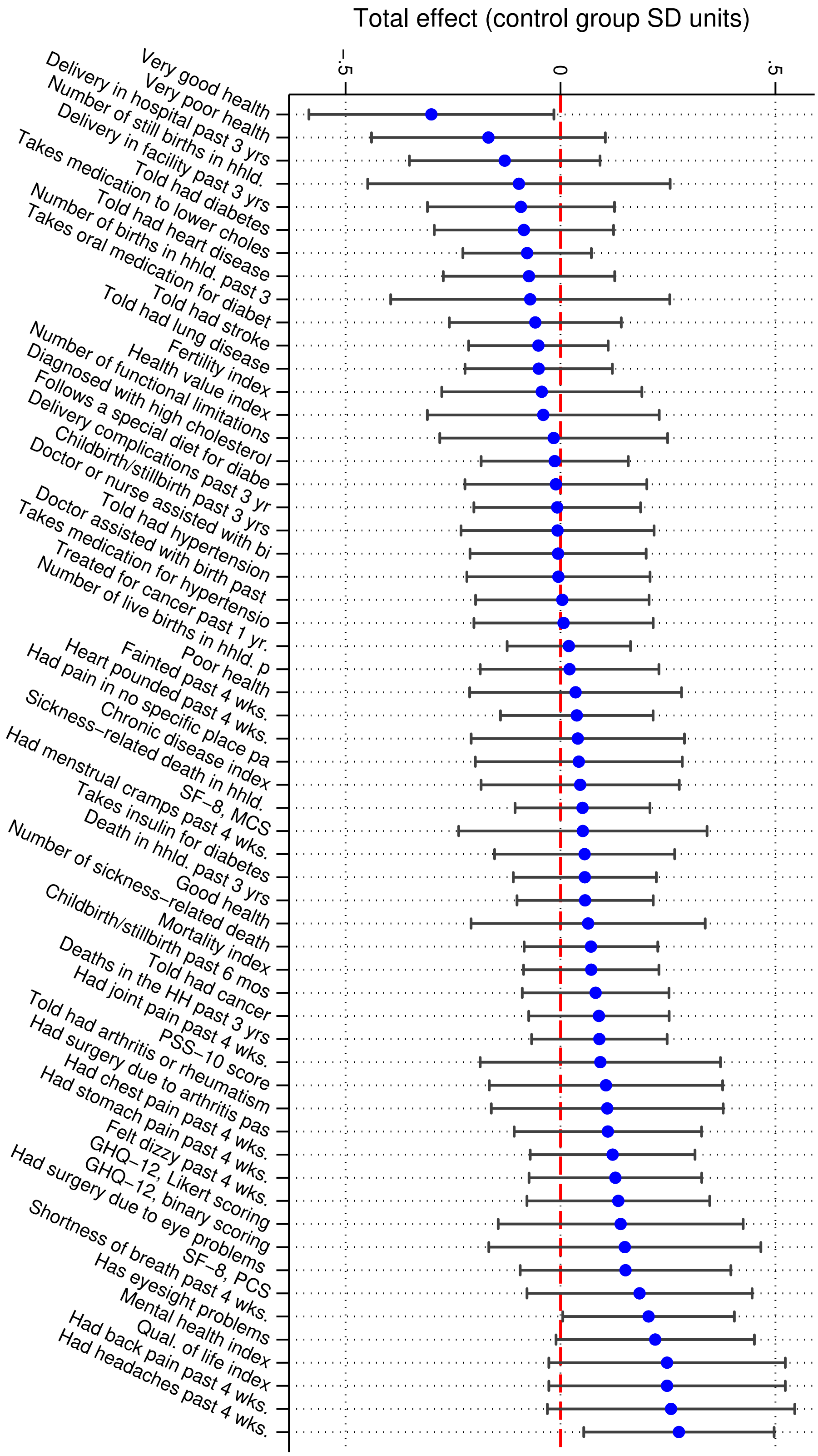
Notes. Figure presents a coefficient plot of estimates of total effects of free insurance based on ITT coefficients for health outcomes from group A at endline (3.5 years after treatment). Blue dots are coefficient estimates. Whiskers are 95% confidence intervals. Confidence intervals are based on standard errors that do not correct for multiple testing.

Figure A.4: Estimates of total effects of insurance (CATE) on health outcomes from midline (18 months).



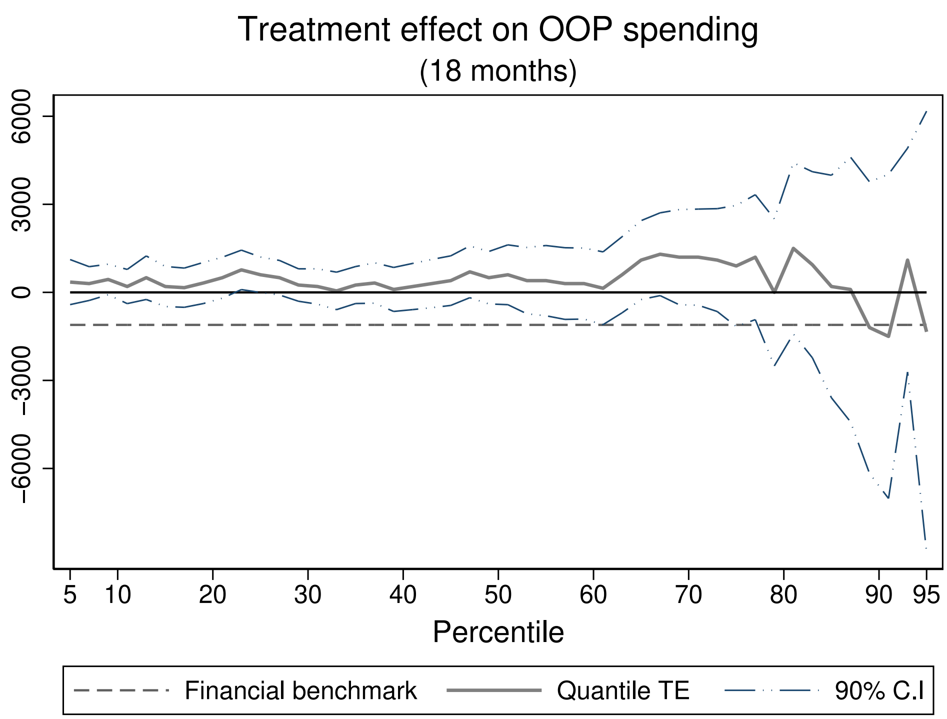
Notes. Figure presents a coefficient plot of estimates of total effects based on CATE coefficients for health outcomes from midline (18 months after treatment). Blue dots are coefficient estimates. Whiskers are 95% confidence intervals. Confidence intervals are based on standard errors that do not correct for multiple testing.

Figure A.5: Estimates of total effects of insurance (CATE) on health outcomes from endline (3.5 years).



Notes. Figure presents a coefficient plot of estimates of total effects based on CATE coefficients for health outcomes from endline (3.5 years after treatment). Blue dots are coefficient estimates. Whiskers are 95% confidence intervals. Confidence intervals are based on standard errors that do not correct for multiple testing.

Figure A.6: 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 had a purely financial benefit: 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.7: Timeline of study.

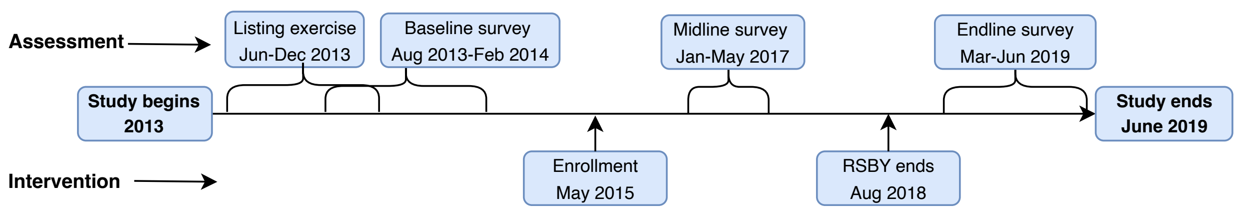
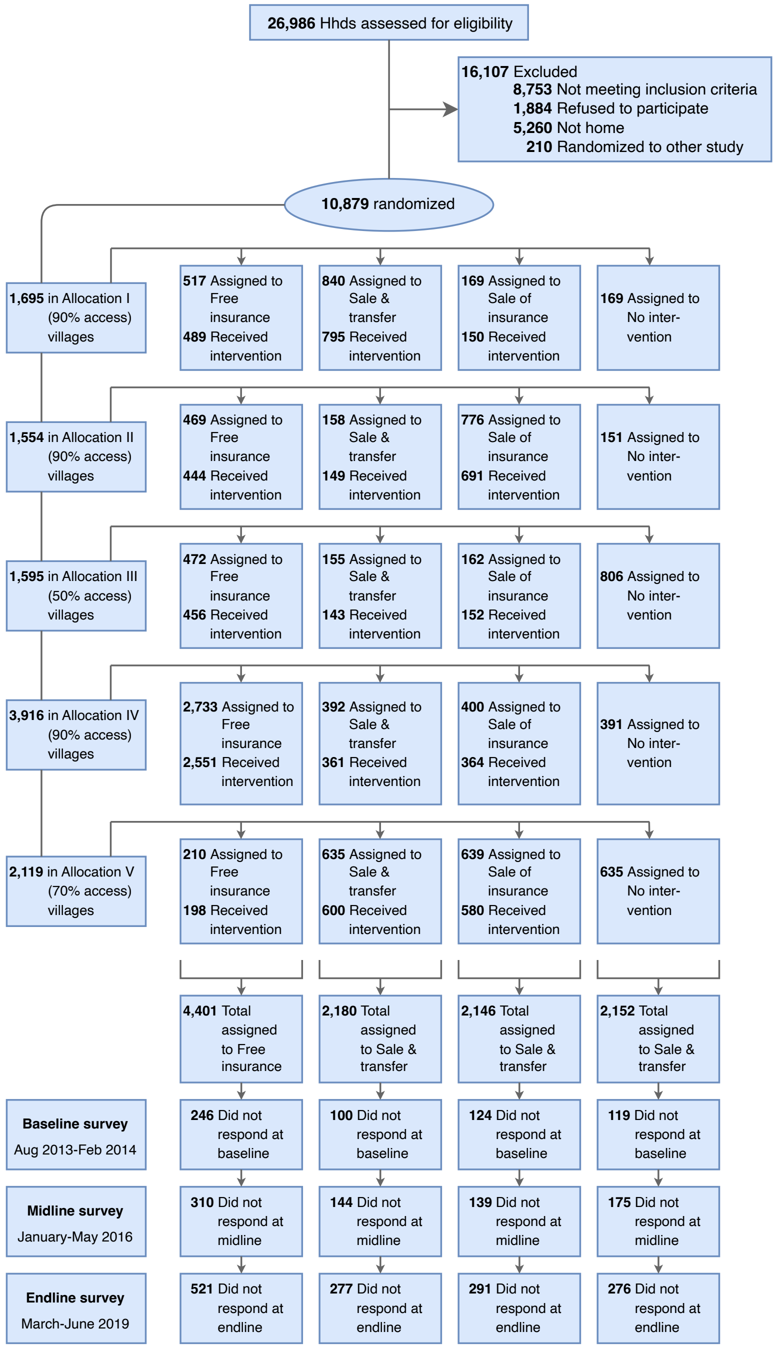
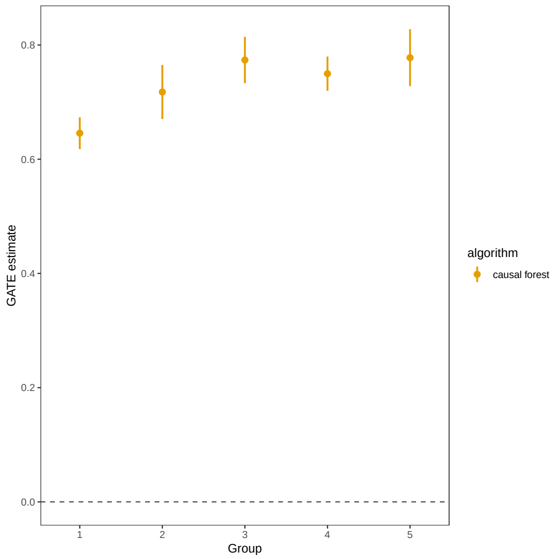


Figure A.8: Subject flowchart, with exclusions and attrition by endline.

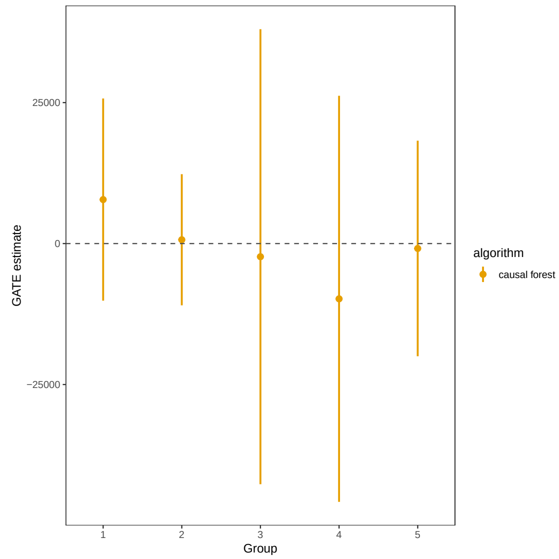


Notes. In column 1, X% "access villages" means that in these villages, X% of households were assigned to either groups A, B, or C. In rows 1-5, the difference between N "Assigned to" a group and M "Received intervention" is that our randomization algorithm assigned M to the relevant group but that, when 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.9: GATE predictions of heterogeneity in enrollment and OOP spending.



(a) GATES in enrollment



(b) GATES in OOP spending

Notes. This figure plots the sorted average group treatment effects (GATES) based on the method outlined in Imai and Li (2025). While we find statistically significant heterogeneity in enrollment that can be predicted by baseline covariates (panel a), we do not find such heterogeneity in midline OOP medical expenditure (panel b).

