

When Caring Backfires: Experimental Evidence from Family Caregiving in India *

Jenny Newman-Wang[†] Camille Falézan Shrddha Rajesh
Girija Vaidyanathan

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Abstract

Does concern for family caregivers discourage elders from obtaining healthcare? We develop a theoretical framework in which elders may withhold information about healthcare opportunities when they care about caregivers and believe their caregivers would be pressured to help. This inefficiently reduces take-up when caregivers would help willingly. We test three model predictions using two field experiments with elder-caregiver pairs in rural Tamil Nadu, India (N=1,175). First, directly informing caregivers about a check-up opportunity for the elder increases attendance by 30% (5.3 percentage points), relative to informing only the elder, suggesting elders withhold information relevant for take-up. The effect is strongest for elders who report being worried about burden at baseline, whose attendance more than doubles. Second, worried elders are less willing to share information about the check-up than non-worried elders and more sensitive to randomized reductions in caregiver costs, suggesting worried elders believe sharing information imposes costly pressure on caregivers. Third, caregivers' decisions to help are not sensitive to randomized observability treatments that vary pressure, suggesting caregivers willingly help out of care for the elder. Our results imply that elders' caring preferences can interact with misperceptions of caregiving burden to result in inefficiently low levels of health investment for older adults.

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[†] Newman-Wang: MIT (wangjm@mit.edu); Falézan: MIT (cfalezan@mit.edu); Rajesh: J-PAL South Asia (srajesh@povertyactionlab.org); Vaidyanathan: Tamil Nadu Indian Administrative Service (Retired)

1 Introduction

Globally, low- and middle-income countries are aging at unprecedented rates, leading to rising chronic disease burden (Banerjee et al., 2023). Often, older adults in these settings do not get adequate care for their chronic conditions. In India, for example, an estimated 40% of individuals with diabetes and 45% of individuals with hypertension are unaware of their condition, and even among those diagnosed, less than half have achieved glycemic or blood pressure control (Mohanty et al., 2021; Sekher et al., 2025).

For many older adults who rely on family for support, it is important to understand barriers to healthcare take-up at the household level. For example, in rural India, many elderly women are unable to visit health clinics without a family caregiver to bring them to and pay for the visit (Dupas and Jain, 2024). Getting care thus requires elders to navigate social dynamics of the family, and this can be complex. On the one hand, family is a group of people who care about one another, so helping each other may be natural (Becker, 1974). On the other hand, family is associated with strong social norms and expectations, so help may be pressured (Jakiela and Ozier, 2015). An elder may not know what motivates her caregiver and worry that asking for help imposes an obligation.

We posit that this difficult learning and decision-making environment creates scope for relationship dynamics with family to adversely affect healthcare investments for elders. For example, motivating survey data that we collected from Tamil Nadu, India shows that many elders report being worried about being a burden, and this worry is correlated with elders hiding information about health issues. Worry is especially prevalent among older women, among whom 38% report often being worried about burden, compared to 19% of men. Among worried elders, many report having hidden health problems (58%) or even forgoing healthcare treatment out of this concern (71%). However, despite worry being extremely top-of-mind for elders, it is not clear what this means for elders’ health outcomes and household well-being. Does worry lead to information withholding that affects take-up of care? If so, does worry reflect an accurate understanding of burden faced by caregivers? One possibility is that both elders and caregivers want to go, in which case “worry” is a misunderstanding about the caregiver’s preferences that leaves healthcare on the table.

Our primary goal in this paper is to test whether worry about burden leads elders to withhold information and decreases take-up of healthcare for elderly women in rural India. To fix ideas, we develop a game-theoretic model in which an elder depends on her caregiver to obtain healthcare, but the elder can strategically withhold information from her caregiver about a health need when she worries about pressuring them. As a result, health take-up is affected by what elders and caregivers know, as well as the

nature of their relationship. Our model yields predictions about three outcomes – take-up of healthcare for the elder, information sharing by the elder, and willingness to help by the caregiver – which we test using two field experiments in rural Tamil Nadu, India with elders and caregivers (N=1,175 pairs). In the *household experiment*, we partner with a private hospital to offer elders a free heart health check-up, and we test whether elders information sharing decision is a bottleneck for take-up. In the *caregiver experiment*, we focus on caregivers’ motives for helping to provide evidence on whether any frictions in communication and take-up found in the first experiment are inefficient.

Model. We write a game theoretic model of joint decision-making between elders and caregivers. Unlike standard household models with frictionless communication, the elder strategically chooses whether to inform the caregiver about a health need. The caregiver may agree to help because they benefit from it (e.g. they may have caring preferences towards the elder), but they may also feel obliged to help due to pressure.¹ Because the elder does not know the caregiver’s motivations for helping, they may be concerned that simply informing the caregiver imposes pressure that makes the caregiver worse off. “Worried elders” are those who both believe there is pressure associated with informing and care about caregivers (i.e. they internalize the caregiver’s well-being), so they may not inform the caregiver about their need. Withholding information can decrease elder health take-up when the caregiver would have agreed to help if informed. Further, when withholding information stems from elders overestimating the pressure imposed by information, this loss in healthcare take-up is inefficient.

Our model yields three sets of predictions. First, when elders withhold information from caregivers who would be willing to help, varying who in the household is informed about the elder’s health need affects take-up of care. Second, elder worry affects willingness to share information in both levels and elasticities: worried elders are (i) less likely to inform because they believe that caregivers are subject to pressure, and (ii) more sensitive to variations in caregiver costs because they care about caregivers. Third, caregiver helping behavior is responsive to changes in observability when they face pressure and degree of burden when they have crowd-out.

Household experiment. We test the first two model predictions about health take-up and elder communication in the household experiment with N=731 pairs of elderly women and their caregivers. We offer cardiac health checkups for elders at a private hospital. The tests offered at the check-ups are desirable to elders: they are not typically available to elders in our sample due to the high cost (market

¹We model pressure that can come from several external sources, including social pressure from either the elder or other individuals such as family members or neighbors, as well as psychological pressure that can come from the caregiver’s concern for self-image or guilt.

value of 3500 INR per visit), but diagnosed conditions – such as chronic heart conditions, diabetes, or hypertension – are treatable with broadly available medications at little-to-no cost via the public health system (Subramaniam et al., 2025). Our main intervention randomizes who in the household is informed of the check-up to test for frictions in information sharing. In the *Control* group, only the elder is informed. In the *Inform* group, both the elder and the caregiver are informed directly. Since standard household models with frictionless communication imply that who receives information should not matter, a difference in take-up across groups suggests the presence of intra-household communication frictions. To focus on the impact of simply having information about the check-up, enumerators were trained to deliver neutral, brief information about the check-up through a 2-minute video and short description of the visit, rather than explicitly persuading households to attend. Further, we ensure that all elders are given official, physical vouchers with invitation details to rule out competing explanations of elders forgetting to tell caregivers or lacking credibility. We also directly measure the elder’s information sharing behavior for elders in the *Control* group. To test whether this responds to changes in the caregiver’s costs, we also cross-randomize a *Transport* intervention that reduces caregiver costs of involvement by providing free private transportation to and from the check-up.

Our first result is that elders withhold information about the check-up from their caregivers that decreases take-up. When only the elder is informed of the check-up, take-up is low. Only 26% of households sign up by calling a hotline to reserve their spot at the check-up, and 18% actually attend the check-up. However, directly informing the caregiver increases take-up significantly: sign-up rates increase by 7.7 percentage points ($p = 0.02$) and attendance by 5.3 percentage points ($p = 0.07$). Especially given the light-touch nature of the intervention, these effects are large, achieving around 70% of the treatment effect of arranging and providing completely free, private transportation to and from the hospital. Viewed through the lens of our model, the positive treatment effect reveals that the elder’s information sharing constraint is indeed “binding” for some households. In other words, there exist households where both the elder and caregiver would be willing to go, but the elder does not inform their caregivers about the opportunity.

Strikingly, informing the caregiver has the strongest impact for the elders who are most worried about burden. Specifically, we focus on a subsample of *worried* elders who at baseline reported being so worried about being a burden that they have forgone healthcare in the past (26% of elders in our sample). Among worried elders, informing the caregiver has a very large impact: attendance increases by 16.8 percentage points, over the *Control* group’s rate of 16.2%, more than doubling take-up ($p = 0.01$). Meanwhile, the effect for less worried elders is small and statistically insignificant (1.3pp, $p = 0.7$). The difference between the treatment effects is large and statistically significant ($p = 0.03$). Our results are not explained by differences in demographics or other observables between worried versus non-worried

elders.² Taken together, we find evidence that elder’s decision to share information with the caregiver has direct consequences for take-up, especially for elders who report being sensitive to the costs imposed on caregivers. We thus directly measure the elder’s information-sharing decision and characterize how it relates to elder worry.

Our second result is that elders’ willingness to inform their caregiver about the check-up differs by worry, in both levels and elasticities. We elicit this willingness directly in the *Control* group: after inviting the elder to the check-up, we ask whether she is willing to have information about it directly shared with her caregiver. In our model, worry has two components: caring about the caregiver and believing the caregiver faces pressure when informed. Using our survey-based measure of worry as a proxy, we test both components empirically. First, worried elders’ information sharing decisions are more elastic to changes in caregiver cost, consistent with the model’s prediction that worried elders have stronger caring preferences. Offering free, private transport increases willingness to inform by 15 percentage points for worried elders ($p = 0.07$). In contrast, willingness to inform of less worried elders is unchanged by the availability of free transport (-1.1 percentage points, $p = 0.81$). The difference in responsiveness is statistically significant (16.1pp, $p = 0.07$). Second, worried elders are less willing to share information, consistent with the model’s prediction that they perceive caregivers’ decisions to help as subject to pressure. In the status quo check-up without free transport, non-worried elders are willing to inform their caregiver 85% of the time, while worried elders are 14.2 percentage points less willing ($p = 0.04$). Together, these results show how caring preferences and beliefs about pressure shape communication: worried elders are more sensitive to caregiver costs and believe caregivers are made worse off by helping under pressure.

The household experiment shows that elders withhold information that decreases take-up of care: when informed directly, caregivers act on the check-up and this increases attendance. This is especially stark for worried elders, who are more sensitive to caregiver costs, inform less, and have caregivers who respond the most when informed. However, to understand whether elders’ decisions to share are inefficient, we need to address two key concerns. First, we may worry that the increase in take-up is due to pressure, which makes both caregivers and (caring) elders worse off. Second, we may worry that our experiment only captures one check-up decision, and this could crowd out future involvement from the caregiver. We test both of these concerns directly in a separate experiment.

Caregiver experiment. We test model predictions about the caregiver’s motivations for providing help to the elder with N=444 caregivers, recruited in pairs following the same method as the household

²When we control for imbalanced observables and their interaction with an indicator for the *Inform* treatment status, the heterogeneity effects by worry about burden remain large and statistically significant.

experiment. We cross-randomize two interventions that vary the decision-making environment for caregivers, and we measure how this affects the caregiver’s willingness to help their elder. The first intervention randomizes how observable the caregiver’s decision is, to disentangle the roles of caring preferences and pressure (both social and psychological). The second intervention randomizes whether the caregiver is first asked to help the elder with one task (signing up for a check-up) before we measure their willingness to help with other tasks, to test whether the caregiver’s decision to help in one domain leads to crowd-out of help in other domains.

