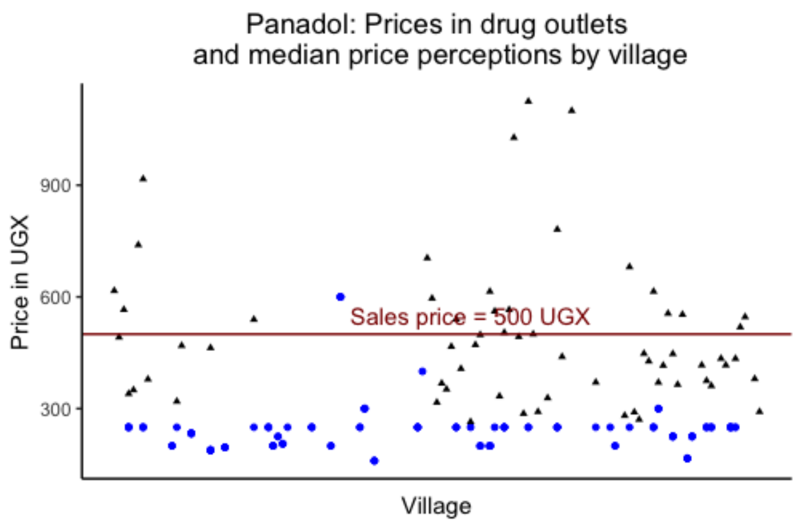
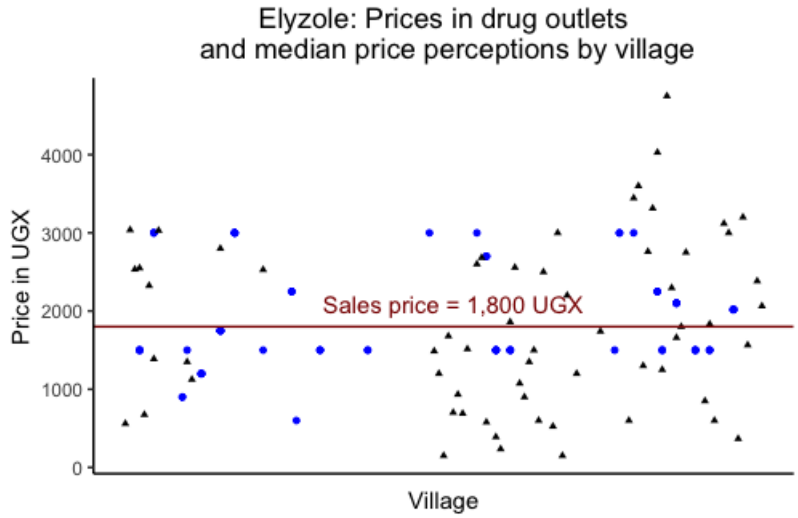
A Price distribution by and within village

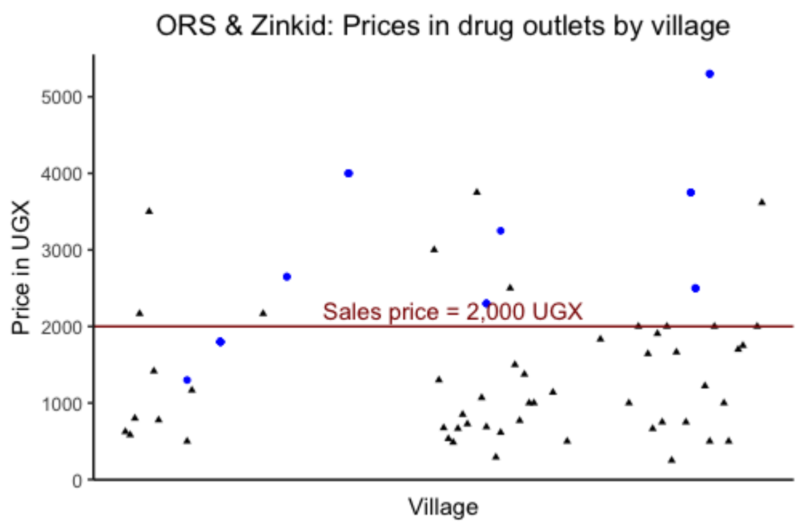
The graphs below show the distribution of drug prices in drug outlets in villages as well as median price perceptions in a given village. As described in greater detail above, drug prices were collected in a drug outlet survey. Enumerators visited each drug outlet – often small kiosks – in a village and asked the shopkeeper about the sales price for each drug in our sample. Price perceptions were collected during the marketing visit. Respondents were shown products they were not offered for sale/free and asked about their perceived price of the product.



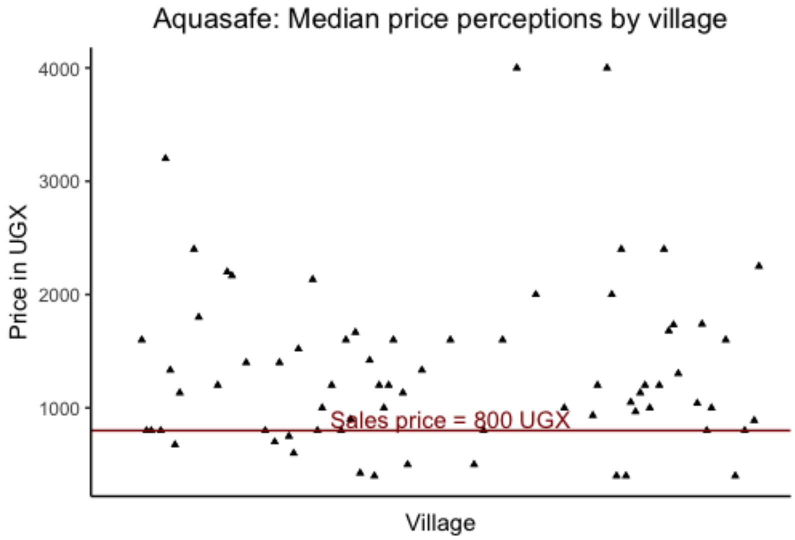
Prices for 10 Panadol tablets. The horizontal line indicates our Panadol sales price of 500 UGX. Blue dots indicate average prices per village where available in drug outlets (42 villages), black triangles indicate the median price perception by village (available for 62 villages).



Prices for 3 packs of Elyzole. The horizontal line indicates our Elyzole sales price of 1,800 UGX. Blue dots indicate average prices per village where available in drug outlets (26 villages), black triangles indicate median price perception per village (available for 62 villages).



Prices for one sachet of ORS and ten tablets of Zinkid. The horizontal line indicates our sales price of 2,000 UGX. Blue dots indicate average prices per village where available in drug outlets (9 villages), black triangles indicate median price perception per village (available for 51 villages).



Median price perceptions by village for 8 tablets of Aquasafe (available for 71 villages). The horizontal line indicates our Aquasafe sales price of 800 UGX. Outlet prices were not collected for Aquasafe.