Figure A.10: Predicted medical expenditures

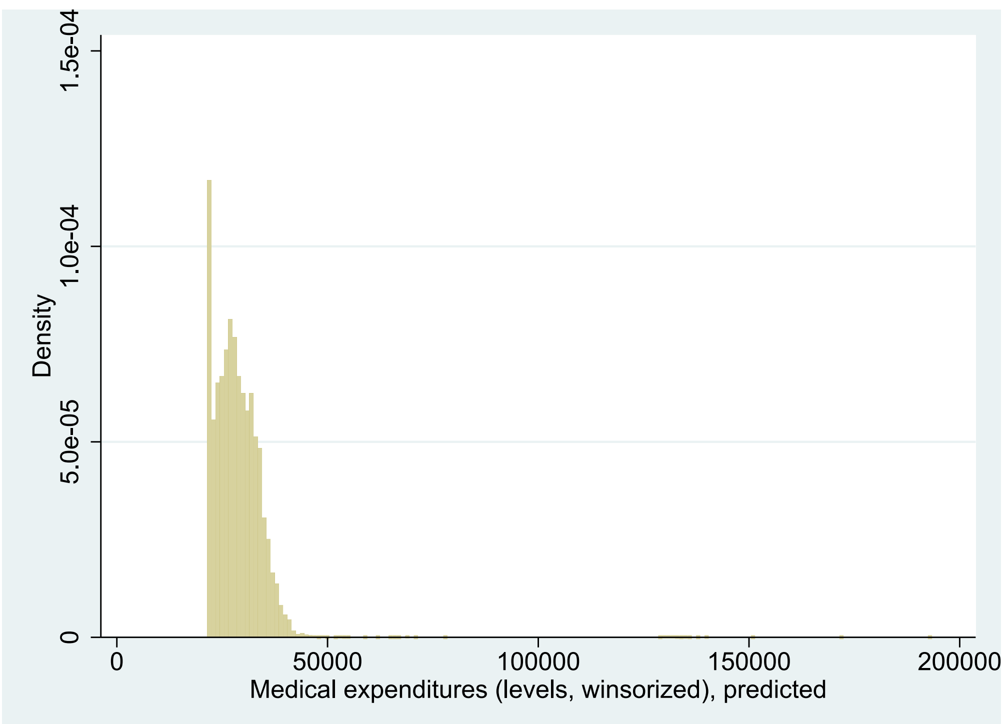
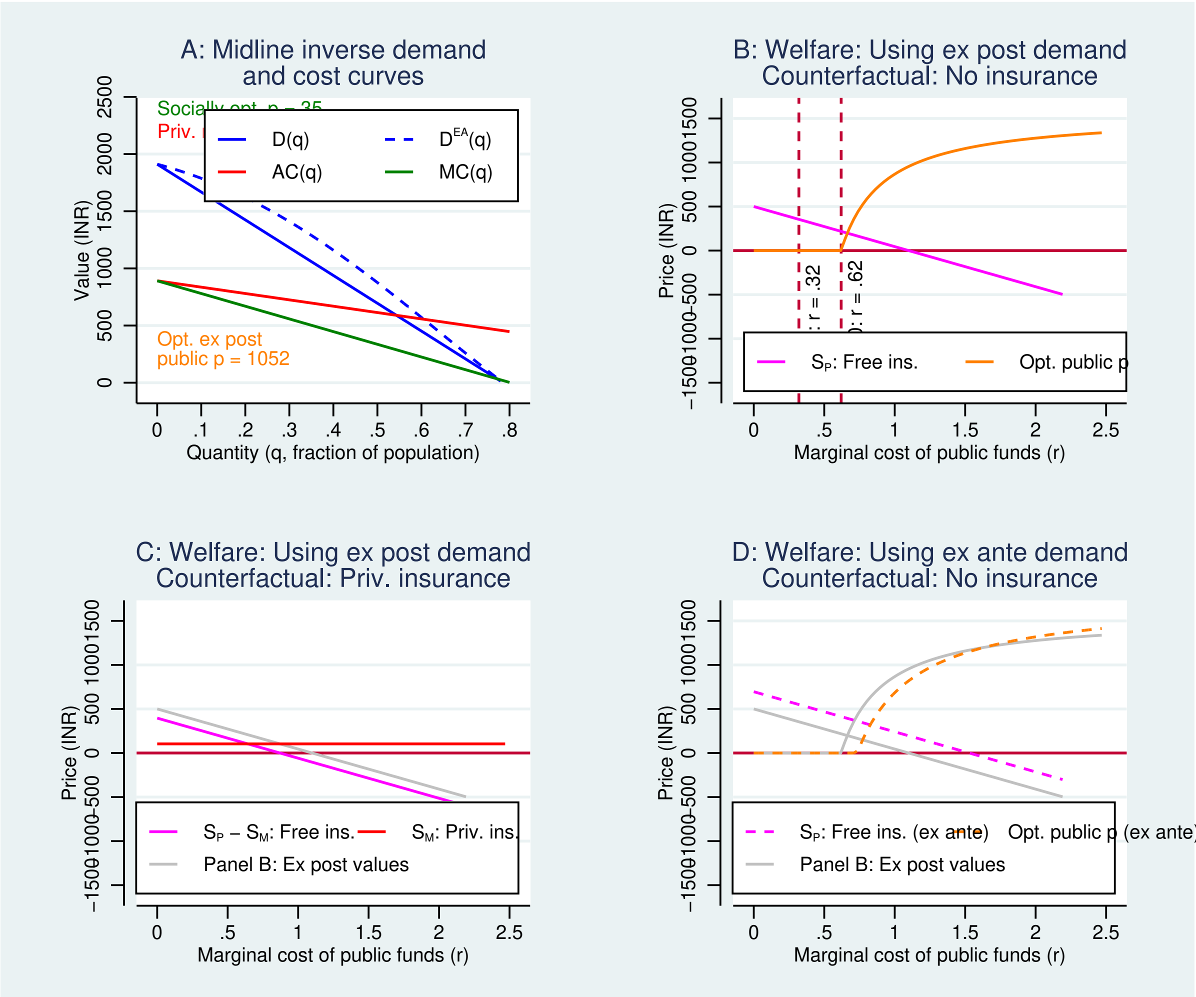
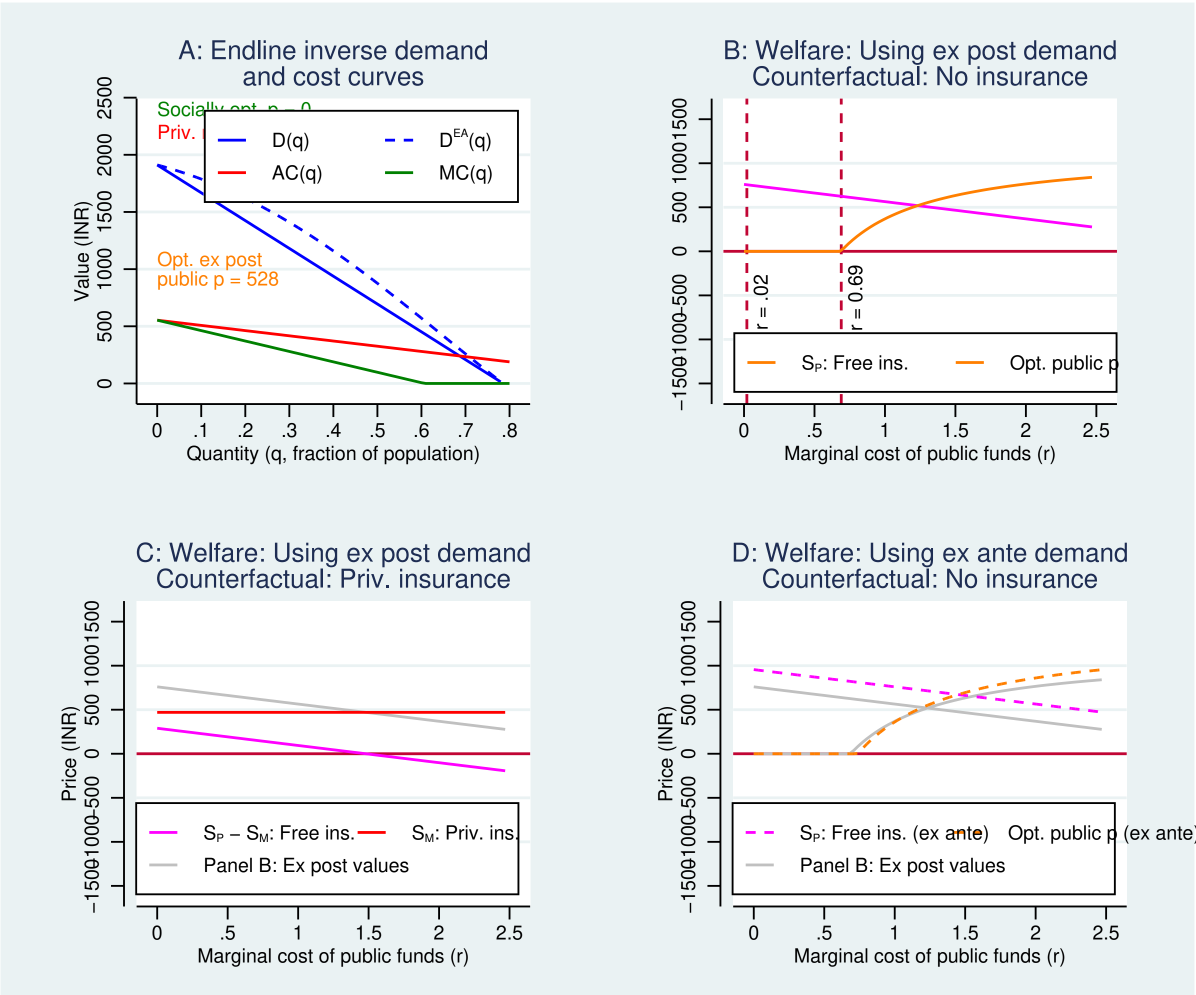


Figure A.11: Inverse demand, cost and welfare calculations at midline.



Note. Midline use equals endline hospital expenditure x midline successful use. Panel A: Demand is an upper bound on Hicksian demand; it is calculated using trial arms A and B. Solid blue line gives ex post demand, dashed blue line gives ex ante demand (Hendren 2021). MC curve is derived from AC curve. Optimal prices are calculated using plotted demand and assuming r = 1.25. Socially optimal price is intersection of plotted demand and MC curve. Private market price is given by intersection of AC line and demand curve. Optimal ex post line is pulled from Panel B at r = 1.25. Panel B: Formulas for MVPF with free insurance (magenta) and optimal price of public insurance (orange) are given in main text. The counterfactual is no insurance in absence of public insurance. Left black dashed line shows highest r at which second−order condition is not satisfied. Right dashed line gives r where p=0 satisfies the first−order condition using ex post demand. Panel C: Value of free insurance when counterfactual is community−rated private insurance without load. Red line shows surplus from private insurance alone. For comparison, gray line shows value of free insurance in panel B, the no insurance counterfactual. Panel D: Value of free insurance and optimal price of insurance using ex ante demand. For comparison, gray line shows value of free insurance in panel B.

Figure A.12: Inverse demand, cost and welfare calculations at endline.



Note. Endline use equals endline hospital use x endline successful use. Panel A: Demand is an upper bound on Hicksian demand; it is calculated using trial arms A and B. Solid blue line gives ex post demand, dashed blue line gives ex ante demand (Hendren 2021). MC curve is derived from AC curve. Optimal prices are calculated using plotted demand and assuming r = 1.25. Socially optimal price is intersection of plotted demand and MC curve. Private market price is given by intersection of AC line and demand curve. Optimal ex post line is pulled from Panel B at r = 1.25. Panel B: Formulas for MVPF with free insurance (magenta) and optimal price of public insurance (orange) are given in main text. The counterfactual is no insurance in absence of public insurance. Left black dashed line shows highest r at which second−order condition is not satisfied. Right dashed line gives r where p=0 satisfies the first−order condition using ex post demand. Panel C: Value of free insurance when counterfactual is community−rated private insurance without load. Red line shows surplus from private insurance alone. For comparison, gray line shows value of free insurance in panel B, the no insurance counterfactual. Panel D: Value of free insurance and optimal price of insurance using ex ante demand. For comparison, gray line shows value of free insurance in panel B.

E Tables

E.1 Design

Table A.1: Trial design in each district.

Village condition label	Percent of villages assigned to condition	Percent of sample households assigned to each household condition in this village condition (A) Free insurance	(B) Sale of insurance + transfer	(C) Sale of insurance	(D) No intervention
I	15	30	50	10	10
II	15	30	10	50	10
III	15	30	10	10	50
IV	35	70	10	10	10
V	20	10	30	30	30
All conds.	100	40	20	20	20

Notes. Table presents the design of the experiment, including percent of sample villages and sample households in each village assigned to each condition. This design was independently and identically applied to each of the 2 districts in the study. Column 1 gives the labels of the village conditions. Column 2 gives the percent of villages assigned to the village condition. The headers of columns 3-6 give the names of the household conditions (i.e., insurance-access arms). Each village condition is defined by the percentage of sample households assigned to each household condition. Numbers in columns 3-6 give the percentage of households assigned to each household condition in the village condition given in column 1. The last row gives totals. The last row of column 2 total shows that all sample villages are assigned to one of the 5 villages condition. The last rows of columns 3-6 give the percentage of all households in the study that were assigned to each of the 4 household conditions. For example, the table reports that 15% of villages were assigned to village condition II, and that in that condition, 30%, 10%, 50% and 10% of households were assigned to household conditions A), (B), (C), and (D), respectively. The last row says that, across all village conditions, 40%, 20%, 20%, 20% of sample households were were assigned to household conditions A), (B), (C), and (D), respectively.

Table A.2: 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.2 (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.

E.2 Outcomes

E.2.1 Insurance enrollment

Table A.3: Effects of premium and subsidy combinations on enrollment (intent-to-treat effects)

	Direct effects	Spillover effects	Total effects
	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value
(A) Free insurance	72.419	6.993	78.030
	(4.784)	(5.676)	(0.821)
	0.000	0.219	0.000
(B) Sale + transfer	65.191	7.830	71.474
	(7.837)	(9.340)	(1.217)
	0.000	0.402	0.000
(C) Sale of insurance	48.399	12.788	58.660
	(8.078)	(9.803)	(1.357)
	0.000	0.193	0.000

Notes. Table presents estimates of intent-to-treat effects of access to insurance at different prices and subsidies on enrollment in RSBY. Each observation is a household and has equal weight. 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). Standard errors were clustered at the village level. Coefficients were transformed to show percentage point changes from 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 0.8024*(spillover effect), where 0.8024 is the average fraction of households given insurance access in the study. Enrollment in the omitted group D is 0.

Table A.4: Effects of different premium & subsidy combinations, interacted with total household expenditure, 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.5: Enrollment by health and assets (controlling for education, raven scores and risk aversion)

	(1) Enrollment	(2) Enrollment	(3) Enrollment	(4) Enrollment	(5) Enrollment	(6) Enrollment	(7) Enrollment	(8) Enrollment	(9) Enrollment	(10) Enrollment	(11) Enrollment
Pay + Cash (B)	-0.15***	-0.14***	-0.15***	-0.13**	-0.14***	-0.14***	-0.13**	-0.13**	-0.16***	-0.15***	-0.15***
	(0.052)	(0.052)	(0.052)	(0.053)	(0.053)	(0.054)	(0.053)	(0.051)	(0.052)	(0.052)	(0.056)
Pay (C)	-0.20***	-0.19***	-0.19***	-0.19***	-0.17***	-0.18***	-0.20***	-0.19***	-0.20***	-0.19***	-0.20***
	(0.058)	(0.058)	(0.058)	(0.059)	(0.057)	(0.058)	(0.059)	(0.059)	(0.059)	(0.057)	(0.062)
Health		0.0080	-0.0070	0.014**	-0.0022	0.0035	-0.018**	-0.020***	0.0039	-0.0057	-0.00041
		(0.0081)	(0.0046)	(0.0071)	(0.0073)	(0.0061)	(0.0073)	(0.0070)	(0.0068)	(0.0080)	(0.0069)
B × health		-0.0072	-0.012	-0.012	-0.014	-0.027**	0.028**	0.032**	-0.0021	0.026**	0.025**
		(0.012)	(0.0088)	(0.013)	(0.012)	(0.013)	(0.012)	(0.013)	(0.012)	(0.011)	(0.010)
C × health		-0.012	-0.017	-0.012	-0.013	-0.0037	0.0079	0.0044	0.0099	0.047***	0.0059
		(0.014)	(0.011)	(0.015)	(0.014)	(0.013)	(0.013)	(0.014)	(0.014)	(0.017)	(0.014)
Asset	0.064***	0.067***	0.065***	0.065***	0.079***	0.080***	0.068***	0.056***	0.066***	0.066***	0.067***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.014)	(0.015)	(0.016)	(0.015)	(0.015)
B × asset	-0.037	-0.039	-0.038	-0.041*	-0.045*	-0.048**	-0.045*	-0.026	-0.037	-0.046*	-0.054**
	(0.023)	(0.024)	(0.023)	(0.023)	(0.024)	(0.024)	(0.023)	(0.024)	(0.024)	(0.024)	(0.024)
C × asset	-0.037	-0.042	-0.038	-0.044	-0.052*	-0.053*	-0.046*	-0.034	-0.040	-0.054*	-0.032
	(0.027)	(0.028)	(0.027)	(0.027)	(0.028)	(0.028)	(0.027)	(0.027)	(0.029)	(0.028)	(0.029)
Dep. var. mean		0.718	0.718	0.733	0.728	0.728	0.733	0.719	0.719	0.718	0.725
Dep. var. SD		0.450	0.450	0.442	0.445	0.445	0.442	0.450	0.450	0.450	0.446
N	8727	8727	8727	7619	7903	7917	7611	8675	8488	8727	7630
health variable		General health, male, midline predicted	General health, female, midline predicted	General health, male, baseline	General health, female, baseline	- Visited medical facility, female	- Visited medical facility, male	- Pr(visiting medical facility, female)	- Pr(visiting medical facility, male)	Medical expenditure, predicted	Medical expenditure, baseline
		-0.022	-0.031	-0.020	-0.022	-0.006	0.013	0.007	0.017	0.079	0.010

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.6: Relationship between treatment and cost among enrollees

	(1)	(2)	(3)	(4)
	Predicted midline spending		Predicted endline med spending	
Paid ins.+transfer (B)	0.115	0.084	0.089	0.049
	(0.034)	(0.033)	(0.036)	(0.034)
	[0.001]	[0.010]	[0.013]	[0.144]
Paid ins. (C)	0.058	0.037	0.103	0.077
	(0.037)	(0.035)	(0.039)	(0.037)
	[0.115]	[0.289]	[0.008]	[0.035]
Constant	-0.021	-0.008	-0.011	-0.072
	(0.019)	(0.059)	(0.020)	(0.062)
	[0.256]	[0.889]	[0.579]	[0.243]
Controls	N	Y	N	Y
Observations	4552	4552	4552	4552

Standard errors in parentheses; p-values in brackets. Omitted category is Free insurance (arm A). Sample is households who select into enrollment. Predicted medical spending is defined in Section 3.2. Cols 2 and 4 include controls for assets, education, Raven's scores and risk aversion.