Our third result is that caregiver involvement is not driven by pressure and does not crowd out future help to the elder, so the additional help from informing caregivers does not come at an efficiency cost. To test for pressure, we randomize caregivers into one of three arms that vary how observable their decision is to sign up the elder for a check-up. In the *Public* arm, the caregiver decides verbally in front of the enumerator and is told the decision may be shared with the elder – so the decision reflects a combination of caring preferences, social pressure (from the enumerator and elder), and psychological pressure (from self-image or guilt concerns). In the *Private* arm, the caregiver decides privately on the enumerator’s tablet, which removes social pressure. In the *Private + Out* arm, the caregiver can also forgo the choice by delaying it (opting “out” of deciding), which further removes psychological pressure (Dana et al., 2007; Lazear et al., 2012; DellaVigna et al., 2012). We find no effect of either the *Private* or *Private + Out* interventions on caregiver willingness to help relative to the *Public* arm. This suggests that the caregiver involvement reflects true caring rather than either social or psychological pressure in our context. Combined with the household experiment result that elders believe caregivers help out of pressure, this implies that elders’ low rates of asking for help are inefficient and reflect a misperception about pressure.

We then test whether caregiver involvement in the check-up crowds out future involvement. If caregivers have a binding budget constraint on resources for helping the elder, involvement in the check-up could come at the cost of help in other domains or for future requests. To test this, we vary whether the caregiver has already been asked to commit to a check-up for the elder before we ask about other commitments: help in an urgent health emergency, interest in a check-up in one year, and non-health help (signing up for social activities). We find no evidence of crowd-out at any margin, so caregiver help for a check-up does not come at the expense of other support to the elder. This also supports the static model as a reasonable approximation for our setting.

Related literature. Our work is closely related to three strands of the literature. First, we contribute to the literature on information transmission within the household. Recent work documents

intra-household communication failures, showing how asymmetric information and hidden actions can lead to inefficient household decisions (Ashraf, 2009; Ashraf et al., 2014; Ashraf et al., 2026; Conlon et al., 2021; Apedo-Amah et al., 2020). Whereas this work focuses mainly on spouses, our paper is the first to provide experimental evidence on elders and their caregivers, which are often intergenerational relationships that are less studied (Almas et al., 2023). Thus in our context, communication frictions are due to concerns about pressure and preferences, rather than strategic capture of decision-making power.

Second, we contribute to a literature on low take-up of preventative health in low- and middle-income countries (Dupas, 2009; Banerjee et al., 2004; Bai et al., 2021), especially for older adults (Banerjee et al., 2023). Further, several strands of literature have documented that healthcare disparities are a deeply gendered issue in India, with stark gender gaps in healthcare for older women especially (Calvi, 2020; Dupas and Jain, 2024). Our paper proposes intrahousehold communication frictions as one contributing factor to lower health investments for elderly women, and we show that a simple intervention increasing communication can increase take-up of healthcare, especially for elders who are most hesitant to communicate.

Third, we contribute to the literature on social preferences. Usually, introducing pro-social preferences such as altruism or caring tends to increase the likelihood that decision-makers work together (Fehr and Charness, 2025). However, we provide field evidence for a context in which mutual other-regarding preferences can exacerbate communication failures between decision-makers in the presence of other frictions, such as asymmetric information about preferences. Our framework is closest to Bénabou et al. (2025), who propose a theoretical framework for why individuals do not tell an altruistic potential helper about their need for help. We allow altruism to be bi-directional, allowing us to capture altruism from the help-seeker as a new reason for low communication. Our caregiver experiments also help contribute to a literature on disentangling social pressure and altruism as drivers of pro-social behavior by showing how uncertainty about these motives can dissuade others from asking for help (DellaVigna et al., 2012; Dana et al., 2007; Andreoni and Rao, 2011; Andreoni et al., 2017; Trachtman et al., 2015; Ambler, 2015).

2 Theoretical Framework

2.1 Setup

Consider an elder e who needs her caregiver c in order to obtain healthcare, such as attending a health visit at the clinic. We allow the elder and caregiver to potentially have caring preferences for one another – i.e. they may internalize each other’s pay-offs, as in Almas et al. (2018). Mutual caring should generally

make households more willing to attend the check-up.

However, in our model the elder may believe there is also pressure imposed when the caregiver knows about the health visit opportunity – and she cannot distinguish the two motivations. Thus the key friction in our model is that an elder who cares about her caregiver may withhold information about her health needs when she believes that knowing would make the caregiver feel obliged to help. This can decrease take-up of care for the elder. Further, this is inefficient when the caregiver in fact does not face much pressure.

We model the decision-making process as a non-cooperative game, in which the elder strategically decides whether to inform the caregiver about the health visit. These types of information frictions are ruled out in the standard collective or unitary models of household decision-making (Chiappori and Mazzocco, 2017).³

2.1.1 Timing

The interaction is modeled as a sequential game. The elder always knows about the health visit. Nature determines whether the caregiver knows about the visit or not. Figure 1 shows how the game proceeds in each scenario.

In Panel A, when only the elder is informed, the game has two stages. First, the elder decides whether to inform the caregiver about the opportunity or not. If informed, the caregiver then decides whether to help facilitate the visit or not. In Panel B, when both the elder and the caregiver are directly informed about the opportunity, the game only has one stage. The caregiver decides whether to help facilitate the visit or not.

In both cases, we simplify the interaction such that once the caregiver is informed about the visit, the caregiver determines whether the visit occurs or not (i.e. offer to help). This captures the fact that the elder’s decision to inform the caregiver is substantive, in that it commits her to going if the caregiver is willing.

2.1.2 Pay-offs of health visit

Let Y denote take-up, with $Y = 1$ when the elder attends and $Y = 0$ otherwise. We assume the visit has direct benefit $B > 0$ for the elder, and direct costs $-\kappa < 0$ for the caregiver. In addition, we let the

³In fact, the set-up of our game is analogous to a modified ultimatum game (Güth et al., 1982). First, the proposer has a choice of whether to make a proposal at all. The proposal here – attending a health visit for the elder – may entail a monetary loss for the responder and gain for the proposer. While a caring responder may be happy to accept, this could be the reason that a caring proposer may not make the proposal in the first place.

elder and caregiver have caring preferences towards one another, $\alpha^e, \alpha^c \geq 0$, which determine the extent to which they internalize each other's pay-offs (Almås et al., 2018).

Caregiver pay-offs. Facilitating the health visit comes at cost $-\kappa < 0$, which includes the costs of time, travel, and other caregiving effort. The caregiver also values the elder's direct health benefit at rate α^c . Their net pay-off from helping is

$$u^c := \alpha^c B - \kappa \quad (1)$$

If the caregiver is informed but declines to help, they incur a pressure cost $-\phi \leq 0$. This pressure can reflect internal self-image or guilt concerns, or external social pressure from the elder or others (Bénabou and Tirole, 2006; Fehr and Charness, 2025). If the caregiver is not informed, they do not incur any pressure costs of not attending.

Let I be an indicator for whether the caregiver is informed. The caregiver's utility is:

$$U^c = \begin{cases} u^c & \text{if } I = 1 \text{ and caregiver helps,} \\ -\phi & \text{if } I = 1 \text{ and caregiver does not help,} \\ 0 & \text{if } I = 0 \end{cases} \quad (2)$$

Importantly, if the caregiver faces enough pressure, the caregiver may choose to help (since $u^c \geq -\phi$) even when helping yields negative pay-offs, i.e. $u^c < 0$. These caregivers would prefer not to be informed about the visit.

Because the elder always knows about the check-up, we assume that the pressure term ϕ applies once the caregiver is informed of the health visit. Thus the caregiver's decision to help facilitate (i.e. offer help) when informed by Nature is the same as their decision to help facilitate when informed by the elder.

Suppose that the net pay-off of helping u^c has distribution F_ϕ across caregivers. Our analysis focuses on pressure parameter ϕ , so to simplify exposition, we fix a baseline distribution F_0 and consider different distributions F_ϕ that are indexed by different values of ϕ , with $F_\phi(x) = F_0(x + \phi)$.

Elder pay-offs. Attending the visit gives the elder direct benefit $B > 0$, and she also internalizes caregiver utility at rate α^e . If the caregiver is uninformed, the elder gets zero utility. If the caregiver is informed, then the elder's pay-offs are:

$$u^e = Y \cdot B + \alpha^e U^c$$

The first term is the direct benefit of the visit, if the visit occurs. The second term is the part of the caregiver's utility that is internalized by the elder. This includes either the net-payoffs of attending the visit if the caregiver helps u^c or the guilt costs of the caregiver not helping $-\phi$. The elder's utility is:

$$U^e = \begin{cases} B + \alpha^e u^c & , \text{ if } I = 1 \text{ and caregiver helps,} \\ -\alpha^e \phi & , \text{ if } I = 1 \text{ and caregiver does not help,} \\ 0 & , \text{ if } I = 0 \end{cases}$$

2.1.3 Asymmetric information

We assume that when the elder is making the decision to inform, the elder does not know the caregiver's utility. In particular, we assume she does not know pressure ϕ , so she forms belief $\hat{\phi}$. This means she decides whether to inform the caregiver based on integrating over $F_{\hat{\phi}}$, which may differ from F_{ϕ} .

The elder will inform when her expected pay-off of doing so is at least zero:

$$\hat{V}^e = \int (B + \alpha^e u) dF_{\hat{\phi}}(u)$$

We can decompose the elder's willingness to inform into three terms:

$$\hat{V}^e = \underbrace{\int_0^{\infty} (B + \alpha^e u) dF_{\hat{\phi}}(u)}_{\text{Caregiver helps with net benefit}} + \underbrace{\int_{-\hat{\phi}}^0 (B + \alpha^e u) dF_{\hat{\phi}}(u)}_{\text{Caregiver helps at net cost}} - \underbrace{\alpha^e \hat{\phi} F_{\hat{\phi}}(-\hat{\phi})}_{\text{Caregiver declines}}. \quad (3)$$

The expected pay-off of informing may be negative when the internalized downsides of reluctant or declined help are large enough to outweigh the elder's direct benefit from attending and the internalized benefits from a caregiver who net benefits from helping.

2.2 Take-up

The model is solved using backwards induction. First we solve the caregiver's choice of whether to attend. In the case where only the elder is informed, we then solve the elder's choice of whether to inform using her subjective beliefs $\hat{\phi}$.

For a given check-up with fixed direct costs κ and benefit B , suppose households h differ in their caring preferences (α^c, α^e) according to some joint distribution.