B Marketing scripts

B.1 Treatment-specific marketing information

- [NGO] UHMG is a Ugandan-based non-governmental organization based in Kampala. UHMG believes that every person in Uganda should have access to affordable health products. UHMG is motivated by the desire to save lives. It is a charity, which means that it makes no profits, and it is funded by international donors.
- [SALE] Today UHMG's beneficiaries are asked to pay a small amount to share the cost of distribution, which allows the good work to be extended to a greater number of needy people.
  - [FREE] Today I am distributing health products for free throughout the village.
- [FOR-PROFIT] Star Pharmaceuticals is a large for-profit company based in Kampala. We sell drugs and health products throughout Uganda. We believe everyone should pay for health products they want, and we believe making profits is a good way to drive progress. We want to become the most successful company in Uganda, and we do this by offering good prices to our customers.
  - [SALE] Today you have the opportunity to buy your normal products at the great prices Star Pharmaceuticals offers, right at your doorstep.
  - [FREE] Today, however, we are distributing our products for free, right at your doorstep, to raise our profile in Gulu.

B.2 Product-specific marketing information

PANADOL

Have you ever returned home from the garden with a pounding headache, or aches in your muscles and joints? Has your child ever woken you in the middle of the night, complaining that their head or stomach is aching? Imagine if one of these things occurred tomorrow, what would you do? You have to run to a drug shop or medical center. But what if that is far away, or there is a long queue, or they are closed or out of stock? That is a bad solution. As both you and I know, one of the best painkillers is Panadol, and yet it is often hard to find. So today, I have Panadol tablets for sale/for free right here! [Take out one unit] I am selling this sheet of 10 tablets for the great price of 500 shillings. I am giving you one sheet of 10 tablets. [Dosage/usage instructions] So, how many sheets will you buy? So, will you accept this product?

ELYZOLE

Do you sometimes drink water that has not been boiled or treated? Do you ever eat fruits directly from the trees, without washing them first? This kind of behavior can lead to worm infections of the stomach. Does anyone in your household ever complain about stomach pains or itchy skin? These are symptoms experienced by someone who has worms. But symptoms often take some time to appear, and so doctors usually advise people to deworm once every three months. The only problem is that it is sometimes hard to access deworming tablets. But today, I have Elyzole deworming tablets for sale/for free right here! [Take out one unit] These three boxes contain a full dose of deworming tablets. There are six tablets in here. These tablets can kill almost all types of worms that can attack humans. I am selling them at the great price of 1500 shillings for one dose of three boxes. I am giving you one dose of three boxes. [Dosage/usage instructions] So, how many full doses do you want to buy? Will you accept this product?

RESTORS & ZINKID

Do you remember a time when your child suffered from diarrhea? Do you remember how weak they became, and how worried that made you? When a child becomes ill with diarrhea, it is important to quickly replenish all the salts and nutrients that they are losing. I'm sure you have heard of oral rehydration salts. Giving these to a sick child is the first stage of combating the effects of diarrhea. So for that, I am selling/giving away Restors - a high quality brand of ORS. The second step is to provide them with zinc supplements which can stop the diarrhea sooner and reduce the chance of diarrhea returning. For that, I have a brand new product, Zinkid, which is to be taken in combination with ORS. Taking these two products together is a great way to reduce the duration and severity of diarrhea in children. Therefore I am selling one strip of 10 Zinkid tablets with one Restors sachet in combination as one item for the great price of , to equip you with the means to combat diarrhea in your children. Therefore I am giving away one strip of 10 Zinkid tablets with one Restors sachet in combination as one item, to equip you with the means to combat diarrhea in your children. [Dosage/usage information] So how many will you buy today? So will you accept this product?

AQUASAFE

Today I am selling Aquasafe – a high quality brand of water treatment right at your door! Often water from wells and boreholes is not suitable for drinking; it can contain harmful bacteria, parasites and other contaminated substances. Drinking this water can cause various illnesses, including diarrhea which can be very damaging for children. I am offering you a simple solution to this problem. Aquasafe is a fast and effective way of purifying your water – you simply add it to a jerry-can of water and in no time it is safe to drink. [Take out one unit] I am selling this sheet of 8 tablets for the great price of 800 shillings. [Dosage/usage instructions] So, how many sheets will you buy?

Wave 2 introduction

Good morning/afternoon! [Generic pleasantries] My name is ____, I am from Surgipharm Uganda Limited. Have you heard of Surgipharm Uganda Limited before? Surgipharm Uganda Limited is a health care company specializing in the importation, exportation, distribution and marketing of pharmaceutical products. We believe everyone should pay for health products they want, and we believe making profits is a good way to drive progress. We want to become the most successful company in Uganda, and we do this by supplying quality goods. I hope you will remember the name of Surgipharm Uganda Limited. [Move on to Aquasafe Price Perception Survey if Aquasafe is not assigned product, then to the sales pitch.]

C Post-Marketing Survey

M A R K E T F E E D B A C K

Intended Respondent's Name: ____ **Gender:** M F **Date of Birth:**____________

I met: this person spouse **Spouse Name:** _________________________ (If spouse was met) **Enumerator Name**:_________________________

Product: Deworming Panadol ORS/Zinkid Aquasafe **Date**: **Subcounty: Parish: Village:**

IN ADDITION TO CIRCLING THE RESPONSE, PLEASE WRITE COMPLETE SENTENCES TO EXPLAIN THE RESPONDENT"S ANSWER MORE THOROUGHLY

Before filling in this form, you must:

1. **Introduce yourself, conduct the Price Perception Survey, and deliver the sales pitch.**
2. **Answer any questions the respondent may ask about the product to the best of your ability.**
3. **Wait until the respondent has made a decision to purchase or not purchase. If they purchased, any change must be handed over.**

Inform the respondent that you would now like to ask them a few brief questions that will help your organization improve in the future. To learn more about why they did or did not buy the product, ask the following questions:

1) **Did the respondent make a purchase?** Yes No
   If 'Yes' move to Question 2.
   If 'No' move to Question 3.

2) **[If they made a purchase]** Ask Questions a) to c) below:

   a. Can you tell me more about why you bought this product? *CIRCLE ALL THAT APPLY*
      1---I ran out of my supply ____
      2--- I trust you (*ASK WHY AND WRITE ANSWER OPPOSITE)* ____
      3---The price is cheaper than what I can get it for here ____
      4--- I want to sell it on to others ____
      5--- I would have to travel far to find this elsewhere ____
      6--- I want it in case someone becomes sick ____
      7---Other (FILL IN OPPOSITE)
      99--- Didn't answer

   b. For whom did you buy this for? *CIRCLE ALL THAT APPLY*
      1--- Myself 2--- Adults 3---Grandparents / Elderly
      4---Children/babies 4---Other: ______________________________________
      99-- Didn't answer

   c. When do you expect to start using the product?
      1---This week
      2--- Next week
      3---In the next month
      4---In the next 2-3 months
      5---6 months or more
      6--- Other________________________________
      99—Didn't answer