E.2.2 Insurance and hospital utilization

Table A.7: Effects of premium and subsidy combinations (ITT) on insurance and hospital utilization

		Control	(A) Free insurance			(B) Sale of insurance + transfer			(C) Sale of insurance		
			Direct	Spillover	Total	Direct	Spillover	Total	Direct	Spillover	Total
	N	Mean (SD)	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value
Utilization at 18 months											
Successful use (past 6 mos.)	9960	3.856	2.507	4.698	6.276	2.127	5.782	6.766	7.666	-0.251	7.465
		(19.259)	(2.133)	(2.688)	(2.065)	(3.736)	(4.798)	(2.059)	(4.239)	(5.231)	(2.028)
			0.240	0.081	0.003	0.569	0.229	0.001	0.071	0.962	0.000
Failed use (past 6 mos.)	9960	1.337	3.565	-0.285	3.336	3.472	-0.396	3.154	2.571	0.033	2.597
		(11.487)	(1.910)	(2.207)	(1.173)	(2.568)	(3.130)	(1.203)	(2.120)	(2.536)	(1.109)
			0.063	0.897	0.005	0.177	0.899	0.009	0.226	0.990	0.020
Hospitalized on last visit (past 1 yr.)	9053	20.309	4.416	-2.193	2.656	-11.544	19.925	4.444	-0.501	3.903	2.630
		(40.241)	(5.473)	(9.967)	(8.177)	(9.427)	(14.685)	(8.526)	(9.365)	(12.694)	(8.351)
			0.420	0.826	0.745	0.221	0.176	0.602	0.957	0.759	0.753
Utilization at 3.5 years											
Successful use (past 6 mos.)	9458	0.322	2.164	-0.986	1.373	3.360	-2.178	1.612	-1.187	3.063	1.271
		(5.669)	(1.298)	(1.405)	(0.547)	(1.991)	(2.325)	(0.574)	(1.074)	(1.435)	(0.582)
			0.096	0.483	0.013	0.092	0.349	0.005	0.270	0.033	0.030
Successful use (most serious event)	9450	0.107	0.383	0.209	0.551	0.614	-0.148	0.495	-1.301	2.299	0.544
		(3.276)	(0.918)	(0.994)	(0.414)	(0.994)	(1.110)	(0.417)	(0.863)	(1.064)	(0.418)
			0.677	0.833	0.184	0.537	0.894	0.236	0.133	0.031	0.194
Failed used (most serious event)	9451	0.215	2.175	-1.567	0.918	-1.329	1.936	0.224	-1.118	2.179	0.631
		(4.631)	(2.160)	(2.413)	(0.527)	(1.134)	(1.340)	(0.493)	(1.608)	(1.990)	(0.532)
			0.315	0.517	0.082	0.242	0.149	0.650	0.488	0.274	0.237
Overnight stay for treatment	9488	22.579	-5.334	2.284	-3.501	-15.220	14.267	-3.772	-7.561	4.278	-4.129
		(41.821)	(5.534)	(5.748)	(4.466)	(7.428)	(8.035)	(4.454)	(8.025)	(8.535)	(4.548)
			0.336	0.691	0.434	0.041	0.077	0.397	0.347	0.616	0.364
Length of hospital stay	9478	1.266	-0.737	0.589	-0.265	-1.034	1.275	-0.011	-0.190	-0.061	-0.238
		(4.806)	(0.629)	(0.562)	(0.519)	(0.967)	(1.045)	(0.533)	(0.813)	(0.762)	(0.523)
			0.242	0.295	0.610	0.286	0.223	0.984	0.816	0.936	0.649
Outpatient (day) surgery	9474	6.517	-2.068	4.393	1.457	-9.490	12.993	0.935	-5.953	9.477	1.652
		(24.689)	(3.539)	(3.513)	(2.612)	(4.167)	(4.782)	(2.644)	(4.175)	(5.279)	(2.602)
			0.559	0.212	0.577	0.023	0.007	0.724	0.155	0.073	0.526

Notes. Table presents estimates of intent-to-treat effects of access to insurance at different prices and subsidies on use of insurance and visits to medical facilities. Mean and standard deviation in the control group are percentages from group D (no access to insurance). The outcome variables are transformed so coefficients show percentage point changes from group D. Each observation is a household and has equal weight. 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). 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 0.8024*(spillover effect), where 0.8024 is the average fraction of households given insurance access in the study. 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. The FWER adjusted 5% critical values are: 0.003 for insurance use at 18 mos; 0.006 for healthcare use at 18 mos; 0.002 for insurance use at 3.5 yrs; 0.002 for healthcare use at 3.5 yrs.

Table A.8: Effects of enrollment (CATE) on insurance and hospital utilization

	N	Control Mean (SD)	Direct effect Coefficient (SE) *p*-value	Spillover effect Coefficient (SE) *p*-value	Total effect Coefficient (SE) *p*-value
Utilization at 18 months					
Successful use (past 6 mos.)	9960	3.856	3.846	2.599	5.931
		(19.259)	(2.728)	(4.467)	(2.580)
			(0.159)	(0.561)	(0.021)
Failed use (past 6 mos.)	9960	1.337	3.461	-0.063	3.410
		(11.487)	(1.872)	(2.666)	(1.294)
			(0.065)	(0.981)	(0.008)
Hospitalized on last visit (past 1 yr.)	9053	20.309	0.999	6.090	5.886
		(40.241)	(6.276)	(12.465)	(9.153)
			(0.873)	(0.625)	(0.520)
Utilization at 3.5 years					
Successful use (past 6 mos.)	9458	0.322	2.744	-1.583	1.474
		(5.669)	(1.165)	(1.602)	(0.591)
			(0.018)	(0.323)	(0.013)
Successful use (most serious event)	9450	0.107	0.504	0.626	1.007
		(3.276)	(0.813)	(1.057)	(0.383)
			(0.535)	(0.554)	(0.009)
Failed used (most serious event)	9451	0.215	1.242	0.260	1.451
		(4.631)	(1.642)	(2.283)	(0.571)
			(0.450)	(0.909)	(0.011)
Overnight stay for treatment	9488	22.579	-12.384	14.486	-0.761
		(41.821)	(5.983)	(7.355)	(4.183)
			(0.038)	(0.049)	(0.856)
Length of hospital stay	9478	1.266	-0.875	1.259	0.135
		(4.806)	(0.705)	(0.751)	(0.449)
			(0.215)	(0.094)	(0.764)
Outpatient (day) surgery	9474	6.517	-4.073	10.518	4.367
		(24.689)	(3.473)	(4.335)	(2.592)
			(0.241)	(0.015)	(0.092)

Notes. Table presents complier average treatment estimates of the effect of enrollment in RSBY insurance on insurance and healthcare utilization. Each observation is a household and has equal weight. Mean and standard deviation in the control group are percentages from group D (no access to insurance). The outcome variables are transformed so coefficients show percentage point changes 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 0.7183, the mean uptake into insurance in arms A-C. 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. 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. The FWER adjusted 5% critical values are: 0.009 for insurance use at 18 mos; 0.017 for healthcare use at 18 mos; 0.006 for insurance use at 3.5 yrs; 0.006 for healthcare use at 3.5 yrs.

Table A.9: Relationship between treatment, RSBY enrollment and endline card possession

	(1) RSBY possession (endline)	(2) RSBY possession (endline)	(3) RSBY possession (endline)
Enrolled in RSBY	0.428***		
	(44.83)		
Offered ins.		0.448***	
		(34.02)	
Free insurance			0.463***
			(32.15)
Paid ins.+transfer			0.474***
			(26.45)
Paid ins			0.395***
			(22.79)
Village-level treat.		0.0211	0.00887
		(0.40)	(0.17)
Constant	0.273***	0.149***	0.158***
	(37.21)	(3.76)	(4.00)
Observations	9329	9329	9329
F-stat	2009.6	658.5	334.4

Notes. t statistics in parentheses. Offered insurance indicates assignment to any treatment group (free, paid+transfer or paid). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.10: Effects of RSBY possession on endline insurance and hospital utilization (complier average treatment effects)

	Obs.	Control mean (SD)	Direct effect Coefficient (SE) P-value	Spillover effect Coefficient (SE) P-value	Total effect Coefficient (SE) P-value
			Utilization at 3.5 years		
Successful use (past 6 mos.)	9296	0.322	5.563	-3.890	2.442
		(5.669)	(3.257)	(4.757)	(1.437)
			(0.088)	(0.414)	(0.089)
Successful use (most serious event)	9279	0.107	2.100	0.151	2.222
		(3.276)	(2.093)	(3.025)	(0.994)
			(0.316)	(0.960)	(0.025)
Failed used (most serious event)	9280	0.215	2.826	0.275	3.047
		(4.631)	(3.200)	(5.477)	(1.735)
			(0.377)	(0.960)	(0.079)
Overnight stay for treatment	9301	22.591	-18.769	34.933	9.262
		(41.829)	(13.184)	(20.984)	(9.281)
			(0.155)	(0.096)	(0.318)
Length of hospital stay	9297	1.266	-1.994	3.836	1.084
		(4.806)	(1.592)	(2.346)	(0.948)
			(0.210)	(0.102)	(0.253)
Outpatient (day) surgery	9292	6.517	-13.331	25.956	7.496
		(24.689)	(8.176)	(13.293)	(6.060)
			(0.103)	(0.051)	(0.216)

Notes. Table presents complier average treatment estimates of the effect possessing an RSBY insurance card on insurance and healthcare utilization. Each observation is a household and has equal weight. Mean and standard deviation in the control group are percentages from group D (no access to insurance). The outcome variables are transformed so coefficients show percentage point changes 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 0.7183, the mean uptake into insurance in arms A-C. 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. 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.

Table A.11: 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	28776.72 (31205.85)	12848.66 (5148.08) 0.01	-1.6e+04 (9680.63) 0.11	1592.14 (4576.55) 0.73
Log annual medical spending	N = 10030	9.59 (1.91)	0.59 (0.31) 0.06	-1.34 (0.48) 0.006	-0.37 (0.35) 0.28
Annual medical non-hospital spending	N = 10030	23980.96 (24866.47)	5794.11 (4200.31) 0.17	-7181.20 (8399.11) 0.39	635.54 (4149.53) 0.88
Log annual medical non-hospital spending	N = 10030	9.37 (2.04)	0.35 (0.32) 0.28	-1.09 (0.50) 0.03	-0.44 (0.36) 0.23
Medical spending at 4 years					
OOP medical spending (most serious event)	N = 9396	21470.36 (144219.87)	6670.52 (22178.69) 0.76	-1.7e+04 (20511.80) 0.42	-5241.54 (12879.74) 0.68
Log OOP medical spending (most serious event)	N = 4821	9.25 (1.61)	-0.22 (0.38) 0.56	-0.14 (0.46) 0.76	-0.32 (0.24) 0.17

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.12: Effect of premium & subsidy combinations on medical expenditures (intent-to-treat effects without accounting for share given access)

	(1) Med Exp	(2) Med Exp (log)	(3) Non-Hosp Exp	(4) Non-Hosp Exp (log)	(5) OOP	(6) OOP (log)
Free insurance	1493.57	0.05	1159.42	0.08	-1576.40	0.02
	(1120.44)	(0.06)	(936.42)	(0.06)	(4036.26)	(0.14)
Sale + transfer	-61.54	-0.02	264.84	-0.01	169.91	-0.13
	(1145.41)	(0.07)	(957.58)	(0.07)	(4767.73)	(0.16)
Sale	1726.25	0.10	1192.29	0.10	-3848.16	-0.45***
	(1119.44)	(0.06)	(932.57)	(0.07)	(4010.08)	(0.17)
Obs.	10,030	10,030	10,030	10,030	9,396	9,396
Control Mean	28776.72	9.59	23980.96	9.37	21470.36	4.81

Notes. Table presents estimates of intent-to-treat effects of access to insurance at different prices and subsidies on medical expenditures overall and components. Each observation 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. Only indicators for each treatment arm are included. There is no regressor for the share of the village allocated to A, B, or C (combined) or the interaction of the A, B, or C indicator with the share of the village allocated to A, B, or C (combined). Standard errors were clustered at the village level. Standard errors on coefficients are in parentheses. Mean in the control group are statistics from the group without access to insurance. Medical expenditures are defined as the sum of all medical expenditures in the past year. Non-hospital expenditures are defined as the sum of all medical expenditures in the past year excluding in-patient hospital stays. Out-of-pocket expenditures are defined as the sum of all medical expenditures in the past year that were not paid by insurance. */**/*** indicates significance at the 5/1/0.1% level, respectively.

Table A.13: 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% (19.32%)	8.59% (4.00%) .03	-1.34% (3.54%) .70	-9.94% (4.83%) .04	-2.10% (5.55%) .71	10.64% (5.66%) .06	12.74% (6.27%) .04	6.94% (3.14%) .03	7.03% (3.07%) .02	0.09% (3.31%) .98
Failed use (past 6 mos.)	N = 9391	1.50% (12.15%)	6.11% (2.73%) .03	0.01% (2.38%) .00	-6.10% (3.41%) .07	-2.81% (3.63%) .44	2.96% (3.71%) .43	5.77% (4.78%) .23	3.90% (1.75%) .03	2.34% (1.56%) .14	-1.56% (2.19%) .48
Insurance use at 4 years											
Successful use (past 6 mos.)	N = 8871	0.49% (6.99%)	1.85% (1.70%) .28	5.08% (1.86%) .006	3.23% (2.57%) .21	-1.19% (2.31%) .61	-4.15% (2.32%) .07	-2.95% (3.27%) .37	0.91% (0.70%) .19	1.81% (0.88%) .04	0.90% (1.05%) .39
Successful use (most serious event)	N = 8863	0.13% (3.59%)	-0.88% (0.65%) .18	1.62% (1.56%) .30	2.50% (1.68%) .14	2.92% (1.14%) .01	-1.33% (1.75%) .45	-4.25% (2.05%) .04	1.42% (0.31%) p<.001	0.58% (0.74%) .44	-0.84% (0.80%) .29
Failed used (most serious event)	N = 8864	0.57% (7.52%)	-0.59% (1.46%) .69	3.68% (2.72%) .18	4.27% (2.52%) .09	2.38% (2.12%) .26	-3.30% (3.64%) .36	-5.68% (3.31%) .09	1.29% (0.76%) .09	1.08% (0.82%) .19	-0.21% (1.07%) .85
Healthcare use at 18 months											
Hospitalized on last visit (past 1 yr.)	N = 8559	20.82% (40.61%)	-3.94% (8.43%) .64	3.31% (10.06%) .74	7.24% (13.22%) .58	6.37% (13.58%) .64	6.88% (15.68%) .66	0.51% (14.14%) .97	1.08% (9.89%) .91	8.72% (10.41%) .40	7.64% (7.83%) .33
Healthcare use at 4 years											
Overnight stay for treatment	N = 8892	22.97% (42.07%)	-13.21% (7.49%) .08	-10.09% (10.51%) .34	3.12% (13.22%) .81	14.16% (8.30%) .09	10.13% (11.57%) .38	-4.03% (12.99%) .76	-2.07% (5.36%) .70	-2.12% (5.92%) .72	-0.05% (7.21%) .99
Outpatient (day) surgery	N = 8887	6.76% (25.11%)	-7.22% (4.48%) .11	0.60% (5.58%) .91	7.81% (7.24%) .28	13.16% (5.08%) .010	6.68% (6.81%) .33	-6.48% (7.78%) .40	3.14% (3.26%) .33	5.85% (3.53%) .10	2.71% (4.16%) .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.14: OOP Medical Expenditure by predicted success of insurance use

	(1) Midline OOP spending
Free insurance	594.233
	(2719.051)
Sale + transfer	354.758
	(3017.278)
Sale of insurance	2498.993
	(2758.003)
Predicted RSBY success	1956.962
	(1666.864)
Free insurance × Pred success	548.604
	(1780.019)
Sale + transfer × Pred success	−303.037
	(1897.972)
Sale of insurance × Pred success	−565.715
	(1713.308)
Share ABC	−3594.050
	(5614.056)
Constant	28352.137
	(5129.195)
Observations	10028

Notes. Predicted RSBY success is a LASSO prediction of the likelihood of successfully using RSBY, trained in the treatment groups as a function of baseline covariates, used to generate predictions for treatment and control. LHS variable is midline OOP spending. Share ABC is the share of the village allocated to A, B, or C (combined). Standard errors were clustered at the village level.