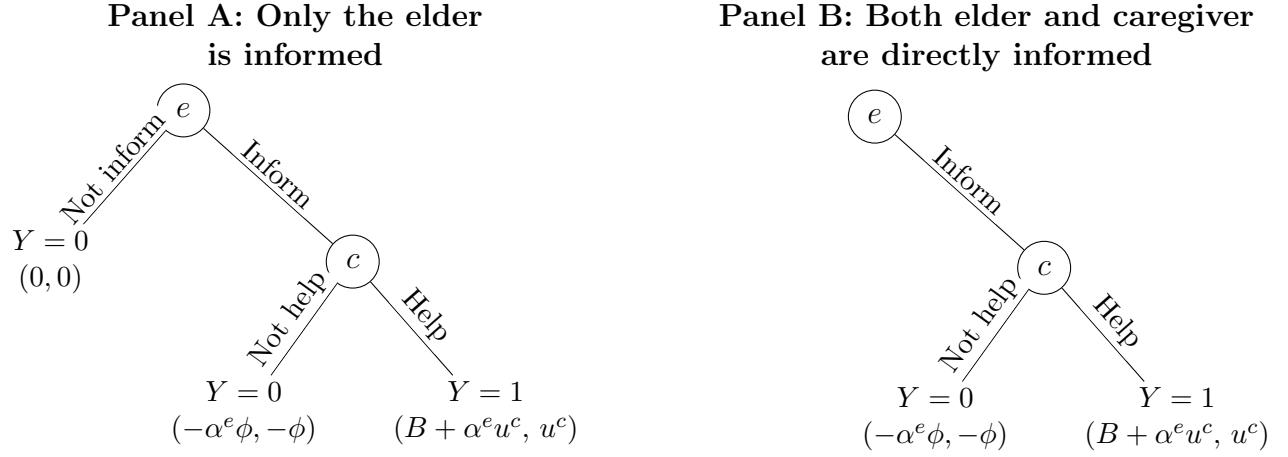


Figure 1: Timing and pay-offs of elder and caregiver decisions.

Notes: Circular decision nodes e and c denote the elder and caregiver. Pay-offs are ordered (U^e, U^c) , and Y is an indicator for whether the elder attends the visit. Panel A depicts the scenario in which only the elder is informed. Panel B depicts the scenario in which both the elder and caregiver are informed.

2.2.1 Case 1: Both elder and caregiver are directly informed

In the *Inform* scenario, both the elder and caregiver are directly informed of the visit. This case is the benchmark that is akin to frictionless communication of information among household members, as assumed in standard models (Chiappori and Mazzocco, 2017).

The caregiver helps facilitate the visit when

$$u_h^c \geq -\phi \quad (\text{C})$$

Let C_h be an indicator for whether this condition holds for household h . Take-up of the visit in this benchmark case is:

$$Y_h^{Inform} = C_h \quad (4)$$

2.2.2 Case 2: Only the elder is informed

In the *Control* scenario, only the elder is informed about the check-up. Working backwards, if informed, caregiver decides whether to attend using Equation C. The elder decides whether to inform based on her subjective expected pay-off:

$$\hat{V}_h^e \geq 0 \quad (\text{I})$$

Let I_h be an indicator for whether condition (I) holds for household h . Take-up of the visit is:

$$Y_h^{Control} = C_h I_h \quad (5)$$

When the elder withholds information from a caregiver who would help if informed, we say that the elder's willingness to inform constraint *binds*, i.e. $I_h = 0$ and $C_h = 1$.

2.2.3 Effect of informing caregiver.

Relative to the *Control* case in which only the elder is informed, the *Inform* intervention increases take-up for households where the inform constraint is binding. The average treatment effect of the *Inform* intervention can then be written:

$$\begin{aligned} \text{ATE}_{\text{Inform}} &:= \mathbb{E}_G[Y_h^{\text{Inform}} - Y_h^{\text{Control}}] \\ &= \mathbb{E}_G[(1 - I_h)C_h] = \Pr(I_h = 0, C_h = 1) \\ &= \Pr(I_h = 0) \Pr(C_h = 1 \mid I_h = 0). \end{aligned} \tag{6}$$

We decompose the average treatment effect into two terms. The first term is the share of elders who withhold information. The second is the share of their caregivers who would actually help. The intervention thus only increases take-up when the elder is withholding *relevant* information about the health visit – the caregiver would have been willing to attend, but the elder was not willing to inform. Our first prediction for take-up of the health visit tests whether the elder's willingness to inform constraint is binding for any households.

Prediction 1 (Effect of informing caregivers) *Directly informing caregivers weakly increases take-up. The effect is strictly positive if and only if there are elders who withhold information from caregivers who would help if informed.*

Thus the magnitude of the treatment effect depends on the correlation in the elder and caregiver preferences, and this may be heterogeneous across subgroups. We summarize this in the corollary below:

Corollary 1 (Heterogeneity in effect of informing caregivers) *For characteristic X that takes value x_h for a subset of households, holding everything else constant, informing the caregiver increases the take-up more in proportion to two quantities:*

1. $\Pr(I_h = 0; X = x_h)$, the share of households where the elder withholds information
2. $\Pr(C_h = 1 \mid I_h = 0; X = x_h)$, the share of households in which the caregiver is willing to go if informed, among households where the elder withholds

Thus the effect of informing the caregiver directly about the health visit opportunity depends on both

the elder's decision to inform and their caregiver's decision to help once informed. We analyze them separately in the next two sections.

2.3 Elder decision to inform

We now analyze the elder's decision to inform the caregiver.

2.3.1 When worry prevents informing

Concern for the caregiver can discourage information sharing. We rearrange Equation 3 to see that elders withhold information when:

$$\widehat{V}^e = \underbrace{\int_{-\widehat{\phi}}^{\infty} B dF_{\widehat{\phi}}(u)}_{\text{elder's direct benefit of visit}} + \underbrace{\alpha^e}_{\text{elder's caring preferences}} \cdot \underbrace{\left(\int_0^{\infty} u dF_{\widehat{\phi}}(u) + \int_{-\widehat{\phi}}^0 u dF_{\widehat{\phi}}(u) - \widehat{\phi} F_{\widehat{\phi}}(\widehat{\phi}) \right)}_{\text{elder's beliefs about pay-offs to caregiver}} < 0 \quad (\text{W})$$

There are two necessary conditions for elders to withhold information about the health visit. First, the elder believes there is non-zero pressure imposed by informing $-\widehat{\phi} < 0$. Second, the elder has strictly positive caring preferences $\alpha^e > 0$.

We define a *worried elder* as one who satisfies both necessary conditions. She both cares about the caregiver and believes the caregiver faces pressure:

$$W_h := \mathbf{1}\{\alpha_h^e > 0 \text{ and } -\widehat{\phi}_h < 0\} \quad (7)$$

Caring preferences towards the caregiver mean that the elder is sensitive to the caregiver's pay-offs, whether positive or negative. Beliefs that there is pressure means that the elder considers possibilities in which the caregiver provides help that is net costly to them or incurs guilt costs from not helping.

From this definition, we get two predictions about the willingness to inform for worried elders.

Prediction 2 (Willingness to inform and worry.) *Worried elders are weakly less likely to inform than not-worried elders, who always inform in the model. Further, worried elders are strictly less likely to inform only if a positive share of worried elders satisfy (W), which requires that $-\widehat{\phi} < 0$.*

Elders who are not worried. In contrast, elders who are not worried *either* do not care about the caregiver $\alpha_h^e = 0$ *or* do not believe there is pressure $\widehat{\phi}_h$. If either of the conditions in Equation 7 do not hold, the

elder always informs her caregiver when the elder wants to attend the visit.⁴

2.3.2 Reducing caregiver costs

Suppose free transportation for the elder reduces caregiver costs by $\tau \geq 0$, so that the net pay-off from helping becomes $u^c + \tau$. Suppose that the caregiver is still necessary for attendance so still needs to be informed. With transport, the elder's expected value of informing is:

$$\widehat{V}_e(\tau) = \int_{-\widehat{\phi}-\tau}^{\infty} [B + \alpha^e(u + \tau)] dF_{\widehat{\phi}}(u) - \alpha^e \widehat{\phi} \Pr(u < -\widehat{\phi} - \tau). \quad (8)$$

Reducing caregiver costs weakly increases the value of informing through two channels. First, it induces some caregivers who would otherwise decline to help, enabling attendance and generating benefit B for the elder. Second, it raises the payoff of caregivers who already help, which an elder with caring preferences values at rate α^e . For caregivers who continue to decline, refusal guilt and both parties' payoffs remain unchanged.

Let $F_{\widehat{\phi}}$ have an associated density function $f_{\widehat{\phi}}$, then these two effects can be written as the following comparative static:

$$\frac{d\widehat{V}_e(\tau)}{d\tau} = \underbrace{\alpha^e [1 - F_{\widehat{\phi}}(-\widehat{\phi} - \tau)]}_{\text{Reduced costs for existing helpers}} + \underbrace{B f_{\widehat{\phi}}(-\widehat{\phi} - \tau)}_{\text{Additional caregivers help}} \geq 0. \quad (9)$$

Because of the first term, we get a prediction that responsiveness to this cost change is larger for worried elders, because of their caring preferences $\alpha^e > 0$, all else equal:

$$\frac{\partial^2 \widehat{V}_e(\tau)}{\partial \tau \partial \alpha^e} = 1 - F_{\widehat{\phi}}(-\widehat{\phi} - \tau) \geq 0. \quad (10)$$

This gives us the following prediction:

Prediction 3 (Test for caring preferences) *To the extent that worried elders have stronger caring preferences, holding all else equal, a reduction in caregiver costs raises the value of informing more for worried elders.*

⁴If the elder does not have caring preferences, i.e. $\alpha^e = 0$, then the expected value of informing is always non-negative: $\widehat{V}_e = \widehat{p}B \geq 0$, where $\widehat{p} := 1 - F_{\widehat{\phi}}(-\widehat{\phi})$ is the elder's belief about the likelihood that the caregiver helps facilitate the visit. So the elder always informs, regardless of her beliefs about the caregiver's pay-offs or pressure.

Similarly, if the elder believes there is no pressure, i.e. $\widehat{\phi} = 0$, the elder believes the caregiver helps only when they net benefit from doing so $u^c \geq 0$. Then there are no caregivers who help at a net cost or caregivers who suffer a guilt cost. In this case, the expected value of informing is again always non-negative: $\widehat{V}_e = \int_0^{\infty} (B + \alpha^e u) dF_{\widehat{\phi}}(u) \geq 0$, and the elder always informs.

2.4 Caregiver decision to help

In this model, informing the caregiver may increase take-up, but this could come at the cost of imposing pressure, which is internalized by both caregivers and elders with caring preferences. Another cost could be that increasing take-up now comes at the cost of future help, which is not captured in the static version of the model. We now analyze the role of pressure and dynamic considerations in the caregiver's decision to help.

2.4.1 Pressure

Consider the true pressure that is faced by caregivers ϕ . The caregiver helps when $u^c \geq -\phi$, which can either be due to high caring preferences for the elder captured by u^c or large pressure concerns captured by $-\phi$. To distinguish between caring and pressure-based motives to help, we consider interventions that reduce refusal pressure while leaving u^c unchanged.