3) **[If did not make a purchase]** Can you tell me more about why you did not buy this? *CIRCLE **ALL** THAT APPLY*
   1--- I got it for free previously, why should I buy it now?
   2--- Other people in this village have previously got it for free.
   3--- I'd like to buy it, but don't have the money here.
   4--- I think it is too expensive.
   5--- It's not essential.
   6--- I already have enough of it.
   99—Didn't answer
   7--- I need to ask my spouse.
   8--- I don't trust you or I'm uncomfortable buying this from you.
   9--- Don't know
   10--- Didn't answer
   11--- Other: ____
   ____

4) **[Ask everyone]** Is this the type of product that people in your village would resell or trade?
   1---Yes If yes, how much do you think they could sell/trade it for? |_________| UGX --or--- Item to trade with: ____________________
   2---No
   99—Didn't answer

Leave the respondent's home and fill out the Tracking Sheet

D Theoretical Model

The Introduction describes the intuition of the tension between price anchoring and learning. This appendix formalizes that intuition, describing the model that served as the basis for our experimental design. We put forward a model of households' decisions to purchase non-durable health products that includes both price anchoring and learning. With our focus on these elements, we abstract away from other potentially important issues, such as health externalities, learning from one's neighbors, expectations about product quality, knowledge of price distribution, risk aversion, and habit formation. While the mechanisms we describe are applicable to repeated purchase opportunities, the key features can be seen in a simple two-period, latent utility model. This set-up differs from typical settings in which experience goods are analyzed in that (1) rather than constrain the distributor to be a profit maximizer, we remain agnostic regarding its objective function and (2) similar to Dupas (2014), we enrich the latent utility framework to allow for gain-loss utility.

In each period, a household chooses to purchase a health product if and only if its expected utility from the product exceeds the utility cost. In any period t, a household i purchases the product if and only if

$$v_{it} \equiv E_{it}(v_i) > \varepsilon_{it} + a p_t + R(p_t - p_t^r), \tag{3}$$

where $E_{it}(v)$ is the expected value (v_i) of the product to household i at time t; ε_{it} is a normally-distributed, household- and time-specific preference shock with mean zero and variance σ_ε^2; p_t is the price at which the product is offered in period t; a is the marginal utility of income, which we normalize to 1; and $R(p_t - p_t^r)$ is the gain-loss utility from purchasing at price p_t relative to reference point p_t^r (Kőszegi and Rabin, 2006; Heidhues and Kőszegi, 2014). We specify that $p_t^r = p^r(p_{t-1}, d)$, that is, the reference point is a function of both the immediately preceding price and the identity of the distributor, d, which can be either an NGO (N) or a for-profit enterprise (F). We allow for any general form of gain-loss utility such that $R' \geq 0$ and $\partial p_t^r / \partial p_{t-1} > 0$. This simply implies that an increase in current prices will increase the future price reference point, and utility is increasing in this reference point as any realized future price represents a "better deal". Likewise, a decrease in current price implies the opposite. It will be convenient to define the *adjusted price* as $\tilde{p}_t = p_t + R(p_t - p_t^r)$, that is, the current price plus the gain-loss utility from purchasing at that price. For notation, if household i purchases the product in period t, $P_{it} = 1$; if she does not, $P_{it} = 0$. We denote by π_{it} the probability that household i purchases the product at time t, and by π_t the expected share of the population that purchases.

Households are heterogeneous and differ in their true value of the product, v_i, where $v_i = \bar{v} + \sigma_{iv}$. For analytical tractability, we assume that this true value is normally distributed, $v_i \sim N(\bar{v}, \sigma_v^2)$. In period 0, a share of the households, $\alpha_0 \in [0,1]$, is informed of their true values. The remaining households receive a signal of their value, $\tilde{v}_{it} = v_i + b + b_{it}$, where b captures the mean bias in the population and $b_{it} \sim N(0, \sigma_b^2)$.[28] Note that we are

[28]This is an alternative representation for the definition of pessimistic and optimistic customers used by

explicitly allowing for the possibility that the expected value of the product in the uninformed population may differ from the truth. If households tend to be optimistic about the value of a product, b will be positive; for pessimistic beliefs, b will be negative. For informed households, $v_{it} = v_i$, i.e., the true value. As in other literature on experience goods pricing (Bergemann and Välimäki, 2006), if a household receives the product, we assume they become perfectly informed about its value to them.

The share of individuals purchasing in period t can be expressed as follows:[29]

$$\pi_t = \alpha_t E(\pi_t | Informed) + (1-\alpha_t) E(\pi_t | Uninformed). \tag{4}$$

The expected share of informed individuals purchasing in any period can be calculated simply as:

$$\begin{aligned} E(\pi_t | Informed) &= Pr(v_i > \varepsilon_{it} + \tilde{p}_t) \\ &= Pr(\bar{v} + \sigma_{iv} - \varepsilon_{it} > \tilde{p}_t) \\ &= \Phi\left(\frac{\bar{v} - \tilde{p}_t}{\sigma_I}\right), \end{aligned}$$

where $\sigma_I^2 = \sigma_v^2 + \sigma_\varepsilon^2$. Similarly, the expected share of uninformed individuals purchasing in any period can be calculated as:

$$\begin{aligned} E(\pi_t | Uninformed) &= Pr(\tilde{v}_{it} > \varepsilon_{it} + \tilde{p}_t) \\ &= Pr(\bar{v} + \sigma_{iv} + b + b_{it} - \varepsilon_{it} > \tilde{p}_t) \\ &= \Phi\left(\frac{\bar{v} + b - \tilde{p}_t}{\sigma_U}\right), \end{aligned}$$

where $\sigma_U^2 = \sigma_v^2 + \sigma_b^2 + \sigma_\varepsilon^2$. This implies that there is more variation in the signal households receive about the true value of the product than in the underlying true value, and hence $\sigma_U^2 > \sigma_I^2$.[30]

Shapiro (1983).

[29] Note that this model implicitly assumes that individuals cannot store the product. They do not buy today with the intent of consuming in a subsequent period. This assumption is important. If individuals could store the product for later consumption, individuals who received the product for free in round 1 may carry over stock into round 2, mechanically reducing demand. In Section 4 we discuss the empirical support for the assumption and show that individuals in our experiment indeed do not appear to be storing the product for future consumption. We also assume, consistent with the work of Shapiro (1983), Milgrom and Roberts (1986), Tirole (1988) and Villas-Boas (2004), that consumers do not have an experimentation motive for purchases. Such experimentation is analyzed in Bergemann and Välimäki (1996, 2006) and would not substantively alter the predictions of this theoretical framework.

[30] While it is possible for uninformed priors to be tightly distributed around a common mean and posterior beliefs, informed by experience, to be more dispersed, we consider situation unlikely in this context and do not pursue it further.