Table A.15: 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.

E.2.3 Health outcomes

Table A.16: Effects of premium and subsidy combinations (ITT) on health and health-related outcomes at 18 months

		Control	(A) Free insurance			(B) Sale of insurance + transfer			(C) Sale of insurance		
	N	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
Self-reported measures of health											
Good health	18983	0.662	0.055	-0.091	-0.017	0.061	-0.046	0.025	0.146	-0.192	-0.006
		(0.473)	(0.040)	(0.070)	(0.055)	(0.069)	(0.091)	(0.055)	(0.074)	(0.099)	(0.055)
			0.175	0.193	0.755	0.375	0.615	0.650	0.050	0.053	0.917
Very good health	18983	0.155	0.064	-0.086	-0.004	0.044	-0.038	0.014	0.043	-0.033	0.017
		(0.362)	(0.036)	(0.064)	(0.057)	(0.069)	(0.094)	(0.059)	(0.068)	(0.093)	(0.060)
			0.072	0.178	0.947	0.524	0.683	0.817	0.528	0.720	0.778
Poor or very poor health	18983	0.056	-0.012	-0.022	-0.029	-0.029	-0.006	-0.033	-0.012	-0.020	-0.028
		(0.231)	(0.024)	(0.030)	(0.032)	(0.033)	(0.038)	(0.032)	(0.038)	(0.045)	(0.033)
			0.618	0.462	0.354	0.389	0.874	0.296	0.751	0.658	0.395
Very poor health	18983	0.008	-0.000	-0.004	-0.003	0.008	-0.014	-0.004	0.002	-0.005	-0.002
		(0.090)	(0.010)	(0.010)	(0.006)	(0.011)	(0.010)	(0.006)	(0.012)	(0.013)	(0.006)
			0.996	0.717	0.639	0.466	0.162	0.558	0.863	0.695	0.758
Health value index	18983	-0.000	0.078	-0.066	0.026	0.068	0.000	0.068	0.100	-0.074	0.042
		(0.642)	(0.064)	(0.090)	(0.069)	(0.096)	(0.123)	(0.070)	(0.103)	(0.137)	(0.071)
			0.222	0.465	0.707	0.481	0.999	0.335	0.333	0.589	0.559
Chronic disease											
Told had hypertension	18939	0.190	0.028	-0.098	-0.049	-0.140	0.114	-0.050	-0.026	-0.032	-0.051
		(0.392)	(0.046)	(0.049)	(0.035)	(0.057)	(0.069)	(0.035)	(0.053)	(0.062)	(0.034)
			0.546	0.047	0.157	0.015	0.100	0.156	0.626	0.607	0.139
Takes medication for hypertension	18960	0.131	-0.018	-0.044	-0.052	-0.125	0.089	-0.055	-0.082	0.037	-0.053
		(0.338)	(0.037)	(0.045)	(0.031)	(0.047)	(0.060)	(0.031)	(0.043)	(0.051)	(0.031)
			0.626	0.338	0.087	0.009	0.138	0.081	0.056	0.466	0.092
Told had diabetes	18913	0.068	-0.005	-0.003	-0.007	-0.040	0.047	-0.004	-0.032	0.033	-0.006
		(0.252)	(0.023)	(0.028)	(0.022)	(0.037)	(0.043)	(0.023)	(0.036)	(0.036)	(0.023)
			0.847	0.904	0.741	0.283	0.276	0.874	0.368	0.356	0.788
Takes oral medication for diabetes	18948	0.050	-0.002	-0.000	-0.002	-0.023	0.030	0.001	-0.027	0.025	-0.007
		(0.217)	(0.020)	(0.023)	(0.019)	(0.031)	(0.037)	(0.020)	(0.031)	(0.032)	(0.020)
			0.926	0.988	0.912	0.466	0.417	0.967	0.388	0.434	0.723
Takes insulin for diabetes	18952	0.018	-0.001	0.019	0.014	-0.016	0.042	0.016	-0.006	0.027	0.016
		(0.133)	(0.011)	(0.011)	(0.011)	(0.016)	(0.018)	(0.011)	(0.017)	(0.018)	(0.011)
			0.943	0.088	0.177	0.300	0.023	0.147	0.727	0.131	0.150
Is on a special diet for diabetes	18962	0.046	-0.000	-0.003	-0.003	-0.044	0.055	-0.001	-0.038	0.047	-0.001
		(0.210)	(0.018)	(0.024)	(0.019)	(0.028)	(0.032)	(0.020)	(0.030)	(0.030)	(0.020)
			0.980	0.912	0.895	0.117	0.091	0.949	0.211	0.122	0.973
Told had cancer	18946	0.004	-0.006	0.010	0.001	-0.003	0.009	0.003	-0.005	0.005	-0.000
		(0.064)	(0.005)	(0.006)	(0.004)	(0.009)	(0.010)	(0.003)	(0.008)	(0.009)	(0.003)
			0.224	0.107	0.739	0.691	0.400	0.316	0.555	0.554	0.925
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)
			0.661	0.668	0.885	0.381	0.280	0.978	0.699	0.807	0.678

Notes. See note at end of table.

Table A.16 (continued): Effects of premium and subsidy combinations (ITT) on health and health-related outcomes at 18 months

		Control	(A) Free insurance			(B) Sale of insurance + transfer			(C) Sale of insurance		
	N	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 lung disease	18907	0.034	-0.017	0.014	-0.006	0.012	-0.022	-0.005	0.002	-0.002	0.000
		(0.181)	(0.020)	(0.017)	(0.016)	(0.028)	(0.028)	(0.017)	(0.028)	(0.030)	(0.017)
			0.388	0.425	0.699	0.663	0.426	0.762	0.952	0.947	0.995
Told had heart disease	18868	0.020	0.009	0.008	0.015	0.023	-0.014	0.012	-0.001	0.018	0.014
		(0.141)	(0.017)	(0.017)	(0.011)	(0.019)	(0.020)	(0.010)	(0.017)	(0.018)	(0.010)
			0.599	0.634	0.166	0.243	0.482	0.254	0.971	0.313	0.174
Told had stroke	18826	0.007	0.003	0.003	0.005	0.009	-0.005	0.005	-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)
			0.756	0.766	0.433	0.454	0.670	0.445	0.992	0.602	0.478
Told had arthritis	18894	0.176	-0.093	0.060	-0.045	-0.067	0.017	-0.053	-0.127	0.092	-0.055
		(0.381)	(0.038)	(0.065)	(0.050)	(0.076)	(0.094)	(0.053)	(0.058)	(0.072)	(0.051)
			0.014	0.356	0.369	0.379	0.854	0.318	0.029	0.204	0.285
Had surgery for arthritis past 1 yr.	18933	0.018	-0.015	0.004	-0.012	-0.035	0.024	-0.016	-0.053	0.048	-0.015
		(0.135)	(0.014)	(0.018)	(0.013)	(0.019)	(0.022)	(0.013)	(0.017)	(0.019)	(0.013)
			0.286	0.814	0.347	0.072	0.280	0.234	0.002	0.012	0.244
Diagnose with high cholesterol	18871	0.019	-0.001	0.016	0.011	0.010	0.007	0.015	0.005	0.014	0.015
		(0.137)	(0.011)	(0.018)	(0.013)	(0.019)	(0.029)	(0.014)	(0.019)	(0.022)	(0.014)
			0.909	0.374	0.413	0.617	0.811	0.271	0.815	0.529	0.280
Takes medication for high cholesterol	19032	0.014	0.004	0.008	0.010	-0.006	0.019	0.009	-0.009	0.027	0.012
		(0.116)	(0.012)	(0.013)	(0.010)	(0.017)	(0.020)	(0.011)	(0.017)	(0.022)	(0.011)
			0.761	0.558	0.355	0.733	0.347	0.408	0.598	0.217	0.254
Chronic disease index	19113	-0.000	-0.023	0.028	-0.000	-0.096	0.123	0.001	-0.094	0.120	0.000
		(0.433)	(0.041)	(0.053)	(0.043)	(0.068)	(0.084)	(0.044)	(0.063)	(0.077)	(0.043)
			0.583	0.597	0.992	0.160	0.142	0.976	0.137	0.121	0.994
Health-related quality of life, ADLs, and physical health symptoms											
Experiences chest pain	18888	0.081	-0.029	0.021	-0.013	0.003	-0.018	-0.011	-0.008	-0.002	-0.009
		(0.273)	(0.024)	(0.041)	(0.031)	(0.044)	(0.053)	(0.033)	(0.040)	(0.049)	(0.032)
			0.226	0.610	0.680	0.948	0.730	0.732	0.837	0.975	0.767
Phys. symp. index	18888	-0.000	-0.113	0.085	-0.045	0.012	-0.066	-0.040	-0.025	-0.011	-0.033
		(1.000)	(0.089)	(0.150)	(0.114)	(0.160)	(0.195)	(0.122)	(0.146)	(0.179)	(0.116)
			0.204	0.569	0.690	0.940	0.734	0.743	0.865	0.953	0.776
Biomarkers											
Overweight or obese	4853	0.271	-0.034	0.003	-0.031	-0.065	0.073	-0.008	-0.113	0.137	-0.005
		(0.445)	(0.088)	(0.100)	(0.069)	(0.128)	(0.141)	(0.072)	(0.118)	(0.130)	(0.068)
			0.699	0.975	0.649	0.611	0.606	0.915	0.340	0.296	0.937
Underweight	4853	0.084	0.059	-0.123	-0.037	-0.097	0.057	-0.052	-0.045	-0.005	-0.050
		(0.277)	(0.055)	(0.075)	(0.037)	(0.067)	(0.080)	(0.038)	(0.059)	(0.073)	(0.038)
			0.285	0.103	0.322	0.150	0.479	0.173	0.440	0.941	0.198
Abdominally obese	4723	0.713	-0.108	0.204	0.053	-0.046	0.051	-0.006	-0.052	0.091	0.020
		(0.452)	(0.104)	(0.101)	(0.112)	(0.155)	(0.186)	(0.115)	(0.154)	(0.175)	(0.113)
			0.301	0.046	0.634	0.769	0.786	0.960	0.736	0.605	0.863
Mid-Upper Arm Circumference	4815	27.032	-1.680	0.215	-1.510	-2.213	0.504	-1.817	-1.772	0.086	-1.705
		(3.562)	(0.656)	(1.234)	(0.881)	(1.008)	(1.314)	(0.859)	(1.144)	(1.385)	(0.860)
			0.012	0.862	0.089	0.030	0.702	0.037	0.124	0.951	0.050

Notes. See note at end of table.

Table A.16 (continued): Effects of premium and subsidy combinations (ITT) on health and health-related outcomes at 18 months

		Control	(A) Free insurance			(B) Sale of insurance + transfer			(C) Sale of insurance		
	N	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
Hypertension, grade 1	4878	0.449	-0.073	-0.010	-0.081	-0.092	0.000	-0.092	-0.176	0.102	-0.095
		(0.498)	(0.078)	(0.095)	(0.075)	(0.100)	(0.119)	(0.077)	(0.111)	(0.142)	(0.080)
			0.354	0.915	0.288	0.362	0.997	0.234	0.117	0.472	0.235
Hypertension, grade 2	4878	0.191	-0.083	0.086	-0.015	0.030	-0.031	0.005	-0.078	0.070	-0.023
		(0.393)	(0.068)	(0.072)	(0.072)	(0.090)	(0.112)	(0.072)	(0.085)	(0.106)	(0.072)
			0.224	0.231	0.840	0.739	0.780	0.940	0.365	0.511	0.753
Skinfolds total	4065	26.326	-2.131	2.868	0.127	-1.608	1.477	-0.445	-0.994	1.845	0.458
		(9.464)	(2.100)	(3.953)	(3.021)	(3.565)	(4.701)	(3.023)	(3.824)	(5.551)	(3.059)
			0.312	0.470	0.967	0.653	0.754	0.883	0.795	0.740	0.881
Biomarkers index	4935	-0.000	-0.155	0.074	-0.097	-0.202	0.091	-0.130	-0.234	0.150	-0.116
		(0.409)	(0.080)	(0.084)	(0.085)	(0.139)	(0.130)	(0.092)	(0.120)	(0.145)	(0.086)
			0.053	0.381	0.257	0.148	0.488	0.157	0.054	0.302	0.183
						Fertility					
Currently pregnant	9262	0.055	0.020	-0.050	-0.020	-0.002	-0.031	-0.026	-0.071	0.078	-0.009
		(0.227)	(0.026)	(0.068)	(0.054)	(0.039)	(0.068)	(0.056)	(0.057)	(0.105)	(0.059)
			0.440	0.455	0.714	0.968	0.647	0.638	0.210	0.456	0.875
Childbirth past 1 yr.	8299	0.049	0.028	-0.056	-0.016	-0.009	-0.006	-0.014	-0.023	-0.009	-0.029
		(0.217)	(0.026)	(0.060)	(0.045)	(0.034)	(0.051)	(0.048)	(0.038)	(0.039)	(0.048)
			0.284	0.348	0.723	0.792	0.900	0.769	0.550	0.827	0.544
Delivered in govt. hosp. past 1 yr.	8297	0.015	0.009	-0.013	-0.001	-0.002	0.014	0.010	-0.016	0.018	-0.002
		(0.120)	(0.017)	(0.015)	(0.012)	(0.022)	(0.023)	(0.012)	(0.017)	(0.019)	(0.012)
			0.572	0.407	0.956	0.941	0.532	0.438	0.343	0.335	0.869
Delivered in facility past 1 yr.	8297	0.047	0.023	-0.051	-0.017	-0.000	-0.016	-0.013	-0.032	0.002	-0.031
		(0.211)	(0.026)	(0.059)	(0.045)	(0.034)	(0.049)	(0.048)	(0.036)	(0.037)	(0.048)
			0.362	0.391	0.709	0.989	0.745	0.783	0.366	0.963	0.522
Doctor assisted with delivery past 1 yr.	8299	0.038	0.023	-0.051	-0.018	0.007	-0.029	-0.016	-0.038	0.014	-0.027
		(0.191)	(0.022)	(0.059)	(0.044)	(0.031)	(0.046)	(0.046)	(0.037)	(0.036)	(0.047)
			0.309	0.382	0.686	0.823	0.529	0.728	0.307	0.707	0.570
Doctor or nurse assisted with delivery past 1 yr.	8299	0.043	0.012	-0.052	-0.029	-0.011	-0.023	-0.029	-0.036	-0.004	-0.040
		(0.203)	(0.026)	(0.059)	(0.045)	(0.032)	(0.047)	(0.047)	(0.037)	(0.039)	(0.048)
			0.640	0.381	0.516	0.730	0.629	0.538	0.335	0.912	0.409
Child delivery complications past 1 yr.	8293	0.015	-0.010	-0.021	-0.027	-0.007	-0.020	-0.022	-0.020	-0.007	-0.025
		(0.122)	(0.013)	(0.026)	(0.019)	(0.018)	(0.031)	(0.020)	(0.017)	(0.018)	(0.020)
			0.436	0.409	0.156	0.719	0.523	0.264	0.249	0.697	0.219
Ideal number of children	7881	2.516	-0.133	0.063	-0.083	-0.136	0.167	-0.004	0.013	-0.086	-0.055
		(1.215)	(0.159)	(0.318)	(0.265)	(0.278)	(0.385)	(0.269)	(0.278)	(0.424)	(0.269)
			0.406	0.842	0.755	0.626	0.665	0.987	0.963	0.840	0.839
Fertility index	9288	0.000	0.061	-0.128	-0.040	-0.021	-0.008	-0.028	-0.107	0.060	-0.060
		(0.495)	(0.063)	(0.124)	(0.091)	(0.082)	(0.107)	(0.096)	(0.089)	(0.105)	(0.097)
			0.335	0.304	0.661	0.799	0.938	0.774	0.230	0.570	0.539

Notes. Table presents estimates of intent-to-treat effects of access to insurance at different prices and subsidies on health and health-related outcomes at 18 months. Each observation is a household and has equal weight. 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). Standard errors were clustered at the village level. Coefficients were transformed to show percentage point changes from 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 0.8024*(spillover effect), where 0.8024 is the average fraction of households given insurance access in the study. Mean and standard deviation in the control group are statistics from the group without access to insurance. The FWER adjusted 5% critical values are: 0.00114 for self-reported measures of health; 0.00036 for chronic disease; 0.00285 for quality of life, ADLs, and physical health symptoms; 0.00071 for biomarkers; and 0.00063 for fertility, at 18 months.