We decompose the pressure term $\phi = \phi_{other} + \phi_{self}$ to allow ϕ to capture multiple different sources of pressure. It may include not only social pressure from external observers ϕ_{other} , but also psychological pressure from the caregiver themselves ϕ_{self} (Bursztyn and Jensen, 2017; DellaVigna et al., 2012; Lazear et al., 2012).

Under the three conditions of (i) the *Public* arm, (ii) the *Private* arm, which removes external social pressure, and (iii) the *Private + Out* arm, in which the caregiver can additionally forgo the choice altogether to further remove internal psychological pressure, the caregiver decides to help when:

$$u^c \geq \begin{cases} -(\phi_{other} + \phi_{self}) & \text{under } T_{Public}, \\ -\phi_{self} & \text{under } T_{Private}, \\ 0 & \text{under } T_{Private + Out}. \end{cases} \quad (11)$$

The interventions to remove the specified pressure components without changing costs, benefits, or knowledge of the visit.

Removing pressure weakly reduces help from the caregiver. In particular, the reduction in the probability of help is

$$\Pr(C^{Public} = 1) - \Pr(C^{Private + Out} = 1) = \Pr(-\phi \leq u^c < 0) = p_r, \quad (12)$$

where p_r is the share of reluctant helpers with $u^c \in (-\phi, 0]$.

Prediction 4 (Testing for pressure-driven help.) Suppose that for any $\phi > 0$, the distribution F_ϕ

assigns strictly positive probability to $[-\phi, 0)$. If removing pressure leaves the probability of caregiver help unchanged, then $\phi = 0$.

If actual pressure is zero, all actual helpers have $u^c \geq 0$ and all other caregivers can decline without guilt. An elder who correctly believes $\hat{\phi} = 0$ therefore always informs, regardless of her beliefs about F . A positive take-up effect in this zero-pressure environment requires elders who care and mistakenly believe pressure is positive, with beliefs sufficiently pessimistic to satisfy (W).

We thus propose the following corollary as an empirical test for misperceptions among elders about pressure imposed on caregivers:

Corollary 2 (Misperceptions about pressure) *If the caregiver decisions are not affected by pressure ($\frac{\partial C}{\partial T_{Private} + Out} \approx 0$) but elders perceive high pressure-based help ($\hat{\phi} > 0$), then elders overestimate pressure-based motivation to help relative to the true pressure term, i.e. $\hat{\phi} > \phi$.*

2.4.2 Dynamics and crowd-out

Until this point, we model the health visit decision problem as a one-off interaction between the elder and caregiver. However, this does not account for dynamic considerations that could also explain low information sharing by the elder. For example, elders may face a budget constraint for goodwill from the caregiver, which might mean that the elder does not inform the caregiver to avoid having caregiver involvement today crowd out involvement with a future task.

To analyze this, in Appendix C.1, we extend our model to a two-period interaction in which in each period the elder decides whether to inform the caregiver about a need, and the caregiver decides whether to help if informed. If the caregiver has enough capacity to provide help in both periods, the interaction reduces to separate one-period decisions.

3 Setting

We conduct our study with elderly women and their caregivers in rural Tamil Nadu, India. The study was implemented in partnership with a private charity hospital that serves a predominantly rural area in Ranipet district (Thirumalai Mission Hospital).

The elderly population is growing rapidly in India and globally (United Nations Department of Economic and Social Affairs, Population Division, 2019). Within India, Tamil Nadu is one of the most rapidly aging states, with the population aged 60 and above expected to double between 2011 and 2031 (National

Statistical Office, 2021). As in much of India, formal long-term care for the elderly is limited in our setting: even awareness of old age homes is only 28% among rural elders in Tamil Nadu, and consideration of staying in one is even lower (10%) (Burholt et al., 2022; Duflo et al., 2022). Elders are instead generally dependent on family members such as spouses, adult children, and other relatives as the primary providers of support for transport, finances, and health-related decision-making (Duflo et al., 2022).

This dependence on family caregivers is top of mind for elders and has implications for elders’ health-related decisions. In data that we collected for a representative survey of older adults in Tamil Nadu in 2024, we find that 26% of elders report frequently worrying about being a burden on family members, 29% report sometimes not telling family members about pain or sickness, and 28% report having forgone medical care for this reason (Table A.1).

We focus on elderly women for several reasons. First, caregivers may play an especially important role for older women. Older women are more dependent on caregivers, since they are more likely than men to have mobility impairments and be financially dependent (Table A.1). Second, these relationship dynamics with family are also a deeply gendered issue. For example, women are much more likely to report being worried about burden: 39% of women report having forgone care out of concern of burden compared to 18% of men (Table A.1). Third, understanding potential drivers of low take-up is important to addressing gendered disparities in both health outcomes and inputs that have been documented. Research has shown that older women in India have lower rates of health utilization and higher rates of excess mortality compared to their male counterparts (Dupas and Jain, 2024; Calvi, 2020).

3.1 Sample

Elders. Our study sample consists of pairs of elderly women aged 60 to 75 and their caregivers (N=1,175 pairs). Most elders (82%) live in the same household as their caregiver, and 65% live in intergenerational households (i.e., with adult children; Table 1). The mean household size is 3.3 individuals. About half of elders are married (48%) and the remaining are widowed. Although most of the sample has had some kind of check-up in the last year (83%)⁵, most (57%) have never gotten any kind of cardiac check-up, and very few have had a recent cardiac check-up (16% reported having had a heart check-up in the last year). Elders in our sample are quite mobility impaired, with 77% reporting difficulty walking a long distance, 65% reporting difficulty learning a new task such as figuring out how to get to a new place, and 58% reporting at least moderate difficulty even leaving their home. In our sample, 26% report ever forgoing healthcare or avoiding the hospital out of this worry about burden.

⁵This includes door-to-door visits from community health workers that provide basic diabetes and hypertension screening via a Tamil Nadu public health program called Makkalai Thedi Maruthuvam (Subramaniam et al., 2025).

Caregivers. We define a caregiver as a family member who lives in the same or a neighboring village and provides at least one of the following forms of support to the elder: financial support, transport to medical appointments, transport in emergencies, or someone the elder talks to about her health.⁶ The most common tasks that caregivers do to support elders’ healthcare are buying medicine (93%), paying for other care (89%), and providing transport (85%). Consistent with caregiving norms in India about the financial provider for elders, we find that caregivers are primarily sons (43%) and husbands (21%) (Mandal and Subaiya, 2023). About a quarter of our sample has daughters (15%) or daughters-in-law (9%) who are caregivers, and the remaining are comprised of grandchildren, siblings, and other family members. Nearly all caregivers are married (87%), and most are working (68%). The average caregiver is 47.8 years old, reflecting the primarily intergenerational relationships between elders and their primary caregivers. Table A.2 presents the full set of demographic, health, and household characteristics for the sample, separately by treatment arm.

3.2 Health check-up

We partner with a private charity hospital in Ranipet, Tamil Nadu to offer free cardiac check-ups to elders in our study. The check-up includes a blood pressure reading, a random blood sugar test, a 12-lead electrocardiogram (ECG), a survey-based cardiovascular risk assessment (QRISK3⁷), and a doctor consultation. Individuals who are determined high risk by the doctor also underwent an echocardiogram or an HbA1c blood sugar test at no additional cost. The full set of services would typically cost approximately 3,000-5,000 INR at a typical private hospital at market rates, equivalent to approximately \$150-250 USD adjusted for PPP.

We chose a cardiac check-up for our empirical setting to help isolate communication and other-regarding preferences as the core mechanisms we are testing in our model. First, the check-up addresses an important source of disease burden with known, effective treatment: cardiovascular disease is the leading cause of mortality among older adults in Tamil Nadu, but treatment for most cardiac conditions diagnosed at this check-up consists of prescription drugs that are available free of charge via the public health system (Indian Council of Medical Research et al., 2017; Kondal et al., 2022). As a result, the primary cost

⁶When the elder identifies multiple eligible candidates, we select the caregiver by asking, in order: who provides financial support, then transport for check-ups, then transport in emergencies, then who the elder talks to about her health. We take the first person named who lives in the same or neighboring village as the caregiver who we invite to the study.

⁷The QRISK is a risk prediction algorithm for cardiovascular disease, similar to the American Heart Association’s 10-year risk score and is currently used in the UK as recommended by the National Institute for Health and Care Excellence guidelines (Hippisley-Cox et al., 2017; National Institute for Health and Care Excellence, 2023). The QRISK algorithm was recommended by the Chief Medical Officer and ethics review board of our partner hospital.

of the check-up is the caregiver’s time and effort in providing transport and accompanying the elder to the hospital. This avoids a confound that may be present for other health conditions, where treatment and management costs may be uncertain and quite variable, leaving scope for elders and caregivers to hold divergent beliefs about the costs and introduce other reasons for not communicating about the visit. Second, elders in our setting rarely undergo cardiac-specific screening, even when they have undergone general check-ups in the past year⁸. Together with careful piloting around what services to provide during the check-up, the novelty of a heart check-up helped ensure the check-up was attractive enough to most elders so that there is scope for them to consider whether to communicate about the check-up with caregivers.⁹

In our study, attending the check-up only requires the caregiver involvement at the sign-up phase, since we ask elders to have their caregiver place a phone call in order to sign up for the check-up. Otherwise, the elder is not required to bring their caregiver to the visit. In practice, even if it is not required by our study, most elders in our sample would depend on caregiver involvement for both coordinating (69% elders do not have a phone) and attending health visits (58% report difficulty leaving their home).