The key predictions of the model are all derived from differentiating (4)

$$\begin{aligned}
\pi_t &= \alpha_t E\left(\pi_t | Informed\right) + (1-\alpha_t) E\left(\pi_t | Uninformed\right) \\
&= \alpha_t \Phi\left(\frac{\bar{v} - \tilde{p}_t}{\sigma_I}\right) + (1-\alpha_t)\Phi\left(\frac{\bar{v} + b - \tilde{p}_t}{\sigma_U}\right) \\
&= \alpha_t \Phi\left(\frac{\bar{v} - p_t - R\left(p_t - p_t^r\right)}{\sigma_I}\right) + (1-\alpha_t)\Phi\left(\frac{\bar{v} + b - p_t - R\left(p_t - p_t^r\right)}{\sigma_U}\right)
\end{aligned}$$

with respect to the price in the preceding period, p_{t-1}. This leads to:

$$\begin{aligned}
\frac{\partial \pi_2}{\partial p_1} &= \frac{\partial \alpha_2}{\partial p_1}\left[\Phi\left(\frac{\bar{v} - \tilde{p}_2}{\sigma_I}\right) - \Phi\left(\frac{\bar{v} + b - \tilde{p}_2}{\sigma_U}\right)\right] \\
&\quad - \frac{\partial R}{\partial p_1}\left[\frac{\alpha_2}{\sigma_I}\phi\left(\frac{\bar{v} - \tilde{p}_2}{\sigma_I}\right) + \frac{1-\alpha_2}{\sigma_U}\phi\left(\frac{\bar{v} + b - \tilde{p}_2}{\sigma_U}\right)\right]. \qquad (5)
\end{aligned}$$

The first term on the right-hand side of (5) is the information effect. It can be either positive or negative depending on households' starting beliefs and the value of the product relative to its price. The second term is the price anchoring effect, which operates through the gain-loss utility term. It serves to reduce demand by increasing the effective price for both the informed and uninformed as the period-1 price falls. The strength of this effect depends on the shape of the loss function R. Note that the shape of this loss function also affects the effective price in period 2, $\tilde{p}_2$.

Before we proceed with a discussion of the total effect of prices on subsequent demand, we draw the link to the existing literature on experience goods and consider the effect of prices in the absence of gain-loss utility.

Remark 1. *In the absence of gain-loss utility ($R' = 0$), if households are not perfectly informed ($\alpha_1 < 1$) and have unbiased beliefs about the value of the product ($b = 0$), then reducing the price in period 1 will (a) reduce demand in period 2 (π_2) if the period 2-price is above the average value of the product, $p_2 > \bar{v}$, and (b) increase π_2 if $p_2 < \bar{v}$.*

Reducing the price in any period will increase contemporaneous demand and thereby the share of the population that has experience with the product. When some of the population is uninformed, a lower price in the current period increases the share of the population that knows the true value in the next period. The effect of this increase in experience on future demand depends on how the future price compares to the value of the product. When the period-2 price is above the average value, this learning effect tends to decrease demand. Intuitively, when price is above the average value, demand for the product is coming from individuals with positive idiosyncratic shocks (σ_{bit}) to their beliefs about the true value. When more individuals are informed, it is relatively less likely that any given individual will have received shocks large enough to induce them to buy. Expected demand falls. Naturally, the reverse holds when the period-2 price is below the expected value: increasing the informed share of the population increases demand.

We now consider the effect of biased beliefs about the product's value.

Remark 2. *In the absence of gain-loss utility ($R' = 0$), if households are not perfectly informed ($\alpha_1 < 1$) and have biased beliefs about the value of the product ($b \neq 0$), then reducing the price in period 1 ($p_1 = 0$) will (a) reduce demand in period 2 (π_2) if $p_2 > \bar{v} - \frac{\sigma_I}{\sigma_U - \sigma_I} b$ and (b) increase demand in period 2 if $p_2 < \bar{v} - \frac{\sigma_I}{\sigma_U - \sigma_I} b$.*

The additional term in the price cutoff rule, $\frac{\sigma_I}{\sigma_U - \sigma_I} b$, reflects the debiasing effect. Increasing the share of informed individuals not only reduces uncertainty but also reduces the share of individuals with biased beliefs. This makes it more likely that demand in period 2 will decrease if beliefs are optimistic and more likely that demand will increase if they are pessimistic.

We are now in a position to make a prediction about the effect of free distribution on purchase behavior.

Proposition 1. *If individuals are fully informed about the value of the product ($a_1 = 1$) and there is no gain-loss utility ($R' = 0$), then free distribution will have no effect on subsequent demand relative to a distribution at a positive price.*

Intuitively, if individuals are already fully informed and there is no gain-loss utility, then both channels through which prior prices can affect future demand will be shut down. This leads immediately to a hypothesis regarding the presence of gain-loss utility (price anchors) that we can test with the distribution of Panadol, a well-known product for which we can reasonably assume that everyone knows the value.

Assumption 1. *Price reference points are more sensitive to updating after a distribution by an NGO than by a for-profit, that is, $\partial p_t^r / \partial p_{t-1}|_{d=N} > \partial p_t^r / \partial p_{t-1}|_{d=F}$.*

The justification for this assumption was described in the introduction: for-profit companies may be known to offer free samples or steep introductory discounts, but no one expects them to keep giving the product away for free. It leads immediately to our first prediction.

Prediction 1. *In the presence of gain-loss utility, free distributions by an NGO will have a relatively more negative effect on subsequent demand than free distributions by a for-profit.*

It will be useful to define the concept of *scope for learning* by which we mean that (i) at a particular future price the expected demand for a currently informed individual differs from that of an uninformed individual and (ii) not all individuals are informed. We say there is scope for positive learning if $E(\pi_2 | Informed, \tilde{p}_2) > E(\pi_2 | Uninformed, \tilde{p}_2)$, i.e., at a given price, individuals who are informed about the value of the product would be more likely to purchase than those who are not. Note that this depends on the price. To see this, consider the case where uninformed individuals have unbiased beliefs about the product's value but are simply more uncertain. When the period-2 price is below the average value, it is only those with particularly negative idiosyncratic shocks (σ_{bit}) to their beliefs about the true value who do not buy. When more individuals are informed, it is relatively less likely that any given individual will have received a negative shock large enough to stop her from buying. Naturally, having a pessimistic bias implies that there is more scope for positive learning.

We say there is scope for negative learning if $E(\pi_2|Informed, \tilde{p}_2) < E(\pi_2|Uninformed, \tilde{p}_2)$, i.e., at a given price, individuals who are informed about the value of the product would be less likely to purchase than those who are not. For example, again consider the case where uninformed individuals have unbiased beliefs about the product's value but are simply more uncertain. When the period-2 price is above the average value, demand for the product is coming from individuals with particularly positive idiosyncratic shocks (σ_{bit}) to their beliefs about the true value. When more individuals are informed, it is relatively less likely that any given individual will have received a sufficiently positive shock to induce her to buy and demand falls. Naturally, having an optimistic bias implies that there is more scope for negative learning.

As described in Section 2.1, we make the following assumption about the scope for learning in the three products tested.

Assumption 2. *There is no scope for learning with Panadol, scope for positive learning with Zinkid, and scope for negative learning with Elyzole.*

Taken together, this leads to two additional predictions.