Table A.17: Effects of premium and subsidy combinations (ITT) on health and health-related outcomes at 3.5 years

		Control	(A) Free insurance			(B) Sale of insurance + transfer			(C) Sale of insurance		
	N	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
Self-reported measures of health											
Good health	9492	0.516	0.012	-0.010	0.004	-0.169	0.220	0.004	0.012	-0.023	-0.007
		(0.500)	(0.077)	(0.089)	(0.069)	(0.099)	(0.111)	(0.070)	(0.098)	(0.109)	(0.070)
			0.878	0.907	0.958	0.087	0.047	0.955	0.906	0.831	0.926
Very good health	9492	0.076	0.024	-0.120	-0.070	-0.059	-0.020	-0.075	-0.050	-0.041	-0.083
		(0.265)	(0.044)	(0.058)	(0.039)	(0.053)	(0.055)	(0.041)	(0.046)	(0.053)	(0.041)
			0.578	0.041	0.072	0.267	0.710	0.071	0.272	0.446	0.042
Poor health	9492	0.102	-0.032	0.036	-0.003	-0.038	0.037	-0.009	-0.035	0.036	-0.006
		(0.303)	(0.048)	(0.047)	(0.041)	(0.061)	(0.063)	(0.042)	(0.062)	(0.063)	(0.042)
			0.508	0.447	0.938	0.538	0.558	0.834	0.578	0.569	0.880
Very poor health	9492	0.021	-0.042	0.006	-0.037	-0.053	0.022	-0.035	-0.033	-0.008	-0.039
		(0.143)	(0.022)	(0.018)	(0.022)	(0.026)	(0.027)	(0.022)	(0.027)	(0.024)	(0.023)
			0.056	0.752	0.096	0.040	0.426	0.115	0.224	0.736	0.085
Health value index	9492	0.000	0.128	-0.158	0.004	-0.017	0.022	0.001	0.044	-0.066	-0.008
		(0.647)	(0.116)	(0.121)	(0.094)	(0.134)	(0.136)	(0.097)	(0.124)	(0.129)	(0.096)
			0.271	0.192	0.970	0.899	0.869	0.995	0.724	0.610	0.935
Chronic disease											
Told had hypertension	9476	0.233	-0.038	0.013	-0.028	-0.110	0.100	-0.032	-0.168	0.178	-0.028
		(0.423)	(0.057)	(0.059)	(0.051)	(0.076)	(0.080)	(0.053)	(0.083)	(0.085)	(0.054)
			0.501	0.830	0.579	0.149	0.216	0.548	0.043	0.038	0.605
Takes medication for hypertension	9495	0.197	-0.041	0.037	-0.012	-0.062	0.065	-0.011	-0.117	0.141	-0.006
		(0.398)	(0.053)	(0.053)	(0.047)	(0.070)	(0.076)	(0.048)	(0.073)	(0.076)	(0.049)
			0.441	0.487	0.799	0.377	0.395	0.813	0.111	0.063	0.908
Told had diabetes	9479	0.121	-0.052	-0.019	-0.067	-0.128	0.075	-0.069	-0.153	0.108	-0.069
		(0.326)	(0.048)	(0.048)	(0.039)	(0.059)	(0.062)	(0.040)	(0.056)	(0.056)	(0.040)
			0.278	0.702	0.086	0.031	0.227	0.084	0.007	0.057	0.084
Takes oral medication for diabetes	9499	0.107	-0.049	-0.003	-0.051	-0.106	0.067	-0.054	-0.130	0.101	-0.050
		(0.310)	(0.048)	(0.046)	(0.035)	(0.055)	(0.060)	(0.036)	(0.052)	(0.054)	(0.035)
			0.308	0.954	0.147	0.052	0.266	0.131	0.013	0.062	0.152
Takes insulin for diabetes	9489	0.024	0.017	-0.007	0.011	0.019	-0.009	0.012	-0.006	0.022	0.011
		(0.152)	(0.019)	(0.019)	(0.014)	(0.026)	(0.029)	(0.015)	(0.025)	(0.026)	(0.015)
			0.372	0.705	0.439	0.476	0.757	0.425	0.801	0.392	0.445
Follows a special diet for diabetes	9495	0.077	-0.037	0.012	-0.027	-0.073	0.060	-0.026	-0.076	0.066	-0.024
		(0.267)	(0.041)	(0.039)	(0.031)	(0.048)	(0.052)	(0.032)	(0.047)	(0.051)	(0.031)
			0.375	0.752	0.391	0.133	0.251	0.420	0.111	0.195	0.448
Told had cancer	9470	0.004	-0.005	0.012	0.004	0.006	0.001	0.006	0.000	0.002	0.002
		(0.065)	(0.008)	(0.007)	(0.006)	(0.014)	(0.018)	(0.006)	(0.008)	(0.007)	(0.006)
			0.495	0.065	0.489	0.672	0.977	0.271	0.960	0.818	0.764
Treated for cancer past 1 yr.	9496	0.002	-0.000	0.000	0.000	-0.007	0.009	-0.000	-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)
			0.994	0.941	0.942	0.145	0.084	0.917	0.729	0.679	0.962

Notes. See note at end of table.

Table A.17 (continued): Effects of premium and subsidy combinations (ITT) on health and health-related outcomes at 3.5 years

		Control	(A) Free insurance			(B) Sale of insurance + transfer			(C) Sale of insurance		
	N	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 lung disease	9479	0.060	-0.036	0.021	-0.019	-0.003	-0.018	-0.018	-0.039	0.018	-0.025
		(0.238)	(0.030)	(0.029)	(0.023)	(0.037)	(0.044)	(0.023)	(0.039)	(0.037)	(0.024)
			0.237	0.464	0.405	0.930	0.680	0.446	0.317	0.622	0.300
Told had heart disease	9473	0.047	0.017	-0.048	-0.021	-0.068	0.047	-0.031	-0.074	0.051	-0.033
		(0.211)	(0.035)	(0.033)	(0.024)	(0.033)	(0.037)	(0.024)	(0.036)	(0.035)	(0.024)
			0.635	0.149	0.386	0.042	0.209	0.190	0.042	0.146	0.172
Told had stroke	9446	0.006	-0.011	0.005	-0.007	-0.022	0.015	-0.010	0.002	-0.016	-0.011
		(0.080)	(0.013)	(0.011)	(0.009)	(0.012)	(0.011)	(0.009)	(0.015)	(0.013)	(0.009)
			0.399	0.632	0.423	0.069	0.173	0.242	0.909	0.221	0.193
Told had arthritis or rheumatism	9482	0.193	-0.061	0.118	0.032	0.035	-0.007	0.030	0.036	-0.001	0.035
		(0.395)	(0.062)	(0.063)	(0.053)	(0.083)	(0.096)	(0.051)	(0.076)	(0.090)	(0.052)
			0.327	0.062	0.549	0.670	0.941	0.559	0.640	0.989	0.509
Had surgery due to arthritis past 1 yr.	9497	0.042	0.025	0.010	0.033	0.004	0.022	0.022	0.028	0.006	0.033
		(0.200)	(0.028)	(0.029)	(0.021)	(0.032)	(0.035)	(0.022)	(0.034)	(0.041)	(0.022)
			0.369	0.735	0.128	0.888	0.525	0.303	0.419	0.877	0.139
Diagnosed with high cholesterol	9449	0.026	0.012	-0.003	0.009	0.004	0.006	0.009	0.014	-0.005	0.010
		(0.160)	(0.021)	(0.020)	(0.016)	(0.024)	(0.022)	(0.016)	(0.023)	(0.022)	(0.016)
			0.578	0.894	0.548	0.871	0.788	0.587	0.555	0.838	0.518
Takes medication to lower cholesterol	9496	0.013	-0.002	-0.004	-0.005	-0.017	0.015	-0.005	-0.006	0.000	-0.006
		(0.115)	(0.014)	(0.009)	(0.012)	(0.014)	(0.011)	(0.011)	(0.014)	(0.010)	(0.012)
			0.872	0.704	0.660	0.229	0.157	0.661	0.643	0.976	0.596
Has eyesight problems	9480	0.329	-0.023	0.145	0.091	-0.033	0.172	0.102	0.019	0.097	0.096
		(0.470)	(0.067)	(0.069)	(0.061)	(0.089)	(0.093)	(0.061)	(0.095)	(0.096)	(0.064)
			0.726	0.036	0.136	0.711	0.066	0.097	0.839	0.311	0.135
Had surgery due to eye problems past 1 yr.	9497	0.074	-0.043	0.091	0.029	0.020	0.012	0.030	-0.022	0.062	0.027
		(0.261)	(0.039)	(0.036)	(0.034)	(0.054)	(0.057)	(0.034)	(0.055)	(0.074)	(0.036)
			0.268	0.012	0.401	0.704	0.827	0.380	0.694	0.400	0.443
Chronic disease index	9504	-0.000	-0.060	0.066	-0.008	-0.117	0.130	-0.014	-0.130	0.145	-0.016
		(0.431)	(0.077)	(0.071)	(0.057)	(0.076)	(0.086)	(0.056)	(0.080)	(0.080)	(0.057)
			0.439	0.353	0.892	0.123	0.129	0.801	0.103	0.070	0.775
Health-related quality of life, ADLs, and physical health symptoms											
Number of functional limitations	9413	0.674	-0.163	0.034	-0.137	-0.398	0.273	-0.182	-0.367	0.287	-0.141
		(1.523)	(0.191)	(0.247)	(0.208)	(0.273)	(0.325)	(0.215)	(0.282)	(0.333)	(0.216)
			0.393	0.892	0.511	0.146	0.402	0.397	0.194	0.389	0.515
SF-8, PCS	9510	2.260	-0.110	0.272	0.104	-0.076	0.234	0.108	-0.189	0.412	0.136
		(0.930)	(0.173)	(0.151)	(0.137)	(0.183)	(0.202)	(0.135)	(0.177)	(0.198)	(0.135)
			0.525	0.074	0.450	0.680	0.247	0.422	0.287	0.038	0.317
SF-8, MCS	9510	1.491	-0.003	0.041	0.029	0.076	-0.102	-0.004	-0.272	0.365	0.016
		(0.789)	(0.105)	(0.139)	(0.118)	(0.154)	(0.179)	(0.123)	(0.169)	(0.190)	(0.125)
			0.976	0.768	0.806	0.621	0.569	0.976	0.108	0.055	0.899
Had stomach pain past 4 wks.	8999	0.061	0.066	-0.033	0.040	0.002	0.043	0.035	-0.011	0.066	0.041
		(0.240)	(0.039)	(0.044)	(0.024)	(0.042)	(0.048)	(0.025)	(0.047)	(0.054)	(0.025)
			0.091	0.452	0.097	0.964	0.374	0.159	0.816	0.222	0.104

Notes. See note at end of table.

Table A.17 (continued): Effects of premium and subsidy combinations (ITT) on health and health-related outcomes at 3.5 years

		Control	(A) Free insurance			(B) Sale of insurance + transfer			(C) Sale of insurance		
	N	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	0.081	0.045	0.117	0.044	0.072	0.101	-0.061	0.212	0.106
		(0.435)	(0.060)	(0.082)	(0.063)	(0.087)	(0.101)	(0.066)	(0.080)	(0.096)	(0.066)
			0.173	0.585	0.066	0.612	0.477	0.128	0.444	0.027	0.110
Had chest pain past 4 wks.	8999	0.074	0.057	-0.020	0.041	0.009	0.032	0.034	-0.014	0.067	0.038
		(0.262)	(0.042)	(0.039)	(0.030)	(0.047)	(0.046)	(0.030)	(0.046)	(0.044)	(0.031)
			0.176	0.610	0.175	0.846	0.490	0.258	0.752	0.130	0.215
Had joint pain past 4 wks.	8999	0.578	-0.062	0.108	0.023	-0.014	0.064	0.037	-0.098	0.193	0.054
		(0.494)	(0.077)	(0.078)	(0.073)	(0.090)	(0.111)	(0.071)	(0.100)	(0.114)	(0.073)
			0.420	0.163	0.747	0.880	0.566	0.607	0.329	0.092	0.459
Had headaches past 4 wks.	8999	0.194	0.010	0.133	0.114	0.091	0.071	0.147	0.047	0.094	0.121
		(0.396)	(0.054)	(0.058)	(0.045)	(0.080)	(0.092)	(0.046)	(0.072)	(0.083)	(0.047)
			0.857	0.021	0.011	0.255	0.438	0.001	0.508	0.256	0.010
Had menstrual cramps past 4 wks.	8999	0.038	0.022	-0.001	0.021	0.021	-0.003	0.019	0.025	0.007	0.030
		(0.190)	(0.023)	(0.030)	(0.019)	(0.031)	(0.036)	(0.020)	(0.036)	(0.043)	(0.020)
			0.348	0.978	0.270	0.485	0.929	0.338	0.492	0.870	0.131
Had pain in no specific place past 4 wks.	8999	0.044	0.015	-0.022	-0.003	-0.013	0.005	-0.009	-0.074	0.073	-0.017
		(0.205)	(0.034)	(0.035)	(0.029)	(0.038)	(0.043)	(0.029)	(0.037)	(0.038)	(0.029)
			0.663	0.521	0.929	0.735	0.915	0.743	0.047	0.053	0.569
Fainted past 4 wks.	9451	0.012	0.011	-0.004	0.008	0.020	-0.015	0.009	0.012	-0.007	0.006
		(0.110)	(0.016)	(0.014)	(0.011)	(0.020)	(0.025)	(0.011)	(0.021)	(0.021)	(0.012)
			0.499	0.800	0.487	0.306	0.558	0.412	0.585	0.751	0.587
Felt dizzy past 4 wks.	9451	0.133	0.062	-0.012	0.052	0.029	0.044	0.064	-0.052	0.155	0.070
		(0.339)	(0.047)	(0.049)	(0.038)	(0.057)	(0.065)	(0.038)	(0.057)	(0.067)	(0.039)
			0.187	0.806	0.169	0.612	0.499	0.099	0.365	0.022	0.077
Shortness of breath past 4 wks.	9451	0.049	0.037	0.011	0.045	0.038	0.005	0.042	-0.028	0.093	0.045
		(0.216)	(0.029)	(0.028)	(0.024)	(0.040)	(0.041)	(0.024)	(0.037)	(0.038)	(0.025)
			0.214	0.703	0.063	0.344	0.903	0.088	0.446	0.016	0.068
Heart pounded past 4 wks.	9451	0.064	0.019	-0.024	0.001	-0.026	0.030	-0.003	-0.057	0.075	0.001
		(0.245)	(0.034)	(0.043)	(0.032)	(0.046)	(0.052)	(0.033)	(0.053)	(0.056)	(0.035)
			0.572	0.582	0.976	0.568	0.565	0.940	0.280	0.186	0.967
Qual. of life index	9510	-0.000	0.073	0.040	0.105	0.033	0.085	0.100	-0.124	0.298	0.111
		(0.454)	(0.071)	(0.075)	(0.065)	(0.086)	(0.098)	(0.066)	(0.087)	(0.098)	(0.066)
			0.301	0.588	0.107	0.700	0.385	0.130	0.157	0.002	0.095
						Mental health					
GHQ-12, Likert scoring	10879	9.329	1.330	-0.367	1.041	-0.014	0.737	0.567	-1.400	2.730	0.749
		(6.728)	(0.871)	(1.198)	(0.985)	(1.272)	(1.428)	(1.032)	(1.249)	(1.396)	(1.046)
			0.127	0.759	0.291	0.991	0.606	0.583	0.263	0.051	0.474
GHQ-12, binary scoring	9510	2.331	0.713	-0.261	0.507	-0.227	0.584	0.232	-0.772	1.532	0.434
		(3.297)	(0.466)	(0.715)	(0.502)	(0.633)	(0.778)	(0.522)	(0.598)	(0.838)	(0.534)
			0.127	0.715	0.314	0.720	0.453	0.657	0.198	0.068	0.417
PSS-10 score	9510	17.785	0.060	0.125	0.159	0.103	-0.172	-0.032	-0.990	1.215	-0.033
		(3.494)	(0.458)	(0.580)	(0.471)	(0.724)	(0.911)	(0.477)	(0.697)	(0.807)	(0.492)
			0.895	0.829	0.735	0.887	0.850	0.946	0.157	0.133	0.946