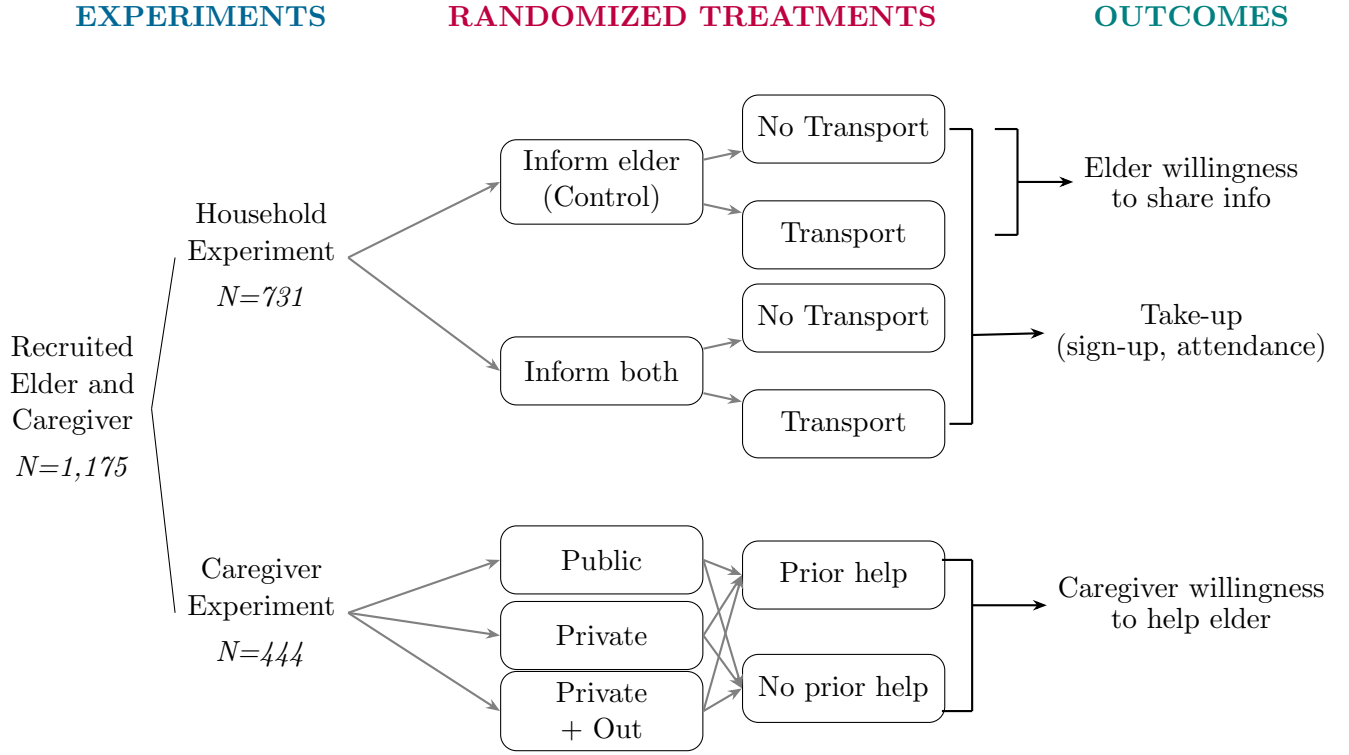
4 Study overview and recruitment

Figure 2 summarizes our two complementary field experiments, with participants drawn from the same sampling frame. First, in the *household experiment*, we randomize who in the household is directly informed about the check-up and measure how directly involving caregivers affects take-up of a health check-up for elders. We also cross-randomize provision of free, private transportation to understand how elders’ willingness to share information responds to changes in costs to the caregiver of bringing the elder to the check-up. Second, in the *caregiver experiment*, we randomize the direct observability of caregivers’ investment choices for elders to measure the role of pressure in influencing caregiver decisions to help the elder. In the same experiment, we also cross-randomize how much the caregiver has already been asked to help to understand whether elders face a “budget constraint” for favors from the caregiver, in which asking for more commitment now reduces caregiver’s willingness to commit to helping the elder later.

⁸Existing community health programs to address non-communicable diseases in Tamil Nadu primarily focus on diabetes and hypertension (Subramaniam et al., 2025)

⁹Elder demand for the check-up during the study was generally high, with 93% of elders reporting being interested in attending after being invited, and most (60%) selecting the check-up over a one-time cash transfer of 500 INR in an incentivized survey choice question in the baseline survey.

Figure 2: Overview of Design: Household and Caregiver Experiments



We construct our sampling frame from our partner hospital’s administrative records, which contain basic identifying information (name, village, street) for approximately 10,000 elderly women aged 60–75 from the 315 villages in the hospital’s catchment area. We sample primarily from the closest areas of the hospital districts, and we exclude the smallest villages with fewer than 15 eligible households in the administrative data in order to minimize travel costs for enumerators.

The study populations for both experiments are drawn from two separate rounds of household listing exercise with elders: one in November 2025 and one in February-March 2026. During the listing, enumerators from J-PAL South Asia visit households on the administrative list to locate the elder, invite them to participate in a household study about health care, and elicit consent to conduct a brief baseline survey. Enumerators also recruit additional eligible elders not in the administrative list from the same study villages, who comprise 35% of the sample.

We frame the study as a general household survey on elder health and well-being. In the listing survey with elders, we collect baseline information for the elder about basic demographics (age, marital status), household structure (number of children, household members), mobility, and relationship to family (concern of burden). We also collect contact information for one caregiver, who is a family member living in

the same or neighboring village who provides support to the elder for health-related needs. See Section 3.1 for the details about the caregiver elicitation protocol.

At the end of the survey, we collect a measure of demand for the health check-up through a series of incentivized survey choices among gift bundles. Respondents were informed that one randomly selected choice per household is implemented as a thank-you gift for participating in the survey, which served during recruiting as an incentive to participate in our study. These choices were also used as a measure of valuation for the check-up in our heterogeneity analysis.

Of the $N=2,351$ elders who participated in the listing survey, $N=1,805$ were eligible, i.e. elder was not physically or cognitively impaired, consented to the study, and had a caregiver living nearby for whom they could share contact information. Of these, we were able to reach $N=1,175$ households where both the elder and caregiver were reached for the study.

4.0.1 Randomization and Balance

We report balance tests on elder and caregiver characteristics in Table A.2 and Table A.3. For the household experiment, randomization of the *Inform* intervention is done at the household-level, stratified by panchayat.¹⁰ The *Transport* intervention is cross-randomized at the geographic cluster level, stratified by panchayat.¹¹ We fail to reject the overall F-tests of joint significance for the *Inform* and *Transport* arms ($p = 0.23$ and $p = 0.74$, respectively). For the *Inform + Transport* arm, the p-value of the F-test is marginally significant ($p=0.09$), reflecting some imbalance in the fraction of elders who had a check-up in the last year (80% in *Control* compared to 88% in *Inform + Transport*) and elder interest in the check-up (92% vs. 96%).

For the caregiver experiment, randomization of both sets of cross-randomized interventions were conducted at the household-level, stratified by panchayat. We fail to reject the F-tests of joint significance for both the cross-randomized interventions (with $p = 0.89$ and $p = 0.71$ for the check-up order and observability interventions, respectively).

¹⁰A panchayat is a village or cluster of villages at which rural governments are organized.

¹¹We randomize transportation at the cluster-level to minimize spillovers of the transportation offer between neighboring households. Clusters are comprised of on average 2.6 households that are geographically close to one another.

5 Household experiment

5.1 Household experiment: Design

In the household experiment, we cross-randomize pairs of elders and caregivers into two interventions that may affect take-up of the check-up.¹² First, our main experimental treatment varies who is informed of the check-up to understand how information transmission affects take-up of the check-up. In the *Control* group, only the elder is informed about the check-up. In the treatment group (*Inform*), both the elder and caregiver are directly informed about the check-up. Second, we cross-randomize whether there is free transport provided to and from the check-up to understand whether alleviating caregiver costs affects elder willingness to share information about the check-up with the caregiver. We also measure the impact of transport on take-up rates to benchmark the effect sizes for the *Inform* treatment.

5.1.1 Intervention: Who is informed

Our main intervention varies whether the caregiver is directly informed about the free check-up. Elders are always directly informed about the check-up. We randomize pairs of elders and caregivers into one of two arms:

1. *Control* (50%). Only the elder is directly informed about the check-up.
2. *Inform* (50%). Both the elder and the caregiver are directly informed about the check-up.

We compare take-up between these two arms to identify the causal effect of removing the information friction that may exist between elders and caregivers about the check-up. In particular, the average difference in take-up rates identifies the share of households in which the elder’s information-sharing decision is the binding constraint. We design our experiment to distinguish information sharing from several alternative explanations. First, we minimize mechanical reasons why information may not be shared, such as the elder forgetting or not being able to credibly explain the details of the check-up. When delivering the check-up invitation, we give each elder a paper voucher with the camp date and location, as well as the sign-up deadline and phone number (Figure A.1). Second, we minimize additional social or psychological pressure from the surveyors when delivering the invitation to the caregiver, since we are interested in the impact of having information about the check-up, rather than explicitly persuasive content to convince the caregiver to attend. Towards this end, we design the check-up invitation script to

¹²We refer to a pair of elder and her caregiver as a household in exposition, though only 82% of pairs are living in the same household in our sample.

be neutral in tone. The same check-up invitation process is followed for elders and caregivers: the invitee is read a scripted invitation explaining the purpose of the check-up, date and location, the tests included, and the sign-up deadline. The script is accompanied by a 2-minute video describing the check-up and a poster with images (see Appendix B.3).

Check-up Invitations. The check-up invitations are delivered privately and separately at the end of each participant’s survey. Neither the caregiver nor the elder is explicitly told that the other has been (or will be) informed.¹³ During the invitation, enumerators informed participants that the elder would receive a free health check-up for heart health. They described what services are included in the check-up, as well as location and timing details. To sign up for the check-up, the caregiver of the elder would have to make a call to the research team hotline, before the deadline of two days before the check-up. The experimental study was conducted in weekly cycles of invitations and check-ups. The deadline for sign-ups was 2-4 days after the initial invitation¹⁴, and the check-up occurred 4-6 days after the initial invitation. Details about the experimental timeline are described in Appendix B.2.

Outcome: Take-up. We collect two measures of take-up:

1. **Sign-up for check-up by caregiver.** An indicator for whether the caregiver calls the J-PAL hotline by the deadline to confirm a check-up slot.¹⁵
2. **Elder attendance at check-up.** An indicator for whether the household signed up before the deadline and the elder shows up at the hospital for the check-up.

¹³The team of enumerators was split so that each enumerator was either an elder surveyor or a caregiver surveyor, and for most of the experiment, surveyors independently sought out the elders and the caregivers. The protocol for reaching out to elders and caregivers from the listing exercise was adjusted after the first two weeks of the household experiment to accommodate field logistics. Initially, elders were surveyed only once the caregiver had been reached and agreed to participate in the study. After the first two waves of the study, the protocol was adjusted so that surveyors independently sought out the elders and caregivers. Of the households in our experimental sample (N=731), in 59% of cases the caregiver was surveyed before the elder. This is balanced across treatment arms (Table A.2).

¹⁴We also conducted phone follow-ups with caregivers after the sign-up deadline had passed, before the check-up occurred. During these phone calls, we administered a brief survey that measured whether the elder communicated the information about the check-up to the caregiver, and for households where the caregiver knew about the check-up, we also asked about how the conversation with the elder went, as well as asked if they would still be interested in attending. In these cases, we also allowed these households to still actually sign-up for and attend the check-up.

¹⁵When the invitations were delivered, households were asked to have the caregiver call in order to sign up for the check-up. However, in practice, we still allowed elders to attend if they asked someone else to call on their behalf. In our analysis, our main results use measures of take-up that include all sign-ups (and subsequent attendances) that happened before the deadline, of which 75% came from caregivers and 25% came from other callers (e.g. a different member of the family, neighbors, or elders themselves). In Appendix A.6, we show that our results are robust when we restrict our analysis to sign-ups and attendance that follow from only the caregiver calling.

5.1.2 Intervention: Free transportation

We cross-randomize a second intervention that varies the caregiver’s cost of helping the elder attend the check-up. The *Transport* intervention is randomized at the geographic-cluster-level. We organize the households in the sampling frame into small clusters of households that are geographically close to one another (average size of 2.6 households), and half of the clusters are offered free transport to and from the hospital for the check-up.