Prediction 2. *The relative effect of the free distribution for the product with scope for positive learning, Zinkid, should be more positive than for the already well-known product, Panadol.*

When there is scope for positive learning, an increase in the share of uninformed individuals (a decrease in α_1) will further increase the scope for positive learning. If uninformed individuals are generally pessimistic about a product's true value and a relatively high share of the population is uninformed (as we believe is the case for Zinkid), we expect the effect of a free distribution to be relatively more positive (less negative) than for a free distribution of a well-known product for which there is no scope for learning. Intuitively, as described above, for the well-known product Panadol, if free distribution has any effect on subsequent demand it will be through price anchoring, which will reduce demand. For the product where we would expect to see positive learning, Zinkid, this effect would be offset by increasing the share of informed individuals and hence increasing expected demand.

Prediction 3. *The relative effect of free distribution for the product with scope for negative learning, Elyzole, should be more negative than for the already well-known product, Panadol.*

When there is scope for negative learning (e.g., uninformed individuals have optimistic beliefs about the product's value), an increase in the share of uninformed individuals (a decrease in α_1) will further increase the scope for negative learning and amplify the effects of free distribution. For example, if uninformed individuals are generally optimistic about a product's true value and a relatively high share of the population is uninformed, we expect the effect of a free distribution to be relatively more negative than for a free distribution of a well-known product for which there is no scope for learning. Intuitively, because there is scope for negative learning for Elyzole, free distribution will tend to decrease subsequent demand through the learning channel in addition to any effect of price anchors.

These predictions highlight the potential importance of price anchors in determining the optimal pricing for experience goods. Lowering the current price will increase the share of individuals who purchase in the current period and hence who are informed about product quality in the future. The effect of this learning depends on the share of uninformed, the mean bias in the population and the value of the product relative to the price. However, the price anchoring effect can offset the potential increase in demand from learning, thus depressing demand in aggregate.

Figure A1

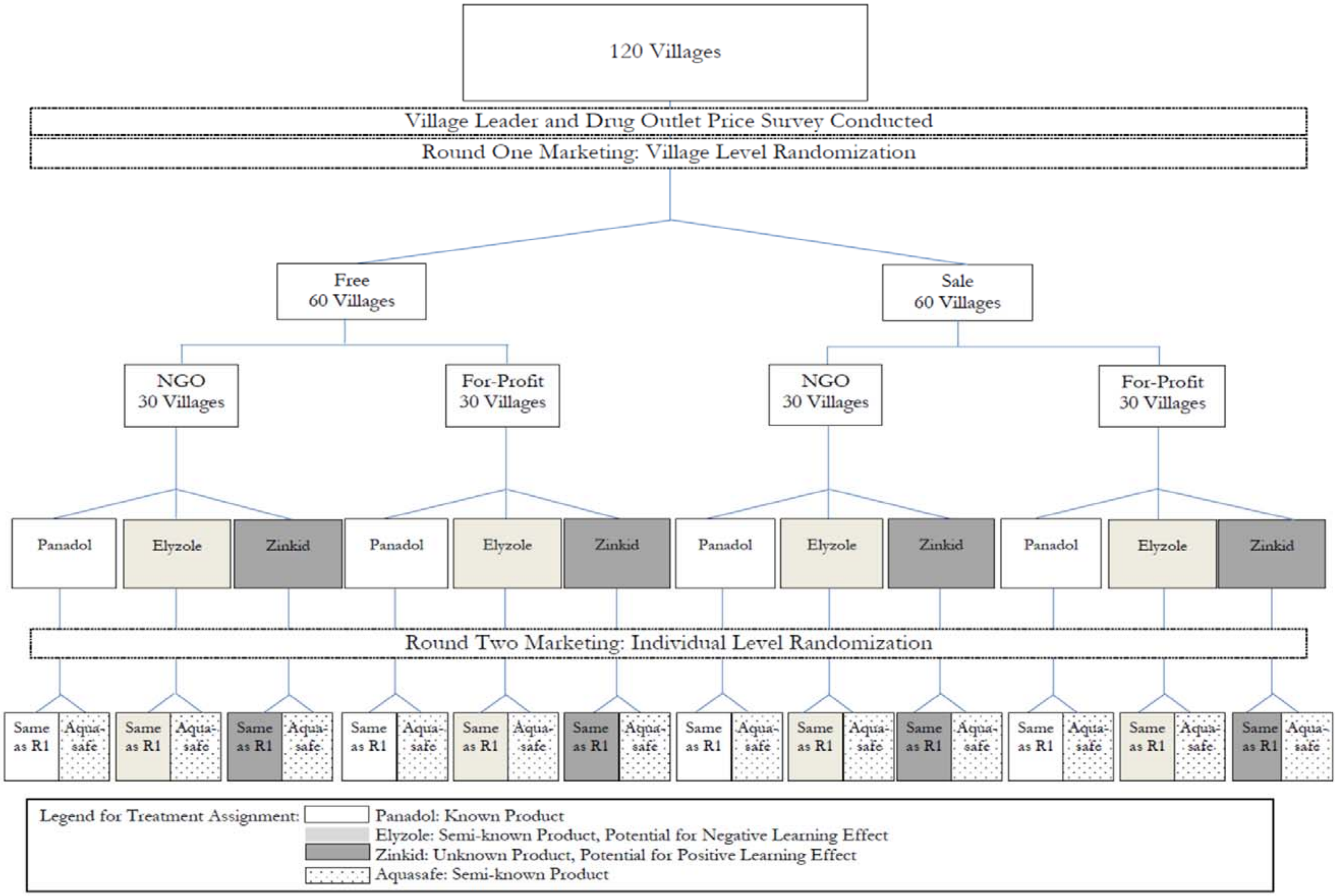

120 Villages
Village Leader and Drug Outlet Price Survey Conducted
Round One Marketing: Village Level Randomization
Free
60 Villages
Sale
60 Villages
NGO
30 Villages
For-Profit
30 Villages
NGO
30 Villages
For-Profit
30 Villages
Panadol
Elyzole
Zinkid
Round Two Marketing: Individual Level Randomization
Same as R1
Aqua-safe
Legend for Treatment Assignment:
Panadol: Known Product
Elyzole: Semi-known Product, Potential for Negative Learning Effect
Zinkid: Unknown Product, Potential for Positive Learning Effect
Aquasafe: Semi-known Product