Notes. See note at end of table.

Table A.17 (continued): Effects of premium and subsidy combinations (ITT) on health and health-related outcomes at 3.5 years

		Control	(A) Free insurance			(B) Sale of insurance + transfer			(C) Sale of insurance		
	N	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
Mental health index	9510	-0.000	0.073	0.040	0.105	0.033	0.085	0.100	-0.124	0.298	0.111
		(0.454)	(0.071)	(0.075)	(0.065)	(0.086)	(0.098)	(0.066)	(0.087)	(0.098)	(0.066)
			0.301	0.588	0.107	0.700	0.385	0.130	0.157	0.002	0.095
Fertility											
Childbirth/stillbirth past 6 mos.	9493	0.046	0.020	0.002	0.021	-0.016	0.050	0.023	0.033	-0.013	0.023
		(0.210)	(0.031)	(0.032)	(0.020)	(0.038)	(0.041)	(0.020)	(0.035)	(0.040)	(0.020)
			0.525	0.945	0.273	0.668	0.218	0.247	0.343	0.751	0.246
Childbirth/stillbirth past 3 yrs.	9510	0.192	0.031	-0.015	0.019	-0.094	0.118	-0.002	0.067	-0.073	0.010
		(0.394)	(0.058)	(0.064)	(0.046)	(0.072)	(0.078)	(0.047)	(0.070)	(0.087)	(0.047)
			0.593	0.814	0.674	0.188	0.131	0.973	0.339	0.397	0.838
Number of births in hhld. past 3 years	9510	0.315	0.118	-0.111	0.031	0.069	-0.108	-0.016	0.149	-0.153	0.029
		(0.920)	(0.134)	(0.238)	(0.119)	(0.159)	(0.236)	(0.122)	(0.164)	(0.275)	(0.130)
			0.378	0.643	0.795	0.665	0.649	0.897	0.364	0.578	0.824
Number of live births in hhld. past 3 years	9510	0.205	0.049	-0.027	0.028	-0.153	0.196	0.002	0.059	-0.054	0.016
		(0.487)	(0.069)	(0.079)	(0.055)	(0.083)	(0.088)	(0.056)	(0.086)	(0.093)	(0.057)
			0.482	0.733	0.616	0.066	0.027	0.976	0.493	0.556	0.781
Number of still births in hhld. past 3 years	9510	0.110	0.069	-0.084	0.003	0.222	-0.304	-0.017	0.091	-0.098	0.013
		(0.777)	(0.102)	(0.211)	(0.108)	(0.140)	(0.224)	(0.110)	(0.135)	(0.239)	(0.121)
			0.497	0.691	0.975	0.115	0.177	0.874	0.502	0.681	0.913
Delivery in hospital past 3 yrs	9510	0.141	-0.008	-0.034	-0.035	-0.078	0.041	-0.045	-0.028	-0.021	-0.044
		(0.349)	(0.052)	(0.049)	(0.043)	(0.065)	(0.067)	(0.044)	(0.062)	(0.066)	(0.044)
			0.872	0.492	0.417	0.234	0.539	0.305	0.655	0.755	0.322
Delivery in facility past 3 yrs	9510	0.152	-0.008	-0.031	-0.032	-0.127	0.109	-0.042	-0.008	-0.047	-0.045
		(0.359)	(0.052)	(0.052)	(0.043)	(0.067)	(0.069)	(0.044)	(0.063)	(0.071)	(0.044)
			0.880	0.552	0.455	0.058	0.115	0.350	0.898	0.511	0.309
Doctor assisted with birth past 3 yrs.	9510	0.156	-0.001	0.011	0.007	-0.101	0.124	-0.003	0.011	-0.020	-0.005
		(0.363)	(0.052)	(0.053)	(0.040)	(0.067)	(0.069)	(0.042)	(0.056)	(0.067)	(0.041)
			0.986	0.841	0.855	0.136	0.076	0.938	0.846	0.768	0.908
Doctor or nurse assisted with birth past 3 yrs.	9510	0.164	0.007	-0.003	0.005	-0.123	0.142	-0.011	0.031	-0.047	-0.007
		(0.371)	(0.056)	(0.056)	(0.043)	(0.067)	(0.069)	(0.043)	(0.061)	(0.072)	(0.043)
			0.898	0.962	0.906	0.067	0.041	0.793	0.618	0.513	0.875
Delivery complications past 3 yrs.	9510	0.039	-0.006	0.018	0.008	0.048	-0.048	0.010	-0.005	0.023	0.013
		(0.194)	(0.027)	(0.024)	(0.023)	(0.038)	(0.038)	(0.023)	(0.034)	(0.032)	(0.023)
			0.839	0.465	0.715	0.204	0.205	0.675	0.879	0.470	0.574
Fertility index	9510	-0.000	0.049	-0.056	0.005	-0.170	0.183	-0.027	0.076	-0.114	-0.014
		(0.660)	(0.098)	(0.116)	(0.078)	(0.120)	(0.132)	(0.079)	(0.113)	(0.142)	(0.080)
			0.616	0.627	0.953	0.157	0.166	0.738	0.499	0.421	0.864
Mortality											
Death in hhld. past 3 yrs	9482	0.121	0.010	0.043	0.044	-0.018	0.068	0.035	0.091	-0.069	0.036
		(0.327)	(0.049)	(0.046)	(0.029)	(0.051)	(0.057)	(0.029)	(0.062)	(0.067)	(0.030)
			0.836	0.344	0.132	0.717	0.236	0.232	0.146	0.308	0.222
Deaths in the HH past 3 yrs	9474	0.125	0.022	0.049	0.061	0.003	0.064	0.053	0.111	-0.068	0.058
		(0.345)	(0.051)	(0.048)	(0.030)	(0.052)	(0.059)	(0.030)	(0.068)	(0.075)	(0.031)
			0.667	0.308	0.044	0.948	0.280	0.079	0.102	0.371	0.062

Notes. See note at end of table.

Table A.17 (continued): Effects of premium and subsidy combinations (ITT) on health and health-related outcomes at 3.5 years

		Control	(A) Free insurance			(B) Sale of insurance + transfer			(C) Sale of insurance		
	N	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
Sickness-related death in hhld. past 3 yrs	9482	0.079	-0.009	0.049	0.030	-0.013	0.055	0.031	0.102	-0.097	0.025
		(0.270)	(0.042)	(0.036)	(0.026)	(0.043)	(0.046)	(0.026)	(0.052)	(0.055)	(0.026)
			0.836	0.176	0.243	0.764	0.227	0.228	0.053	0.078	0.332
Number of sickness-related deaths in hhld.	9482	0.081	-0.005	0.053	0.036	-0.008	0.055	0.035	0.104	-0.090	0.033
		(0.281)	(0.044)	(0.038)	(0.026)	(0.044)	(0.046)	(0.026)	(0.055)	(0.059)	(0.026)
			0.903	0.162	0.165	0.862	0.237	0.174	0.058	0.126	0.206
Mortality index	9482	0.000	0.011	0.161	0.138	-0.030	0.198	0.126	0.337	-0.272	0.122
		(0.942)	(0.144)	(0.129)	(0.086)	(0.144)	(0.158)	(0.086)	(0.185)	(0.200)	(0.087)
			0.940	0.211	0.109	0.833	0.212	0.145	0.069	0.173	0.160

Notes. Table presents estimates of intent-to-treat effects of access to insurance at different prices and subsidies on health and health-related outcomes at 3.5 years. Each observation is a household and has equal weight. 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). Standard errors were clustered at the village level. Coefficients were transformed to show percentage point changes from 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 0.8024*(spillover effect), where 0.8024 is the average fraction of households given insurance access in the study. Mean and standard deviation in the control group are statistics from the group without access to insurance. The FWER adjusted 5% critical values are: 0.00114 for self-reported measures of health; 0.00032 for chronic disease; 0.00038 for quality of life, ADLs, and physical health symptoms; 0.00142 for mental health; 0.00052 for fertility; and 0.00114 for mortality, at 3.5 yrs.

Table A.18: Effects of enrollment (CATE) on health and health-related outcomes at 18 months

	N	Control Mean (SD)	Direct effect Coefficient (SE) *p*-value	Spillover effect Coefficient (SE) *p*-value	Total effect Coefficient (SE) *p*-value
Self-reported measures of health					
Good health	18983	0.662 (0.473)	0.084 (0.049) (0.087)	-0.165 (0.092) (0.074)	-0.046 (0.062) (0.458)
Very good health	18983	0.155 (0.362)	0.100 (0.048) (0.037)	-0.169 (0.080) (0.035)	-0.034 (0.060) (0.576)
Poor or very poor health	18983	0.056 (0.231)	-0.013 (0.029) (0.648)	-0.028 (0.036) (0.438)	-0.035 (0.031) (0.247)
Very poor health	18983	0.008 (0.090)	0.003 (0.010) (0.756)	-0.014 (0.013) (0.282)	-0.008 (0.006) (0.175)
Health value index	18983	-0.000 (0.642)	0.109 (0.073) (0.136)	-0.121 (0.121) (0.317)	0.014 (0.075) (0.857)
Chronic disease					
Told had hypertension	18939	0.190 (0.392)	-0.028 (0.047) (0.556)	-0.029 (0.062) (0.639)	-0.051 (0.036) (0.160)
Takes medication for hypertension	18960	0.131 (0.338)	-0.059 (0.037) (0.108)	0.026 (0.052) (0.611)	-0.039 (0.032) (0.224)
Told had diabetes	18913	0.068 (0.252)	-0.013 (0.026) (0.620)	0.020 (0.032) (0.534)	0.003 (0.021) (0.900)
Takes oral medication for diabetes	18948	0.050 (0.217)	-0.010 (0.022) (0.640)	0.018 (0.027) (0.509)	0.004 (0.018) (0.830)
Takes insulin for diabetes	18952	0.018 (0.133)	-0.003 (0.012) (0.799)	0.026 (0.014) (0.057)	0.017 (0.010) (0.076)
Is on a special diet for diabetes	18962	0.046 (0.210)	-0.010 (0.020) (0.620)	0.023 (0.025) (0.347)	0.008 (0.018) (0.644)
Told had cancer	18946	0.004 (0.064)	-0.007 (0.006) (0.271)	0.013 (0.008) (0.116)	0.003 (0.004) (0.378)
Received cancer treatment past 1 yr.	18998	0.002 (0.049)	0.002 (0.005) (0.640)	-0.004 (0.005) (0.489)	-0.001 (0.003) (0.823)
Told had lung disease	18907	0.034 (0.181)	-0.003 (0.023) (0.909)	-0.008 (0.025) (0.741)	-0.009 (0.015) (0.542)
Told had heart disease	18868	0.020 (0.141)	0.015 (0.016) (0.346)	-0.003 (0.020) (0.877)	0.013 (0.010) (0.203)
Told had stroke	18826	0.007 (0.086)	0.005 (0.010) (0.612)	-0.002 (0.012) (0.848)	0.003 (0.006) (0.561)
Told had arthritis	18894	0.176 (0.381)	-0.102 (0.048) (0.033)	0.122 (0.082) (0.137)	-0.006 (0.055) (0.907)
Had surgery for arthritis past 1 yr.	18933	0.018 (0.135)	-0.024 (0.015) (0.121)	0.026 (0.020) (0.194)	-0.004 (0.012) (0.757)
Diagnose with high cholesterol	18871	0.019 (0.137)	0.013 (0.014) (0.338)	-0.003 (0.022) (0.891)	0.011 (0.014) (0.449)

Notes. See note at end of table.