1. *No Transport* (50%). The household is not offered transport assistance and must arrange their own transport for the elder.
2. *Transport* (50%). The household is offered free, private transportation to and from the check-up. The transport is arranged and paid for by the research team, so that the caregiver does not need to arrange, pay for, or accompany the elder to the check-up.

The free transport intervention is designed to exogenously lower the costs to the caregiver of facilitating the check-up. Although the transport may lower elder costs directly in some cases – e.g. by providing a higher quality form of transport than public transit – for most of the elders in our context, caregivers are ultimately the payers of any costs associated with the elder’s health-related needs. This is especially true in our study sample because (1) many elderly women face mobility and financial constraints that would prevent them from visiting a health facility alone; and (2) we intentionally selected caregivers to be those who bear financial and transportation costs of elders. Providing free transport may enable the elder to attend the check-up on their own, but the caregiver is still required to be informed of the check-up in order for the elder to attend, since caregivers have to call to sign the elder up for the check-up.

The *Transport* intervention serves two purposes in our study. First, it allows us to measure how exogenous variation in caregiver costs affects elder willingness to share information with their caregiver. We compare elder willingness to share information across the *No Transport* and *Transport* arms among elders in the *Control* group (in which the caregiver is not informed about the check-up directly). We also estimate this effect separately for worried versus non-worried elders to test whether this responsiveness differs by elder-reported worry about burden. Second, it allows us to measure how the decrease in caregiver costs affects actual take-up rates, which provides a benchmark for the magnitude of the *Inform* intervention effects.

Outcome: Willingness to share information. The primary outcome of interest for the *Transport* analysis is the elder’s willingness to share information with the caregiver. For elders in the *Control* arm,

our primary measure of willingness to share information about the check-up is measured after delivering the invitation to the elder during the elder visit. The elder is asked whether she would like the research team to call the caregiver on her behalf two days before the check-up to confirm attendance.

If we don't hear from [Caregiver NAME] by [DEADLINE], would you like us to call or send them a follow-up message about the check-up?

The goal is to measure the elder's willingness to share information, so we were careful to word the question to be precise and naturalistic towards this end. The question is worded so that it is clear that the elder always has the option to inform the caregiver themselves before the deadline. This is to minimize concerns that some elders are willing to inform the caregiver directly but unwilling to do so indirectly – for example, to avoid seeming passive aggressive.¹⁶ The question is also worded to minimize any perceptions of pressuring the caregiver into the check-up, so that the act of informing is primarily about sharing information about the check-up with the caregiver, rather than acting as a persuasive nudge.

As a secondary measure of information sharing, we also collect caregiver-reported rates of the elder mentioning the check-up in the caregiver follow-up surveys conducted after the sign-up deadline has passed, as described in more detail in Appendix B.2.¹⁷

5.2 Household experiment: Results

5.2.1 Elder worry about burden

Our main heterogeneity analysis is along this dimension of elder worry. Empirically, we consider the group of “worried” elders to be those who at baseline report ever having forgone medical treatment out of concern of being a burden¹⁸. We use this measure because it identifies elders whose concern is strong enough to have changed their behavior. Further, the behavior of forgoing care to spare caregivers, is

¹⁶In Table A.7, we report reasons for elders not wanting to inform caregivers among the 14% of elders (N=51) who expressed not wanting to inform. The most common reasons were wanting to ask the caregiver themselves (31%), not wanting us to trouble the caregiver (31%), and not wanting to attend the check-up (24%).

¹⁷We elicit both an unprompted and prompted measure of whether the elder has informed the caregiver. First, we have the enumerators mark whether caregivers themselves bring up the check-up (unprompted). If they do not, we have the enumerators explicitly probe for whether the elder mentioned a check-up (prompted). Finally, we elicit whether the elder explicitly asked or expressed interest in attending the check-up.

¹⁸Elders were asked the following question as part of the listing survey conducted during recruitment: *Now, we will ask how much you think about others in your household. We will read a couple of statements and ask you how often you felt this way in the **last 30 days**. “I sometimes refuse treatment or to go to the hospital to not burden my household or family.”* Responses were elicited on a 5-point scale, where 1=Not at all, 2=Rarely, 3=Sometimes, 4=Often, 5=All the time. Those who responded with a “2” or higher were classified as “worried elders”, and those who responded “1” were classified as “non-worried elders.”

precisely the margin of interest in our hypothesis and model predictions. Based on our data, worry primarily reflects sensitivity around financial resources provided by the caregiver. Nearly all elders report believing that asking for even a small amount of cash imposes pressure on caregivers (84%), and worried elders report being especially uncomfortable asking for any cash (28% at least somewhat agree with a statement about being uncomfortable among worried elders, compared to 20% among non-worried elders, $p = 0.02$). Among the $N=731$ households in the household experiment, 26% of respondents are classified as “worried elders.”

We report differences in observables between worried and non-worried elders in Table 1. Worried elders have less immediate support available to them, compared to their non-worried counterparts. Although worried elders have a similar number of children on average (2.53 vs. 2.61, $p = 0.47$), they live in smaller households (average household size of 3.13 vs 3.33, $p = 0.04$) and are less likely to live in the same house as their caregivers (77% vs. 84%, $p = 0.04$). Notably, worried elders are more mobility constrained across several measures of impairment. They are more likely to report having difficulty leaving their home (70% vs. 54%, $p < 0.01$), walking a long distance (86% vs. 74%, $p < 0.01$), or learning a new task (83% vs. 59%, $p < 0.01$).

Consistent with lower rates of co-residence with their caregiver, caregivers of worried elders are less likely to be sons (37% vs. 45%, $p = 0.08$), who are generally the primary caregiver in our patrilocal context (Mandal and Subaiya, 2023). Instead, worried elders are more likely to report having daughters (19% vs. 14%, $p = 0.07$), sons-in-law (3% vs. 1%, $p = 0.03$), or other individuals¹⁹ as their main caregiver (9% vs. 4%, $p = 0.01$). Caregivers are otherwise very similar in other demographics, such as age (average 46.7 vs. 48.2 years, $p = 0.25$), marital status (86% vs. 87%, $p = 0.77$), whether they are working (65% vs. 69%, $p = 0.27$), and monthly income (2,990 vs. 2,970 INR per month, $p = 0.86$).

When we compare measures of relationship closeness between households with worried versus non-worried elders, we include controls for the imbalanced demographics (elder mobility impairment, elder household size, co-residence, whether caregiver is daughter). We use a 5-question subset of the Zarit Burden Interview scale, which is a survey instrument often used in clinical and research settings to measure caregiver’s feeling of being burdened by their caregiving duties (see Appendix B.1.2; Zarit et al. (1980)). Caregivers of worried elders are in fact *less* likely to report feeling burdened (67% of caregivers of worried elders report not feeling burdened vs. 52%, $p = 0.02$). This is despite the fact that caregivers of worried elders also tend to be more involved with and informed about their elders, as measured by a standardized index capturing agreement in three questions asked to both elders and caregivers about the elder’s health status,

¹⁹The other categories of caregivers includes neighbors (4.3% vs. 2.4%), siblings (3.7% vs. 1.3%), and other relations (1.6% vs. 0.7%)

health needs, and communication style.

5.2.2 Take-up of check-up

Empirical strategy.

Do interventions increase take-up? For both the *Inform* and *Transport* interventions, we separately run the following household-level regression to assess the impact of that intervention on take-up of the check-up:

$$y_i = \beta_0^j + \beta_1^j T_i^j + X_i + \mu_s + \epsilon_{si} \quad (13)$$

where y_i is a measure of take-up (either *sign-up*, captured by an indicator for whether the caregiver called to sign the elder up for the appointment or *attendance*, an indicator for whether the elder showed up at the check-up), indicator T_i^j is 1 when household i is assigned to intervention j (either *Inform* or *Transport*), μ_s is a strata (panchayat) fixed effect, X is a vector of controls²⁰, and ϵ_{si} are standard errors clustered at the randomization level²¹ (Belloni et al., 2013; Abadie et al., 2022). We test Prediction 1 about whether informing the caregiver increases take-up by testing whether $\beta_1^{Inform} > 0$.

Does the effectiveness of interventions differ by elder worry? To investigate whether the effect of the intervention is heterogeneous by elder worry about burden, we run the following regression:

$$y_i = \gamma_0 + \gamma_1 T_i^j + \gamma_2 Worry_i + \gamma_3 T_i^j \cdot Worry_i + X_i + \mu_s + \epsilon_{si} \quad (14)$$

where indicator $Worry_i$ is 1 when the elder in household i reported ever forgoing treatment out of worry about being burden in the baseline elder survey.

As a robustness check, we also estimate a regression that includes an additional vector of controls X_{imbal} and $X_{\text{imbal}} \cdot T_i^j$ that includes a set of variables that are statistically significantly different in value between the elders who are worried about burden ($Worry_i = 1$) and the elders who are not ($Worry_i = 0$), as well as their interactions with the treatment variable. We test Corollary 1 about whether the effect of informing the caregiver differs by elder worry by testing whether γ_3 differs from 0.

²⁰In our preferred regression specification, we include controls selected with post-double selection LASSO as well as an indicator for the other cross-randomized intervention (e.g. an indicator for whether the household was part of a cluster randomized to receive free transportation, when the main treatment indicator is for whether the caregiver was informed of the check-up directly).

²¹Standard errors are not clustered for analysis of the *Inform* intervention and clustered at the geographic cluster-level for analysis of the *Transport* intervention

Results In Table 2, we report the treatment effects of the *Inform* and *Transport* interventions on take-up for the whole sample. In columns (1) and (2), we report the effects on sign-up rates, which is a measure of whether the caregiver called to make an appointment. In columns (3) and (4), we report the effects on attendance, which is whether the elder ultimately showed up to the check-up at the hospital. Columns (1) and (3) report the coefficients from the specification controlling only for randomization strata. Columns (2) and (4) report the differences, including LASSO-selected baseline controls. Overall, sign-up rates are higher than attendance rates, with 25.8% of households in the control group signing up but only 17.5% attending.

In Panel A, we report the effect of the *Inform* intervention, pooling across the transportation arms. Informing both the caregiver and elder directly increased sign-up rates by 7.7 percentage points ($p = 0.02$) and attendance rates by 5.3 percentage points ($p = 0.07$). Compared to the control group take-up rates, these amount to 30% increases in both sign-up and attendance rates.

According to Prediction 1, the finding of a positive treatment effect implies that the elder’s willingness to inform constraint is binding for some households in the study. Viewed through the lens of the model, this means there exist households where the elder does not inform the caregiver about the check-up, but caregivers would agree to help if they knew about the check-up.