Table A1: Orthogonality Checks, Entry into Sample & Attrition

	Find Rate Conditional on Row Variable		p-value of Diff.	
	Yes	No		
	(1)	(2)	(3)	
Panel A: Wave 1, Entry into Sample				
Found in Wave 1 (N)	3,879	1,788		
NGO treatment	0.691	0.678	0.591	a
	(0.462)	(0.467)		
Sale treatment	0.654	0.715	0.010	a
	(0.476)	(0.451)		
Panadol Sale	0.635	0.728	0.000	
	(0.482)	(0.445)		
Elyzole Sale	0.670	0.721	0.014	
	(0.470)	(0.449)		
Zinkid Sale	0.655	0.697	0.057	
	(0.476)	(0.460)		
Female	0.651	0.705	0.000	
	(0.477)	(0.456)		
Reports free distribution of any drug in last 3 mo[c]	0.679	0.690	0.656	a
	(0.467)	(0.463)		
Village easy to reach and close to health center	0.651	0.706	0.027	a
	(0.477)	(0.455)		
No drug shops or none of our drugs	0.691	0.679	0.612	a
	(0.462)	(0.467)		
Panel B: Wave 2, Attrition (conditional on entering into sample in Wave 1)				
Found in Wave 2 (N)	2,887	992		
Received product in wave 1	0.750	0.723	0.281	a
	(0.433)	(0.448)		
NGO treatment	0.765	0.723	0.110	a
	(0.424)	(0.447)		
Sale treatment	0.742	0.747	0.856	a
	(0.438)	(0.435)		
Panadol Sale	0.763	0.748	0.598	
	(0.426)	(0.435)		
Elyzole Sale	0.741	0.737	0.890	
	(0.439)	(0.441)		
Zinkid Sale	0.751	0.717	0.246	
	(0.433)	(0.451)		
Female	0.710	0.783	0.000	
	(0.454)	(0.412)		
Visited for usage check	0.763	0.743	0.418	
	(0.426)	(0.437)		
Panadol available[b]	0.729	0.753	0.378	a
	(0.445)	(0.431)		
Elyzole available[b]	0.742	0.745	0.921	a
	(0.438)	(0.436)		
Zinkid available[b]	0.745	0.744	0.985	a
	(0.437)	(0.436)		
Reports free distribution of any drug in last 3 mo[c]	0.760	0.729	0.221	a
	(0.427)	(0.445)		
Village easy to reach and close to health center	0.734	0.751	0.524	a
	(0.442)	(0.433)		
No drug shops or none of our drugs	0.755	0.735	0.421	a
	(0.430)	(0.442)		

Standard deviations reported in parentheses. (a) p-value of differences adjusted for clustering at the village level (b) A product is "available" in a village if it is "mostly" or "always" available in at least one outlet/drugshop of the village. (c) Reports of free distribution based on village chief's (LC1's) answer to the questions "Has [the product] been distributed for free in the past in this village?" and, if so, "When was the product last distributed for free in this village?", where "yes" is coded as 1 and "no" or "I do not know" are coded 0.

Table A2: Prior Free Distribution Summary Statistics

Time since last free distribution (percent)	Panadol	Deworming	ORS	Condoms	Any*
In past month	1	21	2	5	26
1-3 months ago	0	26	1	1	27
3-6 months ago	0	11	1	3	13
6-12 months ago	0	11	3	3	17
More than 1 year ago	0	3	8	4	14
Cumulative; Any distributions in prior period (percent)	Panadol	Deworming	ORS	Condoms	Any*
In past month	1	21	2	5	26
0-3 months ago	1	47	3	6	49
0-6 months ago	1	58	3	8	59
0-12 months ago	1	69	7	12	73
Ever	1	72	15	16	77

Total sample size is 120 villages. Three had missing observations in deworming questions and are dropped from sample. * Any free drug is indicator, equal to 1 if any of Panadol, deworming, ORS, or condoms have previously been distributed for free in the village. No village had ever received prior free distributions of Zinkid or Restors.

Table A3: Heterogeneous Effects with Respect to Price Index

Product Offered in Wave 2	Pooled		Panadol		Elyzole		Zinkid		Aquasafe	
Same As Wave 1?	Same		Same		Same		Same		Different	
Dependent Variables:	Take up	Quantity	Take up	Quantity	Take up	Quantity	Take up	Quantity	Take up	Quantity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
NGO in Wave 1	0.009	-0.026	0.056	-0.061	-0.002	0.000	-0.014	-0.002	0.023	-0.002
	(0.041)	(0.075)	(0.045)	(0.182)	(0.065)	(0.108)	(0.060)	(0.070)	(0.064)	(0.104)
Free in Wave 1	-0.105**	-0.214***	-0.100**	-0.394**	-0.126*	-0.171*	-0.072	-0.077	0.006	0.039
	(0.041)	(0.077)	(0.044)	(0.170)	(0.065)	(0.103)	(0.061)	(0.067)	(0.061)	(0.124)
Free*NGO	0.025	0.158	0.033	0.437*	0.029	0.017	0.000	0.027	-0.074	-0.107
	(0.053)	(0.114)	(0.062)	(0.243)	(0.087)	(0.138)	(0.077)	(0.101)	(0.079)	(0.143)
High price index	-0.004	0.110	0.114	0.489	0.002	-0.006	-0.116	-0.124	-0.086	-0.242
	(0.069)	(0.162)	(0.077)	(0.354)	(0.126)	(0.197)	(0.104)	(0.131)	(0.112)	(0.176)
High price*Free in Wave 1	-0.026	-0.141	-0.066	-0.326	-0.055	-0.098	0.051	0.031	0.121	0.158
	(0.054)	(0.122)	(0.078)	(0.283)	(0.105)	(0.138)	(0.096)	(0.143)	(0.092)	(0.121)
High price*NGO	0.003	-0.106***	-0.065	-0.358	0.012	-0.071	0.043	0.096***	0.015	0.017***
	(0.259)	(0.014)	(0.076)	(0.285)	(0.738)	(0.135)	(0.428)	(0.016)	(0.009)	(0.001)
Constant	0.168	0.730***	0.738*	0.135***	0.523	0.672***	0.338***	0.245**	0.028	0.039
	(0.838)	(0.188)	(0.428)	(0.016)	(0.338)	(0.245)	(0.105)	(0.122)	(0.179)	(0.227)
Observations	2034	2034	643	643	751	751	640	640	695	695
Mean of NGO*Sale	0.551	0.827	0.870	1.701	0.511	0.661	0.280	0.317	0.562	0.691
Mean of For-Profit*Free	0.477	0.732	0.708	1.380	0.377	0.497	0.229	0.236	0.564	0.762
p-value of Free = 0	0.012	0.006	0.024	0.022	0.053	0.099	0.244	0.252	0.920	0.755
p-value of Free + Free*NGO = 0	0.056	0.536	0.141	0.813	0.151	0.161	0.203	0.525	0.246	0.496

High price indicates at least one drug price above the median. The generic names for all four drugs are: *paracetamol* for Panadol, *albendazole* for Elyzole, *zinc* for Zinkid, and *sodium dichloroisocyanurate* for Aquasafe. The "quantity" dependent variable is the number of units (defined as doses) received or purchased. Respondents in the Free group were offered one unit, respondents in the Sale group were able to purchase up to five units. Pooled regression includes product-specific intercepts and only those households offered the same product in both waves. Village assignment to treatment was block randomized according to two variables. The first, price environment, included information about pricing and drug availability with three possible categories: (1) no drug outlets or none of our drugs; (2) no prices above the median or distributed for free; and (3) at least one price above the median. The second, remoteness, also had three categories: (1) easy to travel and close to health center; (2) difficult travel or far from health center; and (3) difficult travel and far from health center. All regressions include controls for stratification cell. Standard errors clustered by village in parentheses. * Denotes significance at the 10-percent level; ** at the 5-percent level; and *** at the 1-percent level.