Table A.18 (continued): Effects of enrollment (CATE) on health and health-related outcomes at 18 months

	N	Control Mean (SD)	Direct effect Coefficient (SE) *p*-value	Spillover effect Coefficient (SE) *p*-value	Total effect Coefficient (SE) *p*-value
Takes medication for high cholesterol	19032	0.014 (0.116)	0.008 (0.015) (0.583)	0.003 (0.018) (0.879)	0.010 (0.011) (0.339)
Chronic disease index	19113	-0.000 (0.433)	-0.034 (0.048) (0.478)	0.069 (0.068) (0.314)	0.020 (0.045) (0.659)
		Health-related quality of life, ADLs, and physical health symptoms			
Experiences chest pain	18888	0.081 (0.273)	-0.023 (0.029) (0.425)	0.005 (0.048) (0.914)	-0.019 (0.034) (0.568)
Phys. symp. index	18888	-0.000 (1.000)	-0.092 (0.107) (0.393)	0.029 (0.174) (0.868)	-0.069 (0.124) (0.579)
			Biomarkers		
Overweight or obese	4853	0.271 (0.445)	0.014 (0.096) (0.886)	0.031 (0.134) (0.819)	0.038 (0.073) (0.604)
Underweight	4853	0.084 (0.277)	-0.001 (0.050) (0.977)	-0.042 (0.082) (0.612)	-0.034 (0.043) (0.428)
Abdominally obese	4723	0.713 (0.452)	-0.158 (0.134) (0.237)	0.233 (0.180) (0.195)	0.025 (0.126) (0.844)
Mid-Upper Arm Circumference	4815	27.032 (3.562)	-2.363 (0.889) (0.008)	1.363 (1.676) (0.416)	-1.290 (0.995) (0.195)
Hypertension, grade 1	4878	0.449 (0.498)	-0.113 (0.087) (0.193)	0.067 (0.120) (0.576)	-0.060 (0.078) (0.438)
Hypertension, grade 2	4878	0.191 (0.393)	-0.075 (0.067) (0.261)	0.090 (0.092) (0.332)	-0.005 (0.075) (0.952)
Skinfolds total	4065	26.326 (9.464)	-0.884 (2.627) (0.737)	2.357 (5.267) (0.654)	0.972 (3.504) (0.782)
Biomarkers index	4935	-0.000 (0.409)	-0.203 (0.102) (0.046)	0.193 (0.130) (0.138)	-0.051 (0.091) (0.573)
			Fertility		
Currently pregnant	9262	0.055 (0.227)	0.036 (0.037) (0.325)	-0.085 (0.065) (0.196)	-0.030 (0.057) (0.596)
Childbirth past 1 yr.	8299	0.049 (0.217)	0.010 (0.029) (0.741)	-0.044 (0.050) (0.377)	-0.025 (0.046) (0.588)
Delivered in govt. hosp. past 1 yr.	8297	0.015 (0.120)	0.006 (0.016) (0.729)	-0.010 (0.018) (0.559)	-0.003 (0.011) (0.818)
Delivered in facility past 1 yr.	8297	0.047 (0.211)	0.005 (0.028) (0.854)	-0.035 (0.048) (0.469)	-0.022 (0.046) (0.625)
Doctor assisted with delivery past 1 yr.	8299	0.038 (0.191)	0.008 (0.026) (0.756)	-0.040 (0.048) (0.409)	-0.023 (0.044) (0.601)
Doctor or nurse assisted with delivery past 1 yr.	8299	0.043 (0.203)	-0.004 (0.028) (0.882)	-0.035 (0.049) (0.475)	-0.032 (0.045) (0.480)
Child delivery complications past 1 yr.	8293	0.015 (0.122)	-0.013 (0.016) (0.409)	-0.020 (0.026) (0.445)	-0.029 (0.020) (0.150)
Ideal number of children	7881	2.516 (1.215)	-0.005 (0.207) (0.981)	-0.060 (0.393) (0.879)	-0.052 (0.291) (0.858)
Fertility index	9288	0.000 (0.495)	0.049 (0.067) (0.470)	-0.131 (0.110) (0.235)	-0.054 (0.092) (0.553)

Notes. Table presents complier average treatment estimates of the effect of enrollment in RSBY insurance on health and health-related outcomes at 18 months. Each observation is a household and has equal weight. 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. The total effect of enrollment is estimated as the direct effect, plus the spillover effects times 0.7183, the mean uptake into insurance in arms A-C. The FWER adjusted 5% critical values are: 0.00341 for self-reported measures of health; 0.00107 for chronic disease; 0.00851 for quality of life, ADLs, and physical health symptoms; 0.00213 for biomarkers; and 0.00190 for fertility, at 18 mos.

Table A.19: Effects of enrollment (CATE) on health and health-related outcomes at 3.5 years

	N	Control Mean (SD)	Direct effect Coefficient (SE) *p*-value	Spillover effect Coefficient (SE) *p*-value	Total effect Coefficient (SE) *p*-value
Self-reported measures of health					
Good health	9492	0.516 (0.500)	-0.001 (0.080) (0.995)	0.041 (0.106) (0.700)	0.031 (0.069) (0.647)
Very good health	9492	0.076 (0.265)	-0.024 (0.041) (0.564)	-0.069 (0.053) (0.189)	-0.079 (0.038) (0.040)
Poor health	9492	0.102 (0.303)	-0.039 (0.051) (0.446)	0.061 (0.056) (0.272)	0.010 (0.038) (0.798)
Very poor health	9492	0.021 (0.143)	-0.050 (0.025) (0.044)	0.032 (0.024) (0.177)	-0.024 (0.020) (0.216)
Health value index	9492	0.000 (0.647)	0.096 (0.116) (0.406)	-0.152 (0.132) (0.247)	-0.024 (0.088) (0.790)
Chronic disease					
Told had hypertension	9476	0.233 (0.423)	-0.074 (0.063) (0.239)	0.090 (0.068) (0.187)	-0.003 (0.046) (0.941)
Takes medication for hypertension	9495	0.197 (0.398)	-0.066 (0.058) (0.257)	0.086 (0.059) (0.150)	0.002 (0.042) (0.971)
Told had diabetes	9479	0.121 (0.326)	-0.078 (0.049) (0.108)	0.063 (0.052) (0.227)	-0.029 (0.035) (0.406)
Takes oral medication for diabetes	9499	0.107 (0.310)	-0.072 (0.047) (0.124)	0.067 (0.051) (0.192)	-0.019 (0.031) (0.542)
Takes insulin for diabetes	9489	0.024 (0.152)	0.019 (0.020) (0.332)	-0.013 (0.022) (0.539)	0.009 (0.013) (0.494)
Follows a special diet for diabetes	9495	0.077 (0.267)	-0.045 (0.041) (0.277)	0.053 (0.045) (0.240)	-0.004 (0.029) (0.898)
Told had cancer	9470	0.004 (0.065)	-0.001 (0.008) (0.924)	0.008 (0.009) (0.364)	0.006 (0.005) (0.292)
Treated for cancer past 1 yr.	9496	0.002 (0.046)	-0.003 (0.006) (0.581)	0.005 (0.006) (0.367)	0.001 (0.003) (0.811)
Told had lung disease	9479	0.060 (0.238)	-0.049 (0.031) (0.118)	0.046 (0.036) (0.202)	-0.013 (0.021) (0.537)
Told had heart disease	9473	0.047 (0.211)	-0.029 (0.034) (0.400)	0.016 (0.039) (0.670)	-0.016 (0.021) (0.461)
Told had stroke	9446	0.006 (0.080)	-0.012 (0.013) (0.337)	0.010 (0.012) (0.405)	-0.004 (0.007) (0.522)
Told had arthritis or rheumatism	9482	0.193 (0.395)	-0.051 (0.064) (0.429)	0.117 (0.085) (0.170)	0.041 (0.054) (0.444)
Had surgery due to arthritis past 1 yr.	9497	0.042 (0.200)	0.019 (0.029) (0.498)	0.003 (0.034) (0.926)	0.022 (0.022) (0.319)
Diagnosed with high cholesterol	9449	0.026 (0.160)	0.003 (0.022) (0.876)	-0.007 (0.023) (0.764)	-0.002 (0.014) (0.883)

Notes. See note at end of table.

Table A.18 (continued): Effects of enrollment (CATE) on health and health-related outcomes at 18 months

	N	Control Mean (SD)	Direct effect Coefficient (SE) *p*-value	Spillover effect Coefficient (SE) *p*-value	Total effect Coefficient (SE) *p*-value
Takes medication to lower cholesterol	9496	0.013 (0.115)	-0.014 (0.015) (0.364)	0.006 (0.012) (0.622)	-0.009 (0.009) (0.307)
Has eyesight problems	9480	0.329 (0.470)	0.011 (0.075) (0.884)	0.115 (0.082) (0.158)	0.102 (0.055) (0.064)
Had surgery due to eye problems past 1 yr.	9497	0.074 (0.261)	-0.013 (0.045) (0.779)	0.065 (0.052) (0.207)	0.039 (0.032) (0.235)
Chronic disease index	9504	-0.000 (0.431)	-0.093 (0.074) (0.204)	0.141 (0.078) (0.070)	0.018 (0.051) (0.727)
Health-related quality of life, ADLs, and physical health symptoms					
Number of functional limitations	9413	0.674 (1.523)	-0.240 (0.207) (0.245)	0.269 (0.269) (0.316)	-0.028 (0.204) (0.889)
SF-8, PCS	9510	2.260 (0.930)	-0.064 (0.172) (0.710)	0.293 (0.186) (0.115)	0.166 (0.124) (0.178)
SF-8, MCS	9510	1.491 (0.789)	-0.024 (0.120) (0.843)	0.081 (0.153) (0.599)	0.040 (0.115) (0.730)
Had stomach pain past 4 wks.	8999	0.061 (0.240)	0.051 (0.038) (0.176)	-0.026 (0.051) (0.609)	0.031 (0.024) (0.201)
Had back pain past 4 wks.	8999	0.254 (0.435)	0.072 (0.065) (0.269)	0.050 (0.091) (0.579)	0.111 (0.063) (0.078)
Had chest pain past 4 wks.	8999	0.074 (0.262)	0.038 (0.043) (0.376)	-0.008 (0.046) (0.869)	0.032 (0.026) (0.212)
Had joint pain past 4 wks.	8999	0.578 (0.494)	-0.034 (0.078) (0.660)	0.100 (0.097) (0.306)	0.044 (0.070) (0.526)
Had headaches past 4 wks.	8999	0.194 (0.396)	0.054 (0.060) (0.372)	0.069 (0.078) (0.375)	0.108 (0.044) (0.015)
Had menstrual cramps past 4 wks.	8999	0.038 (0.190)	0.034 (0.024) (0.165)	-0.029 (0.034) (0.394)	0.011 (0.020) (0.580)
Had pain in no specific place past 4 wks.	8999	0.044 (0.205)	-0.006 (0.035) (0.873)	0.018 (0.039) (0.650)	0.008 (0.025) (0.736)
Fainted past 4 wks.	9451	0.012 (0.110)	0.014 (0.016) (0.378)	-0.012 (0.018) (0.491)	0.004 (0.010) (0.661)
Felt dizzy past 4 wks.	9451	0.133 (0.339)	0.083 (0.047) (0.076)	-0.047 (0.057) (0.405)	0.046 (0.036) (0.204)
Shortness of breath past 4 wks.	9451	0.049 (0.216)	0.035 (0.032) (0.275)	0.011 (0.034) (0.734)	0.044 (0.022) (0.044)
Heart pounded past 4 wks.	9451	0.064 (0.245)	0.012 (0.035) (0.735)	-0.003 (0.045) (0.954)	0.010 (0.031) (0.747)
Qual. of life index	9510	-0.000 (0.454)	0.075 (0.076) (0.323)	0.047 (0.091) (0.606)	0.112 (0.063) (0.077)
Mental health					
GHQ-12, Likert scoring	10879	9.329 (6.728)	0.830 (1.002) (0.407)	0.139 (1.309) (0.916)	0.940 (0.968) (0.332)

Notes. See note at end of table.

Table A.18 (continued): Effects of enrollment (CATE) on health and health-related outcomes at 18 months

	N	Control	Direct effect	Spillover effect	Total effect
		Mean (SD)	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value	Coefficient (SE) *p*-value
GHQ-12, binary scoring	9510	2.331 (3.297)	0.437 (0.480) (0.363)	0.070 (0.741) (0.924)	0.492 (0.525) (0.349)
PSS-10 score	9510	17.785 (3.494)	-0.154 (0.514) (0.764)	0.653 (0.747) (0.383)	0.360 (0.477) (0.451)
Mental health index	9510	-0.000 (0.454)	0.075 (0.076) (0.323)	0.047 (0.091) (0.606)	0.112 (0.063) (0.077)
			Fertility		
Childbirth/stillbirth past 6 mos.	9493	0.046 (0.210)	0.009 (0.029) (0.745)	0.010 (0.034) (0.780)	0.017 (0.018) (0.349)
Childbirth/stillbirth past 3 yrs.	9510	0.192 (0.394)	-0.005 (0.059) (0.927)	0.003 (0.073) (0.963)	-0.003 (0.045) (0.951)
Number of births in hhld. past 3 years	9510	0.315 (0.920)	0.096 (0.133) (0.473)	-0.200 (0.274) (0.465)	-0.062 (0.149) (0.678)
Number of live births in hhld. past 3 years	9510	0.205 (0.487)	-0.006 (0.067) (0.925)	0.021 (0.079) (0.794)	0.010 (0.051) (0.846)
Number of still births in hhld. past 3 years	9510	0.110 (0.777)	0.102 (0.106) (0.335)	-0.221 (0.243) (0.365)	-0.072 (0.136) (0.598)
Delivery in hospital past 3 yrs	9510	0.141 (0.349)	-0.040 (0.054) (0.461)	-0.007 (0.055) (0.899)	-0.045 (0.039) (0.251)
Delivery in facility past 3 yrs	9510	0.152 (0.359)	-0.054 (0.053) (0.308)	0.026 (0.055) (0.632)	-0.033 (0.040) (0.400)
Doctor assisted with birth past 3 yrs.	9510	0.156 (0.363)	-0.038 (0.052) (0.462)	0.050 (0.058) (0.391)	0.001 (0.037) (0.983)
Doctor or nurse assisted with birth past 3 yrs.	9510	0.164 (0.371)	-0.036 (0.054) (0.503)	0.043 (0.059) (0.467)	-0.003 (0.039) (0.943)
Delivery complications past 3 yrs.	9510	0.039 (0.194)	0.011 (0.029) (0.715)	-0.015 (0.030) (0.616)	-0.001 (0.019) (0.948)
Fertility index	9510	-0.000 (0.660)	-0.027 (0.096) (0.778)	-0.002 (0.124) (0.987)	-0.029 (0.078) (0.711)
			Mortality		
Death in hhld. past 3 yrs	9482	0.121 (0.327)	-0.005 (0.047) (0.918)	0.029 (0.053) (0.582)	0.018 (0.026) (0.488)
Deaths in the HH past 3 yrs	9474	0.125 (0.345)	0.018 (0.050) (0.714)	0.016 (0.057) (0.776)	0.031 (0.028) (0.263)
Sickness-related death in hhld. past 3 yrs	9482	0.079 (0.270)	-0.018 (0.041) (0.660)	0.040 (0.044) (0.366)	0.013 (0.022) (0.541)
Number of sickness-related deaths in hhld.	9482	0.081 (0.281)	-0.012 (0.043) (0.770)	0.040 (0.046) (0.376)	0.019 (0.022) (0.386)
Mortality index	9482	0.000 (0.942)	-0.019 (0.140) (0.895)	0.107 (0.155) (0.488)	0.066 (0.076) (0.384)

Notes. Table presents complier average treatment estimates of the effect of enrollment in RSBY insurance on health and health-related outcomes at 3.5 years. Each observation is a household and has equal weight. 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. The total effect of enrollment is estimated as the direct effect, plus the spillover effects times 0.7183, the mean uptake into insurance in arms A-C. The FWER adjusted 5% critical values are: 0.00341 for self-reported measures of health; 0.00095 for chronic disease; 0.00114 for quality of life, ADLs, and physical health symptoms; 0.00426 for mental health; 0.00155 for fertility; and 0.00341 for mortality, at 3.5 yrs.