In Panel B, we show that the *Transport* intervention also increases take-up. Providing free, arranged transport support for the check-up increased sign-ups by 11.1 percentage points ($p < 0.01$) and attendance by 8.6 percentage points ($p = 0.01$). We can benchmark the magnitude of this effect against the effect of the *Transport* intervention. Our results show that a light-touch messaging intervention can have meaningful effects on take-up, amounting to around 60 – 70% of the efficacy as an intervention that provide free, private round-trip transportation to the hospital. Back-of-the-envelope cost calculations suggest that the *Inform* intervention is 8 – 9 times as cost-effective as the *Transport* intervention.²²

In Panel C, we report the estimates of each of the separate three treatment groups to test for interactions. The coefficient on the indicator for the *Inform + Transport* arm is small and statistically insignificant (for sign-up rates, we obtain a point-estimate of -0.027 , $p = 0.69$; and for attendance, we obtain a point estimate of 0.016 , $p = 0.78$). We thus conclude that in our context the *Inform* and *Transport* interventions

²²We calculate that informing the caregiver costs 48 INR per respondent: enumerator wages (one-tenth of a day’s work at 425 INR per day, or 42.5 INR) plus the printed voucher (5 INR). We calculate that providing transportation costs 638 INR per respondent: the round-trip auto fare (425 INR on average) plus enumerator wages to accompany the elder (one-half of a day’s work, or 212.5 INR). The *Transport* intervention thus costs about 13 times as much as the *Inform* intervention per participant. Scaling by the treatment effects in Table 2 (the *Inform* effect is 62–69% of the *Transport* effect), the *Inform* intervention is about 8–9 times more cost-effective per additional sign-up or attendance.

are neither complements (which would yield a significant, positive coefficient on the interaction) nor substitutes (which would yield a significant, negative coefficient on interaction term). This suggests that the channels of providing transportation and informing caregivers of the check-up are separate, operating primarily independently.

Heterogeneity In Figure 3 and Table 3 we report heterogeneity analysis of the *Inform* treatment effects. In the table columns (1) and (4), we report raw estimates controlling only for strata fixed effects. In columns (2) and (5), we include LASSO-selected baseline variables as controls. In columns (3) and (6), we report the main results from our preferred specification, which further includes the controls for the imbalanced characteristics across worried versus non-worried households discussed in Section 5.2.1.

In Panels A and B of Table 3, we separately report the effect of the *Inform* intervention for worried and non-worried elders, respectively. We see that the effect of the intervention is strikingly large and statistically significant for worried elders, but small and insignificant for non-worried elders. For example, attendance increases by 16.8 percentage points in response to the *Inform* intervention among worried elders, relative to a baseline attendance rate of 16.2% in the control group – more than doubling attendance. Sign-up rates also increase dramatically, increasing by 20.1 percentage points from 28.8% in the *Control* group. In contrast, among non-worried elders, the estimated coefficient for the *Inform* intervention is 0.03 ($p = 0.37$) for sign-up and 0.01 ($p = 0.67$) for attendance.

Panel C reports the formal test of comparing effect sizes of the *Inform* intervention between households with worried versus not worried elders. We find that the *Inform* intervention is most effective among households where the elder is worried about burden. The difference between the treatment effect for worried versus non-worried elders is large and statistically significant (see also Figure 3).

The results in Columns (3) and (6) demonstrate that our point estimate for γ_3 remains large and significant, even when adding controls for the elder characteristics that were imbalanced by worry about burden (e.g. for attendance, $\gamma_3 = 0.154$, $p = 0.03$).

Robustness. In the Appendix, we then conduct two robustness checks for our heterogeneity analysis, reported in Table A.5. First, we isolate the heterogeneity in treatment effect that is attributable to worry about burden, after controlling for other differences in observables between worried and non-worried elders. To do this, we include controls for not only the imbalanced variables, but also the interaction of these imbalanced variables with the treatment indicator of interest $X_{\text{imbal}} \cdot T_i^j$.²³ Results are reported in

²³The regression equation we estimate is: $y_i = \gamma_0 + \gamma_1 T_i^j + \gamma_2 Worry_i + \gamma_3 T_i^j \cdot Worry_i + X_{\text{imbal}} + X_{\text{imbal}} \cdot T_i^j + X_i + \mu_s + \epsilon_{si}$

Column (4) of Table A.5. We find that including these controls leaves our results qualitatively unchanged, and does not significantly attenuate our estimate of heterogeneity γ_3 . When adding controls interacted with the treatment indicator, the point estimate for γ_3 goes from 0.154 ($p = 0.03$) to 0.145 ($p = 0.04$) for attendance, and the point estimate for γ_3 is virtually unchanged for sign-up rates (from 0.167 to 0.166, with p-values of 0.034 and 0.036, respectively). Second, in Column (5), we include proxies for caregiver care for the elder as controls to try to account for the correlation between elder and caregiver caring preferences. As stated in the decomposition in Corollary 1, the magnitude of the treatment effects for the *Inform* intervention depends on not only the elder’s worry (which mediates their decision to inform or not) but also the caregiver’s caring preferences (which mediates their decision to agree or not). Thus the correlation between elder and caregiver caring preferences affects the magnitude of the treatment effect. We find that our main results are also robust to including these controls. To the extent that these proxies capture caregiver preferences, this suggests that elder willingness to inform at least partially explains the heterogeneity in treatment effects. For example, our estimate of γ_3 shifts from 0.154 ($p = 0.03$) to 0.150 ($p = 0.04$) when we include measures of caregiver care for the elder as controls.

Heterogeneity in *Transport* In the Appendix in Table A.4, we also report whether the *Transport* intervention is differentially effective for worried versus non-worried households. While the point estimates qualitatively suggest that transportation is more effective for households where the elder is worried about burden, the coefficient on the interaction term is generally not statistically significant for either the sign-up or attendance outcomes.

5.2.3 Elder willingness to share information

Empirical strategy In our framework, worried elders are caring, so they more strongly internalize the caregiver’s welfare, and they believe the caregiver is subject to pressure. Together, this yields two testable implications. First, the *Transport* arm allows us to test Prediction 3, which predicts that worried elders have caring preferences and thus are more sensitive to exogenous changes in the caregiver costs of facilitating the check-up. Second, we can test Prediction 2, which tells us that worried elders should have lower asking rates when they believe caregivers face pressure when informed.

To test these predictions, we run the following regression among households in the *Control* arm:

$$z_i = \omega_0 + \omega_1 T_i^{Transport} + \omega_2 Worry_i + \omega_3 T_i^{Transport} \cdot Worry_i + X_i + \mu_s + \epsilon_{si} \quad (15)$$

where z_i is an indicator for whether the elder is willing to let the research team send information about

the check-up to the caregiver, $T_i^{Transport}$ is an indicator for whether the household is randomized into the *Transport* arm offering free transport to the check-up, $Worry_i$ is an indicator for when the elder is categorized as worried about burden.²⁴ We also include as controls the set of LASSO-selected variables X_i and randomization strata fixed effects μ_s . Standard errors are clustered at the geographic cluster-level to reflect the level at which the *Transport* intervention was randomized.

As a robustness check, we also control for the interaction of these imbalanced variables with the treatment indicator of interest $X_{\text{imbal}} \cdot T_i^j$ to isolate the heterogeneity in treatment effect that is attributable to worry about burden, after controlling for other differences in observables between worried and non-worried elders. These regression results are reported in the Appendix in Table A.5.

We test Prediction 3 by testing whether $\omega_3 > 0$, which captures the degree to which worried elders are more sensitive to caregiver costs than not worried elders.

We test Prediction 2 about how willingness to inform varies with worry about burden by testing whether ω_2 is negative.

Results First, we find that when transportation is not provided, elders worried about burden are less willing to inform caregiver about the check-up by 14.2 percentage points ($p = 0.04$), compared to a baseline of 85% of their non-worried counterparts (Table 4 and Figure 4). According to Prediction 2, this demonstrates that elders believe that caregivers who agree to help in response to being informed would do so primarily out of pressure rather than true caring preferences towards the elder.

Second, we find that non-worried elders are not at all responsive to transport ($\omega_1 = -0.011$, $p = 0.81$), but worried elders are, with free transport increasing their willingness to inform by 15 percentage points ($p = 0.04$) more than non-worried elders. This is consistent with Prediction 3, which predicts that worried elders are more responsive to an exogenous shock to caregiver costs because they are caring ($\omega_3 = 0.16$, $p = 0.07$).

²⁴The survey question that corresponds to our measures of worry about burden asks respondents to describe how often they refuse treatment or avoid the hospital out of worry of burdening their family. The possible responses are *Not at all*, *Rarely*, *Sometimes*, *Often*, and *All the time*. This indicator is equal to one when the elder reports ever engaging in this behavior.

6 Caregiver experiment

6.1 Caregiver experiment: Design

While the *household experiment* examines the elder’s decision to inform and demonstrates how this decision can matter for take-up of health investments for the elder, the *caregiver experiment* sheds light on the caregiver’s motives and preferences. To do this, we conduct an experiment with a sample of N=444 caregivers, recruited in an identical manner to caregivers in the household experiment, from the same study areas.²⁵

The caregiver experiment allows us to test two key model predictions around the caregiver’s motives for providing help. First, we test the degree to which the caregiver’s agreement to help facilitate the check-up is borne of pressure, as opposed to true care for the elder. If social or psychological pressure factors are important, then it is likely that caregivers who agree to help with the check-up do so only because they feel pressure to do so. In this case, observed help overstates true willingness to be involved and may actually result in welfare losses overall. Second, we test whether the model should have dynamic considerations by testing whether caregiver decisions to be involved are independent of their involvement in prior periods. In other words, we test for crowd-out, which may mean that caregivers may reduce help in other domains as a result of being involved in facilitating the check-up. We cross-randomize two experimental treatment conditions to test for crowd-out and pressure concerns. Both interventions were randomized at the caregiver-level, stratified by panchayat.

In this experiment, all caregivers are invited to a check-up for the elder. For caregivers interested in the check-up, these caregivers are asked to set aside a portion of their survey payments (20 INR out of a 200 INR survey payment) in order to reserve a spot at the check-up, if available. Among invited caregivers, 67% sign up for the check-up. A random subsample of respondents who sign up for the check-up are then selected to receive the check-up.

6.1.1 Intervention: Testing for pressure

We test whether caregiver decisions to commit resources to help the elder is driven by pressure. We consider three sources of pressure that may impact caregivers’ decisions: experimenter demand from the enumerators, social pressure from the elder, and self-image concerns from the caregiver themselves.

²⁵Elders were recruited to the study via the listing exercise, and we used the same protocol to identify and then follow up with their primary caregivers.

Outcomes. Among caregivers who agree to the check-up, we offer all caregivers the option to select which type of transportation support they would prefer if selected for the check-up. The outcome of interest is whether the caregiver selects an option that is more convenient for themselves but less preferred by the elder (arranged transport) or an option that is the opposite (transport reimbursement). When explaining the transportation support options, the enumerator explicitly emphasizes that prior surveys have indicated that most caregivers prefer the former while elders prefer the latter.

We cross-randomize caregivers offered transport into one of three experimental conditions, which progressively shut down different sources of pressure.

1. *Public.* The caregiver chooses on the spot whether to help, and we inform her that the elder may be told of her choice. Caregivers who choose to help are exposed to pressure from the experimenter, elder, and themselves.
2. *Private.* The caregiver chooses on the spot on a tablet, with the enumerator looking away. We assure the caregiver that her choice will not be shared.
3. *Private + Out.* The caregiver is offered the *Private* option plus two delay options: choose now privately, delay and call us back, or delay and have us call her back. The caregiver is informed that if they are not reached later (in either call-back scenario), they will be defaulted into the choice that elders prefer (transport reimbursement).