Table A4: Heterogeneous Effects with Respect to Remoteness

Product Offered in Wave 2	Pooled		Panadol		Elyzole		Zinkid		Aquasafe	
Same As Wave 1?	Same		Same		Same		Same		Different	
Dependent Variables:	Take up	Quantity	Take up	Quantity	Take up	Quantity	Take up	Quantity	Take up	Quantity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
NGO in Wave 1	0.017	-0.071	0.096	-0.080	-0.024	-0.130	-0.011	0.019	-0.010	-0.049
	(0.051)	(0.103)	(0.060)	(0.244)	(0.080)	(0.125)	(0.082)	(0.098)	(0.080)	(0.130)
Free in Wave 1	-0.089*	-0.239**	-0.067	-0.548**	-0.164**	-0.153	-0.019	-0.026	0.073	0.061
	(0.049)	(0.102)	(0.056)	(0.215)	(0.074)	(0.132)	(0.078)	(0.089)	(0.073)	(0.120)
Free*NGO	0.023	0.126	0.045	0.388*	0.006	-0.033	0.010	0.036	-0.085	-0.134
	(0.051)	(0.107)	(0.056)	(0.220)	(0.083)	(0.133)	(0.075)	(0.095)	(0.078)	(0.138)
Remote	0.024	-0.054	0.058	-0.130	-0.031	-0.083	0.055	0.071	0.048	0.051
	(0.047)	(0.094)	(0.049)	(0.212)	(0.075)	(0.125)	(0.075)	(0.083)	(0.074)	(0.115)
Remote*Free in Wave 1	-0.025	0.031	-0.089	0.179	0.067	0.001	-0.063	-0.066	-0.050	0.034
	(0.052)	(0.106)	(0.060)	(0.231)	(0.083)	(0.133)	(0.079)	(0.099)	(0.081)	(0.134)
Remote*NGO	-0.008	0.095	-0.104*	0.011	0.073	0.252*	-0.008	-0.020	0.084	0.133
	(0.052)	(0.107)	(0.060)	(0.231)	(0.082)	(0.133)	(0.080)	(0.098)	(0.081)	(0.137)
Constant	0.848***	1.842***	0.868***	2.138***	0.545***	0.775***	0.224**	0.195*	0.585***	0.785***
	(0.054)	(0.121)	(0.056)	(0.226)	(0.084)	(0.142)	(0.091)	(0.105)	(0.074)	(0.126)
Observations	2150	2150	687	687	786	786	677	677	737	737
Mean of NGO*Sale	0.555	0.845	0.866	1.720	0.521	0.688	0.276	0.312	0.571	0.714
Mean of For-Profit*Free	0.480	0.729	0.709	1.363	0.379	0.495	0.233	0.240	0.566	0.762
p-value of Free = 0	0.072	0.021	0.233	0.012	0.028	0.250	0.804	0.771	0.316	0.614
p-value of Free + Free*NGO = 0	0.147	0.203	0.704	0.459	0.038	0.085	0.892	0.917	0.881	0.545

Remote indicates village is both difficult to reach and far from the nearest health center. The generic names for all four drugs are: *paracetamol* for Panadol, *albendazole* for Elyzole, *zinc* for Zinkid, and *sodium dichloroisocyanurate* for Aquasafe. The "quantity" dependent variable is the number of units (defined as doses) received or purchased. Respondents in the Free group were offered one unit, respondents in the Sale group were able to purchase up to five units. Pooled regression includes product-specific intercepts and only those households offered the same product in both waves. Village assignment to treatment was block randomized according to two variables. The first, price environment, included information about pricing and drug availability with three possible categories: (1) no drug outlets or none of our drugs; (2) no prices above the median or distributed for free; and (3) at least one price above the median. The second, remoteness, also had three categories: (1) easy to travel and close to health center; (2) difficult travel or far from health center; and (3) difficult travel and far from health center. All regressions include controls for stratification cell. Standard errors clustered by village in parentheses. * Denotes significance at the 10-percent level; ** at the 5-percent level; and *** at the 1-percent level.

Table A5: Heterogeneous Effects with Respect to Prior Free Distributions

Product Offered in Wave 2	Pooled		Panadol		Elyzole		Zinkid		Aquasafe	
Same As Wave 1?	Same		Same		Same		Same		Different	
Dependent Variables:	Take up	Quantity	Take up	Quantity	Take up	Quantity	Take up	Quantity	Take up	Quantity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
NGO in Wave 1	0.016	0.007	0.051	0.002	0.021	0.037	-0.019	-0.005	0.066	0.018
	(0.042)	(0.080)	(0.049)	(0.174)	(0.078)	(0.128)	(0.058)	(0.069)	(0.070)	(0.112)
Free in Wave 1	-0.075	-0.207**	-0.076	-0.369*	-0.110	-0.191	-0.023	-0.046	0.038	0.106
	(0.046)	(0.091)	(0.048)	(0.196)	(0.084)	(0.125)	(0.065)	(0.073)	(0.068)	(0.145)
Free*NGO	0.012	0.102	0.055	0.339	-0.010	-0.029	-0.019	-0.002	-0.070	-0.115
	(0.049)	(0.099)	(0.056)	(0.234)	(0.084)	(0.131)	(0.073)	(0.090)	(0.078)	(0.135)
Free distribution of any drug	0.035	0.070	0.026	0.198	0.028	0.005	0.057	0.048	0.012	-0.018
in past three months	(0.042)	(0.080)	(0.045)	(0.196)	(0.074)	(0.119)	(0.064)	(0.072)	(0.073)	(0.113)
Prior free distribution*Free in Wave 1	-0.054	-0.020	-0.082	-0.099	-0.020	0.049	-0.063	-0.031	0.001	-0.060
	(0.050)	(0.101)	(0.054)	(0.231)	(0.085)	(0.132)	(0.075)	(0.091)	(0.081)	(0.146)
Prior free distribution*NGO	0.017	-0.003	-0.035	-0.089	0.019	-0.023	0.059	0.079	-0.065	-0.004
	(0.048)	(0.096)	(0.056)	(0.227)	(0.083)	(0.130)	(0.075)	(0.093)	(0.081)	(0.145)
Constant	0.844***	1.769***	0.931***	1.998***	0.483***	0.678***	0.201**	0.197**	0.545***	0.647***
	(0.058)	(0.118)	(0.069)	(0.220)	(0.100)	(0.158)	(0.079)	(0.087)	(0.093)	(0.139)
Observations	2150	2150	687	687	786	786	677	677	737	737
Mean of NGO*Sale	0.555	0.845	0.866	1.720	0.521	0.688	0.276	0.312	0.571	0.714
Mean of For-Profit*Free	0.480	0.729	0.709	1.363	0.379	0.495	0.233	0.240	0.566	0.762
p-value of Free = 0	0.107	0.025	0.117	0.062	0.190	0.129	0.729	0.533	0.577	0.466
p-value of Free + Free*NGO = 0	0.091	0.200	0.675	0.878	0.067	0.036	0.481	0.496	0.645	0.935

The generic names for all four drugs are: *paracetamol* for Panadol, *albendazole* for Elyzole, *zinc* for Zinkid, and *sodium dichloroisocyanurate* for Aquasafe. The "quantity" dependent variable is the number of units (defined as doses) received or purchased. Respondents in the Free group were offered one unit, respondents in the Sale group were able to purchase up to five units. Pooled regression includes product-specific intercepts and only those households offered the same product in both waves. Village assignment to treatment was block randomized according to two variables. The first, price environment, included information about pricing and drug availability with three possible categories: (1) no drug outlets or none of our drugs; (2) no prices above the median or distributed for free; and (3) at least one price above the median. The second, remoteness, also had three categories: (1) easy to travel and close to health center; (2) difficult travel or far from health center; and (3) difficult travel and far from health center. All regressions include controls for stratification cell. Standard errors clustered by village in parentheses. * Denotes significance at the 10-percent level; ** at the 5-percent level; and *** at the 1-percent level.