Table A.20: 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.20 (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.20 (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.21: 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.21 (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.21 (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.21 (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.21 (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.22: 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 (0.475)	0.084 (0.049) .09	-0.165 (0.092) .07	-0.046 (0.062) .46
Very good health	18983	0.155 (0.362)	0.100 (0.048) .04	-0.169 (0.080) .04	-0.034 (0.060) .58
Poor or very poor health	18983	0.053 (0.225)	-0.013 (0.029) .65	-0.028 (0.036) .44	-0.035 (0.031) .25
Very poor health	18983	0.008 (0.088)	0.003 (0.010) .76	-0.014 (0.013) .28	-0.008 (0.006) .18
Chronic disease					
Told had hypertension	18939	0.189 (0.392)	-0.028 (0.047) .56	-0.029 (0.062) .64	-0.051 (0.036) .16
Takes medication for hypertension	18960	0.130 (0.336)	-0.059 (0.037) .11	0.026 (0.052) .61	-0.039 (0.032) .22
Told had diabetes	18913	0.069 (0.253)	-0.013 (0.026) .62	0.020 (0.032) .53	0.003 (0.021) .90
Takes oral medication for diabetes	18948	0.051 (0.220)	-0.010 (0.022) .64	0.018 (0.027) .51	0.004 (0.018) .83
Takes insulin for diabetes	18952	0.019 (0.135)	-0.003 (0.012) .80	0.026 (0.014) .06	0.017 (0.010) .08
Is on a special diet for diabetes	18962	0.048 (0.214)	-0.010 (0.020) .62	0.023 (0.025) .35	0.008 (0.018) .64
Told had cancer	18946	0.005 (0.071)	-0.007 (0.006) .27	0.013 (0.008) .12	0.003 (0.004) .38
Received cancer treatment past 1 yr.	18998	0.003 (0.051)	0.002 (0.005) .64	-0.004 (0.005) .49	-0.001 (0.003) .82
Told had lung disease	18907	0.035 (0.185)	-0.003 (0.023) .91	-0.008 (0.025) .74	-0.009 (0.015) .54
Told had heart disease	18868	0.022 (0.147)	0.015 (0.016) .35	-0.003 (0.020) .88	0.013 (0.010) .20
Told had stroke	18826	0.008 (0.091)	0.005 (0.010) .61	-0.002 (0.012) .85	0.003 (0.006) .56
Told had arthritis	18894	0.177 (0.381)	-0.102 (0.048) .03	0.122 (0.082) .14	-0.006 (0.055) .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.22 (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.22

Table A.23: 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 (0.500)	0.000 (0.080) .00	0.041 (0.106) .70	0.033 (0.068) .63
Very good health	9492	0.068 (0.252)	-0.023 (0.041) .57	-0.069 (0.052) .19	-0.078 (0.038) .04
Poor health	9492	0.104 (0.305)	-0.039 (0.051) .44	0.061 (0.056) .28	0.009 (0.038) .81
Very poor health	9492	0.019 (0.136)	-0.050 (0.025) .04	0.032 (0.024) .18	-0.025 (0.020) .21
Chronic disease					
Told had hypertension	9476	0.235 (0.424)	-0.074 (0.063) .24	0.089 (0.068) .19	-0.004 (0.046) .94
Takes medication for hypertension	9495	0.196 (0.397)	-0.066 (0.058) .26	0.086 (0.059) .15	0.002 (0.042) .97
Told had diabetes	9479	0.119 (0.324)	-0.077 (0.049) .11	0.063 (0.051) .22	-0.027 (0.034) .43
Takes oral medication for diabetes	9499	0.106 (0.308)	-0.071 (0.047) .13	0.067 (0.051) .18	-0.018 (0.031) .57
Takes insulin for diabetes	9489	0.027 (0.161)	0.020 (0.020) .33	-0.013 (0.022) .54	0.009 (0.013) .48
Follows a special diet for diabetes	9495	0.078 (0.268)	-0.044 (0.042) .29	0.053 (0.044) .23	-0.003 (0.029) .93
Told had cancer	9470	0.005 (0.068)	-0.001 (0.008) .93	0.008 (0.009) .36	0.006 (0.005) .29
Treated for cancer past 1 yr.	9496	0.002 (0.048)	-0.003 (0.006) .58	0.005 (0.006) .36	0.001 (0.003) .80
Told had lung disease	9479	0.055 (0.229)	-0.049 (0.031) .12	0.046 (0.036) .20	-0.012 (0.021) .55
Told had heart disease	9473	0.043 (0.202)	-0.028 (0.034) .41	0.017 (0.039) .67	-0.015 (0.021) .47
Told had stroke	9446	0.006 (0.077)	-0.012 (0.013) .34	0.010 (0.012) .40	-0.004 (0.007) .54
Told had arthritis or rheumatism	9482	0.199 (0.399)	-0.052 (0.064) .42	0.116 (0.086) .17	0.040 (0.054) .46
Had surgery due to arthritis past 1 yr.	9497	0.042 (0.201)	0.019 (0.029) .50	0.003 (0.035) .93	0.022 (0.022) .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.23 (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 (0.147)	0.004 (0.022) .87	-0.007 (0.023) .77	-0.002 (0.014) .90
Takes medication to lower cholesterol	9496	0.010 (0.097)	-0.014 (0.015) .37	0.006 (0.012) .62	-0.009 (0.009) .31
Has eyesight problems	9480	0.324 (0.468)	0.011 (0.075) .89	0.115 (0.082) .16	0.101 (0.055) .07
Had surgery due to eye problems past 1 yr.	9497	0.080 (0.272)	-0.012 (0.045) .78	0.065 (0.051) .20	0.039 (0.033) .23
Health-related quality of life, ADLs, and physical health symptoms					
Number of functional limitations	9413	0.681 (1.528)	-0.241 (0.207) .24	0.266 (0.268) .32	-0.032 (0.203) .88
SF-8, PCS	9510	2.250 (0.899)	-0.068 (0.171) .69	0.291 (0.186) .12	0.161 (0.124) .19
SF-8, MCS	9510	1.508 (0.789)	-0.027 (0.121) .82	0.079 (0.153) .61	0.035 (0.116) .76
Had stomach pain past 4 wks.	8999	0.071 (0.256)	0.052 (0.038) .16	-0.028 (0.051) .59	0.031 (0.024) .21
Had back pain past 4 wks.	8999	0.264 (0.441)	0.074 (0.064) .25	0.047 (0.090) .61	0.111 (0.063) .08
Had chest pain past 4 wks.	8999	0.075 (0.264)	0.038 (0.043) .37	-0.009 (0.046) .85	0.032 (0.026) .22
Had joint pain past 4 wks.	8999	0.586 (0.493)	-0.031 (0.077) .68	0.095 (0.098) .33	0.044 (0.070) .53
Had headaches past 4 wks.	8999	0.202 (0.401)	0.056 (0.060) .34	0.065 (0.076) .39	0.108 (0.044) .01
Had menstrual cramps past 4 wks.	8999	0.044 (0.206)	0.035 (0.024) .14	-0.030 (0.033) .36	0.011 (0.020) .58
Had pain in no specific place past 4 wks.	8999	0.041 (0.198)	-0.006 (0.035) .86	0.019 (0.039) .63	0.009 (0.025) .73
Fainted past 4 wks.	9451	0.012 (0.108)	0.014 (0.016) .38	-0.012 (0.018) .49	0.004 (0.010) .67
Felt dizzy past 4 wks.	9451	0.132 (0.338)	0.082 (0.047) .08	-0.048 (0.057) .40	0.044 (0.036) .22
Shortness of breath past 4 wks.	9451	0.056 (0.230)	0.035 (0.032) .28	0.011 (0.034) .74	0.044 (0.022) .05
Heart pounded past 4 wks.	9451	0.071 (0.256)	0.011 (0.035) .75	-0.003 (0.045) .95	0.009 (0.031) .77
Mental and emotional health and cognitive function					
GHQ-12, Likert scoring	9510	9.259 (6.821)	0.091 (0.926) .92	0.863 (1.348) .52	0.771 (0.990) .44
GHQ-12, binary scoring	9510	2.451 (3.323)	0.424 (0.482) .38	0.065 (0.739) .93	0.476 (0.524) .36
PSS-10 score	9510	17.842 (3.502)	-0.162 (0.515) .75	0.648 (0.751) .39	0.348 (0.481) .47

Notes. See Table A.23

Table A.23 (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 (0.207)	0.009 (0.029) .74	0.010 (0.034) .78	0.017 (0.018) .35
Childbirth/stillbirth past 3 yrs.	9510	0.187 (0.390)	-0.005 (0.059) .93	0.003 (0.073) .96	-0.002 (0.045) .96
Number of births in hhld. past 3 years	9510	0.310 (0.927)	0.097 (0.133) .46	-0.199 (0.273) .47	-0.059 (0.148) .69
Number of live births in hhld. past 3 years	9510	0.202 (0.491)	-0.006 (0.067) .93	0.020 (0.079) .80	0.010 (0.051) .84
Number of still births in hhld. past 3 years	9510	0.109 (0.778)	0.103 (0.105) .33	-0.219 (0.242) .37	-0.069 (0.136) .61
Delivery in hospital past 3 yrs	9510	0.136 (0.343)	-0.039 (0.054) .46	-0.007 (0.055) .90	-0.045 (0.039) .25
Delivery in facility past 3 yrs	9510	0.149 (0.356)	-0.054 (0.053) .31	0.026 (0.055) .63	-0.033 (0.040) .40
Doctor assisted with birth past 3 yrs.	9510	0.152 (0.359)	-0.038 (0.052) .47	0.049 (0.058) .39	0.001 (0.037) .98
Doctor or nurse assisted with birth past 3 yrs.	9510	0.161 (0.368)	-0.036 (0.054) .51	0.043 (0.059) .47	-0.003 (0.039) .95
Delivery complications past 3 yrs.	9510	0.038 (0.192)	0.011 (0.029) .71	-0.015 (0.030) .62	-0.001 (0.019) .96
	Mortality				
Death in hhld. past 3 yrs	9482	0.127 (0.333)	-0.005 (0.047) .92	0.029 (0.053) .58	0.018 (0.026) .49
Deaths in the HH past 3 yrs	9474	0.133 (0.362)	0.018 (0.050) .72	0.016 (0.057) .78	0.031 (0.028) .26
Sickness-related death in hhld. past 3 yrs	9482	0.080 (0.271)	-0.018 (0.041) .66	0.040 (0.044) .37	0.013 (0.022) .54
Number of sickness-related deaths in hhld.	9482	0.084 (0.290)	-0.012 (0.043) .77	0.040 (0.046) .38	0.019 (0.022) .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.23

E.2.4 Expenditures

Table A.24: Effects of premium and subsidy combinations (ITT) on medical spending

	N	Control	(A) Free insurance			(B) Sale of insurance + transfer			(C) Sale of insurance		
		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
Spending at 18 months											
Annual medical spending (INR, thous.)	10030	28.777	13.621	-10.050	5.557	6.980	-4.069	3.715	10.526	-6.242	5.518
		(31.206)	(5.891)	(8.509)	(4.215)	(6.325)	(8.612)	(4.232)	(6.093)	(7.872)	(4.154)
			0.021	0.238	0.188	0.270	0.637	0.380	0.085	0.428	0.185
Log annual medical spending	10030	9.594	0.390	-0.681	-0.156	0.793	-1.266	-0.223	0.624	-0.915	-0.110
		(1.912)	(0.241)	(0.403)	(0.356)	(0.424)	(0.533)	(0.369)	(0.356)	(0.439)	(0.362)
			0.106	0.091	0.661	0.062	0.018	0.547	0.080	0.038	0.762
Annual medical non-hospital spending (INR, thous.)	10030	23.981	7.260	-5.553	2.804	3.161	-1.758	1.751	5.431	-3.413	2.692
		(24.866)	(4.486)	(7.034)	(3.839)	(5.471)	(7.562)	(3.833)	(5.025)	(6.824)	(3.778)
			0.106	0.430	0.465	0.564	0.816	0.648	0.280	0.617	0.476
Spending at 3.5 years											
Log annual medical non-hospital spending	10030	9.374	0.228	-0.618	-0.268	0.625	-1.212	-0.347	0.550	-0.994	-0.248
		(2.036)	(0.256)	(0.412)	(0.365)	(0.427)	(0.566)	(0.380)	(0.359)	(0.513)	(0.373)
			0.373	0.134	0.463	0.144	0.033	0.362	0.126	0.054	0.508
OOP medical spending (most serious event, INR, thous.)	9396	21.470	-1.120	-5.093	-5.207	30.035	-41.002	-2.865	2.169	-11.668	-7.194
		(144.220)	(18.940)	(11.620)	(15.837)	(36.761)	(39.959)	(15.857)	(20.799)	(15.004)	(15.966)
			0.953	0.661	0.742	0.414	0.305	0.857	0.917	0.437	0.653
Log OOP medical spending (most serious event)	4821	9.251	-0.081	-0.295	-0.318	-0.258	-0.064	-0.309	-0.155	-0.220	-0.332
		(1.615)	(0.384)	(0.385)	(0.266)	(0.463)	(0.528)	(0.266)	(0.512)	(0.542)	(0.275)
			0.833	0.444	0.233	0.578	0.903	0.246	0.762	0.685	0.228

Notes. Table presents estimates of intent-to-treat effects of access to insurance at different prices and subsidies on medical spending. Each observation is a household and has equal weight. 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). Standard errors were clustered at the village level. Coefficients were transformed to show percentage point changes from 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 0.8024*(spillover effect), where 0.8024 is the average fraction of households given insurance access in the study. Mean and standard deviation in the control group are statistics from the group without access to insurance. The FWER adjusted 5% critical values are: 0.001 for spending at 18 mos; 0.003 for spending at 3.5 yrs.

Table A.25: Effects of enrollment (CATE) on medical spending

		Control	Direct effect	Spillover effect	Total effect
			Coefficient	Coefficient	Coefficient
		Mean	(SE)	(SE)	(SE)
	N	(SD)	*p*-value	*p*-value	*p*-value
			Utilization at 18 months		
Annual medical spending (INR, thous.)	10030	28.777	12.849	-15.670	0.275
		(31.206)	(5.148)	(9.681)	(5.159)
			(0.013)	(0.106)	(0.957)
Log annual medical spending	10030	9.594	0.586	-1.336	-0.487
		(1.912)	(0.309)	(0.483)	(0.374)
			(0.058)	(0.006)	(0.193)
Annual medical non-hospital spending (INR, thous.)	10030	23.981	5.794	-7.181	0.032
		(24.866)	(4.200)	(8.399)	(4.683)
			(0.168)	(0.393)	(0.995)
			Utilization at 3.5 years		
Log annual medical non-hospital spending	10030	9.374	0.347	-1.093	-0.530
		(2.036)	(0.321)	(0.503)	(0.389)
			(0.280)	(0.030)	(0.174)
OOP medical spending (most serious event, INR, thous.)	9396	21.470	6.671	-16.583	-6.635
		(144.220)	(22.179)	(20.512)	(12.495)
			(0.764)	(0.419)	(0.595)
Log OOP medical spending (most serious event)	4821	9.251	-0.223	-0.141	-0.336
		(1.615)	(0.381)	(0.463)	(0.247)
			(0.558)	(0.761)	(0.174)

Notes. Table presents complier average treatment estimates of the effect of enrollment in RSBY insurance on medical spending. Each observation is a household and has equal weight. 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 0.7183, the mean uptake into insurance in arms A-C. The FWER adjusted 5% critical values are: 0.004 for spending at 18 mos; 0.009 for spending at 3.5 yrs.

E.2.5 Adverse selection

Table A.26: 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 6) × 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 A.29)
4. Hospital expend. at endline × endline successful use over 6 months × 2 (same as column 2 in Table A.29)
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 A.29)
7. Hospital expend. at endline × endline attempted use over 6 months × 2 (same as column 4 in Table A.29)

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.27: 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.28: 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.

Table A.29: Welfare calculations using four different measures of cost.

	(1) Midline use	(2) Endline use	(3) Midline attempt	(4) Endline attempt
Ex post demand and no insurance counterfactual (p)				
Free ins. value	-68.397	515.624	-798.506	-534.486
Opt. price	1052.488	528.483	2124.629	1944.579
SOC	-0.157	-0.268	-0.152	-0.120
Ex post demand and private insurance counterfactual (p)				
Private ins. value	1150.894	912.341	1488.042	1361.131
Free ins. value	-1219.290	-396.718	-2286.548	-1895.617
Ex ante demand and no insurance counterfactual (p)				
Free ins. value	1888.483	2472.504	1158.374	1422.394
Opt. price	238.883	864.175	1216.728	280.769
Observations	4988	4446	4668	4447

Note. Table presents welfare calculations associated with demand based on (1) uptake in groups A and B and (2) four different measures of cost. Welfare calculations in the first panel focus on ex post demand and assume no insurance in the absence of public insurance. This panel presents 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. Welfare calculations in the second panel focus on ex post demand and assume private insurance is the alternative to public insurance. The panel presents social surplus under private insurance and the net gain from public insurance (assuming public insurance prevents private insurance). The third panel focuses on ex ante demand (Hendren 2021) and assumes no insurance absent public insurance. It presents the net welfare benefit of free insurance and the price of insurance that satisfies the first-order condition (FOC) for optimal premium. The four measures of cost are: (1) ML use = endline hospital use * midline successful use for most serious event over 6 months * 2; (2) EL use = endline hospital use * endline successful use for most serious event over 6 months * 2; (3) ML attempt = endline hospital use * midline (successful or failed) use for most serious event over 6 months * 2; (2) EL use = endline hospital use * endline (successful or failed) use for most serious event over 6 months * 2.