Table A6: Heterogeneous Effects with Respect to Product Availability

Product Offered in Wave 2	Pooled		Panadol		Elyzole		Zinkid	
Same As Wave 1?	Same		Same		Same		Same	
Dependent Variables:	Take up	Quantity	Take up	Quantity	Take up	Quantity	Take up	Quantity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NGO in Wave 1	-0.004	-0.032	0.045	-0.055	-0.017	-0.027	-0.020	0.005
	(0.039)	(0.069)	(0.048)	(0.185)	(0.065)	(0.109)	(0.059)	(0.068)
Free in Wave 1	-0.104**	-0.195**	-0.128***	-0.351*	-0.124*	-0.183*	-0.064	-0.072
	(0.043)	(0.079)	(0.047)	(0.195)	(0.069)	(0.109)	(0.061)	(0.066)
Free*NGO	0.024	0.144	0.036	0.406*	0.025	0.015	0.009	0.038
	(0.052)	(0.108)	(0.062)	(0.238)	(0.086)	(0.135)	(0.079)	(0.099)
Drug available at local drug shops	-0.062	-0.105	0.029	0.023	-0.086	-0.159	-0.054	-0.102
	(0.052)	(0.116)	(0.066)	(0.258)	(0.104)	(0.164)	(0.086)	(0.089)
Available*Free in Wave 1	-0.020	-0.152	0.025	-0.227	-0.046	-0.025	-0.045	-0.043
	(0.049)	(0.113)	(0.064)	(0.237)	(0.091)	(0.128)	(0.070)	(0.074)
Available*NGO	0.050	-0.050***	0.000	-0.191	0.070	0.029	0.034	-0.015
	(0.259)	(0.014)	(0.063)	(0.236)	(0.738)	(0.135)	(0.428)	(0.016)
Constant	0.168	0.730***	0.738*	0.135***	0.520	0.694***	0.338***	0.245**
	(0.838)	(0.188)	(0.428)	(0.016)	(0.338)	(0.245)	(0.093)	(0.099)
Observations	2034	2034	643	643	751	751	640	640
Mean of NGO*Sale	0.551	0.827	0.870	1.701	0.511	0.661	0.280	0.317
Mean of For-Profit*Free	0.477	0.732	0.708	1.380	0.377	0.497	0.229	0.236
p-value of Free = 0	0.016	0.015	0.007	0.075	0.074	0.095	0.300	0.275
p-value of Free + Free*NGO = 0	0.051	0.564	0.064	0.765	0.137	0.127	0.326	0.667

The generic names for all four drugs are: *paracetamol* for Panadol, *albendazole* for Elyzole, *zinc* for Zinkid, and *sodium dichloroisocyanurate* for Aquasafe. The "quantity" dependent variable is the number of units (defined as doses) received or purchased. Respondents in the Free group were offered one unit, respondents in the Sale group were able to purchase up to five units. Pooled regression includes product-specific intercepts and only those households offered the same product in both waves. Village assignment to treatment was block randomized according to two variables. The first, price environment, included information about pricing and drug availability with three possible categories: (1) no drug outlets or none of our drugs; (2) no prices above the median or distributed for free; and (3) at least one price above the median. The second, remoteness, also had three categories: (1) easy to travel and close to health center; (2) difficult travel or far from health center; and (3) difficult travel and far from health center. All regressions include controls for stratification cell. Standard errors clustered by village in parentheses. * Denotes significance at the 10-percent level; ** at the 5-percent level; and *** at the 1-percent level.

Table A7: Heterogeneous Effects with Respect to Respondents' Gender

Product Offered in Wave 2 Same As Wave 1?	Pooled Same (1)	Panadol[a] Same (2)	Elyzole[a] Same (3)	Zinkid[a] Same (4)	Aquasafe[a] Different (5)
Outcome: Purchase in Wave 2					
NGO in Wave 1	0.013	0.031	0.021	-0.010	0.053
	(0.038)	(0.054)	(0.062)	(0.060)	(0.069)
Free in Wave 1	-0.088**	-0.099**	-0.105	-0.043	0.105
	(0.041)	(0.047)	(0.068)	(0.063)	(0.066)
Free*NGO	0.016	0.048	-0.007	-0.001	-0.115
	(0.050)	(0.057)	(0.086)	(0.074)	(0.078)
Female	0.042	0.027	0.068	0.027	0.007
	(0.036)	(0.050)	(0.078)	(0.060)	(0.061)
Female*Free	-0.022	-0.032	-0.023	-0.023	-0.111
	(0.039)	(0.063)	(0.068)	(0.068)	(0.069)
Female*NGO	0.013	0.010	0.026	0.016	0.010
	(0.040)	(0.063)	(0.069)	(0.069)	(0.070)
Same Gender both Waves	0.018	0.017	0.055	-0.025	0.056
	(0.028)	(0.041)	(0.048)	(0.042)	(0.042)
Constant	N/A[c]	0.833***	0.306***	0.240***	0.409***
		(0.078)	(0.075)	(0.069)	(0.075)
Observations	2150	687	786	677	737
Test of equality of Free coefficient w.r.t.					
Panadol	0.147	N/A	0.934	0.376	0.004
Elyzole	0.207	0.934	N/A	0.436	0.020
Zinkid	0.962	0.376	0.436	N/A	0.080
Mean of NGO*Sale	0.555	0.866	0.521	0.276	0.571
Mean of For-Profit*Free	0.480	0.709	0.379	0.233	0.566
p-value of Free = 0	0.035	0.038	0.126	0.502	0.115
p-value of Free + Free*NGO = 0	0.088	0.364	0.091	0.482	0.868

Female is an indicator based on gender of Wave 1 respondent. Village assignment to treatment was block randomized according to two variables. The first, *price environment,* included information about pricing and drug availability with three possible categories: (1) no drug outlets or none of our drugs; (2) no prices above the median or distributed for free; and (3) at least one price above the median. The second, *remoteness,* also had three categories: (1) easy to travel and close to health center; (2) difficult travel or far from health center; and (3) difficult travel and far from health center. All regressions include controls for stratification cell. Standard errors clustered by village in parentheses. * Denotes significance at the 10-percent level; ** at the 5-percent level; and *** at the 1-percent level. (a) The generic names for the three drugs are: *paracetamol* for Panadol, *albendazole* for Elyzole, *zinc* for Zinkid, and *sodium dichloroisocyanurate* for Aquasafe. (b) The "quantity" dependent variable is the number of units purchased. (c) Includes product-specific intercept.