The *Private* treatment is designed to shut down social image concerns in the caregiver’s decision, since their choice will not be revealed to the enumerator or the elder (Bursztyn and Jensen, 2017). The *Private + Out* treatment aims to further shut down self-image concerns that may make the caregiver feel pressured to decide in favor of the elder, following the spirit of the experimental designs in Dana et al. (2007), DellaVigna et al. (2012), and Lazear et al. (2012). By offering the caregiver the option to delay their choice, we allow them to introduce some plausible deniability into the process of making their choice - not only from others, but also potentially from themselves.

If caregiver willingness to help is driven by any kind of pressure that reduces their ability to decline a request face-to-face, we expect help rates to be highest in the *Public* condition and lowest in the *Private + Out* condition. If caregivers help because they genuinely want to be involved, help rates should be similar across the three conditions.

6.1.2 Intervention: Testing for crowd-out

In the same experiment, we test whether having already committed to help the elder for one task has an impact on the likelihood of the caregiver agreeing to additional commitments to help. To do this, we randomize the order in which we offer to the caregiver a free health check-up for the elder, relative to other measures of willingness to help, which are our outcomes. The idea is that offering the health check-up before measuring the outcomes exogenously induces some caregivers to already pre-commit help for the elder, which may crowd out other willingness to help.

1. *Prior help.* (50%) Caregivers are first asked whether they would commit to signing up the elder for a check-up. After the invitation is delivered, we measure the three other outcomes of willingness to help.
2. *No prior help.* (50%) Caregivers are asked about willingness to help in the three outcomes of willingness to help. After measuring outcomes, the invitation to the check-up is delivered.

If caregiver help is subject to a fixed favor budget, then we would expect a crowd-out effect, meaning those asked about the check-up first report lower willingness to help in the other domains. Otherwise, we would expect to see no effect of pre-committing help on subsequent willingness to help.

Outcomes. We have three measures of willingness to help that we study as outcomes, which span different time frames (to vary the gap in timing between commitments) and domains (to vary health versus non-health-related commitments): (i) signing up for a social group activity event for the elder, (ii) interest in learning more about a general check-up in one year, and (iii) self-reported willingness to help the elder in a medical emergency (measured on a 5-point scale).

6.1.3 Balance.

We are generally balanced on elder and caregiver characteristics, as reported in Table [A.3](#).

6.2 Caregiver experiment: Results

6.2.1 Results: Caregiver helping from pressure

Empirical strategy To test whether caregiver involvement is due to pressure, we run the following regression:

$$y_i = \nu_0 + \nu_1 T_i^{Private} + \nu_2 T_i^{Private + Out} + X_i + \mu_s + \epsilon_i \quad (16)$$

where indicator y_i is 1 when the caregiver chooses transport reimbursement (which elders generally prefer) and 0 when the caregiver chooses arranged transport (which caregivers generally prefer), indicator $T_i^{Private}$ is 1 when the caregiver is randomized into the arm where they make their choice privately, indicator $T_i^{Private + Out}$ is 1 when the caregiver is randomized into the arm where they can choose to delay their choice or make their choice privately on-the-spot, X_i is a vector of LASSO-selected controls, and μ_s are strata fixed effects. As stated in Prediction 4, finding an effect of privacy $\nu_1 < 0$ would suggest that caregiver decision to help is partly driven by external social pressure from the elder or experimenter, and finding an effect of giving caregivers an out $\nu_2 < \nu_1$ would suggest that caregiver decision to help is partly driven by internal pressure from the caregiver themselves, such as guilt or self-image concerns.

Results In Figure 6 and Panel B of Table 5, we show the estimated effects of the choice environment on whether the caregiver chose the transportation option preferred by elders (reimbursed transport). In the baseline *Public* condition, in which the decision is subject to potential influence from the experimenter, the elder, and the caregiver’s own self-image or guilt concerns, caregivers choose the option preferred by the elder 21% of the time. The *Private* condition, in which the decision is made privately on the tablet (and explicitly explained as totally private), leads to no statistically significant change in likelihood of choosing the elder-preferred option ($\nu_1 = 0.03$, $p = 0.62$). This suggests that caregiver decisions to be involved are not driven by elder- and experimenter demand in this context. Finally, in the *Private + Out* condition, in which the decision is made privately or the caregiver has the option to make a choice later, the likelihood of choosing the elder-preferred option is still not significantly different from the baseline *Public* condition ($\nu_2 = -0.03$, $p = 0.68$). This suggests that caregiver decisions are not driven by any pressure-based motivations from the elder, experimenter, or the caregiver themselves.

In the context of our theoretical framework and decision-making context, we conclude that the true pressure-based distortion to decision-making ϕ is minimal. Viewed through the lens of our model, this suggests that interventions that directly surface the check-up to caregivers – as well as additional informing rates from elders – are generally welfare-improving, as there are no large, negative welfare consequences that would arise if many caregivers were acting out of pressure rather than genuine care for the elder.

6.2.2 Results: Caregiver crowd-out

Empirical strategy To test whether prior commitment to help crowds out future willingness to help, we run the following regression:

$$y_i = \delta_0 + \delta_1 T_i^{Prior\ help} + X_i + \mu_s + \epsilon_i \quad (17)$$

where indicator y_i is 1 when the caregiver chooses an option indicating willingness to help the elder, indicator $T_i^{Prior\ help}$ is 1 when the caregiver is randomized into the arm where they have already been invited to the check-up before measuring other willingness to help outcomes, X_i is a vector of LASSO-selected controls, and μ_s are strata fixed effects. Finding an effect of already helping $\delta_1 < 0$ would suggest crowd-out occurs, meaning caregiver help is rationed.

Results In Figure 5 and Panel A of Table 5 (see also Figure 5), we show the effect of the caregiver already having committed to help the elder on several other outcomes measuring willingness to help for additional future tasks. In the *No prior help* arm, the caregivers are directly asked about willingness to help on outcome tasks after the initial baseline survey. In the *Prior help* arm, the caregiver has first been invited to sign the elder up for the check-up before being asked about the outcome tasks. In theory, the intervention invites caregivers to voluntarily commit to helping the elder rather than directly forcing them to do so, but in practice most caregivers in the *Prior help* arm do actually sign up for the check-up (67%).

Across all our outcome tasks, asking the caregiver to already commit to helping the elder does not significantly impact the likelihood of the caregiver being willing to help the elder in the other outcome tasks. For example, among those not already asked to help, 50% of caregivers agree to sign the elder up for group activities, which they are told involves them potentially providing transport for the elder to and from the activity as well as committing a small portion of their survey payment to sign up. Asking caregivers to help before has a negative but statistically insignificant effect on likelihood of agreeing to help ($\delta_1 = -0.04$, $p = 0.38$), suggesting that agreeing to the check-up does not crowd out assistance in non-health domains. Similarly, the likelihood of expressing interest in being contacted for a general check-up in one year is similar across both groups ($\delta_1 = 0.04$, $p = 0.19$), so long-term health investments are also not affected. Finally, caregiver-reported likelihood of helping the elder if there were an urgent health issue in the near term is similar for both likelihood of reporting “probably or always” able to help ($\delta_1 = 0.04$, $p = 0.31$) and likelihood of reporting “always” able to help ($\delta_1 = -0.04$, $p = 0.41$). Taken together, we find no evidence of large, negative crowd-out effects when involving the caregiver in the elder’s health take-up.

Further, on the elder’s side, we do not find strong evidence that elders are worried about crowd-out as a key reason for not asking for help. Among a subsample of elders responded to an open-ended question about reasons they hesitate to ask for help from their caregivers (N=98), the most frequently mentioned reason for not asking is not wanting to be a burden (69% of responses), followed by not wanting to upset the caregiver (37%) and thinking the caregiver will say no anyway (22%). Only 8% of elders report

crowd-out (i.e. potentially “needing help for something urgent later”) as a reason.

7 Discussion

In this section, we discuss potential alternative explanations for our empirical results. We note that alternative explanations would have to capture our key empirical findings of stark heterogeneity by elder worry about burden. First, elders worried about burden more strongly take up check-ups in response to an intervention that informs their caregivers about a check-up. Second, elders worried about burden are more sensitive to caregiver costs, responding to higher costs by reducing willingness to communicate about the check-up.

Rejection sensitivity An alternative “signalling” framework proposed in Bénabou et al. (2025) captures the idea that those in need of help may not inform potential helpers about their needs because they are averse to being rejected by the potential helper. One prediction of this alternative model for our setting is that there should be positive demand for technology that allow elders to surface the ask without fully internalizing the rejection costs, such as the experimenter being the one to deliver the invitation to the check-up, and that this demand should increase for the most rejection-sensitive elders. We test and reject this alternative model using data from a sample of households where the caregiver completed a follow-up survey after the sign-up deadline. When we compare the rates of elders directly informing (as reported by the caregiver) and indirectly being willing to inform (via the research team), we find that rates of informing are similar. Elders are willing to have the experimenter inform the caregiver on their behalf at similar rates as actually informing themselves. Further, the gap between these measures of willingness to ask is not higher for worried elders.

Asking costs We find that an intervention informing caregivers of the check-up increases take-up, which could be consistent with a simpler model of communication frictions in which elders face a cost of asking the caregiver for help that is not other-regarding, such as time costs to visit the caregiver. We do not think this explains our main effects for three reasons. First, our experiment setting and design intentionally minimized logistics-based frictions associated with sharing information about the check-up (i.e. all elders were given vouchers with check-up details). Further, when we directly elicit elders’ willingness to inform, we are measuring the elder’s willingness to have the research team deliver this information on their behalf, which imposes zero logistical costs on the elder – and we still find differences in willingness to inform by elder worry. Second, logistical asking costs would generate a similar empirical prediction as rejection sensitivity, but we find that rates of elders directly informing (as reported by the

caregiver) and indirectly being willing to inform (via the research team) are similar, including across worried and non-worried elders.

Elder pride or ego concerns Another alternative explanation for worried elders being less willing to inform is that either asking for or receiving help would hurt their pride or ego, rather than other-regarding concerns. If this were the underlying mechanism, then we may be concerned that informing caregivers and increasing health take-up imposes this cost on worried elders. However, our results on transport variation help rule out this explanation. We find that worried elders respond to variation in costliness of the check-up for the caregiver by being more willing to inform the caregiver. This suggests other-regarding concerns are indeed stronger among worried elders. Further, assuming that lowering costs of caregiver help makes caregiver more likely to say yes, then worried elders who dislike being helped for pride reasons should be less likely to inform, rather than more. Also, our setting involves varying information about the existence of a check-up opportunity, a preventative care service aimed at benefiting all elders in our sample demographic regardless of baseline health status – which may be less likely to have impact on elder pride than directly sharing information about elders’ underlying health issues.

Objective burden and health status When we compare elder characteristics by their worry about burden, we do find that worried elders report more functional impairment for tasks such as difficulty learning new tasks, walking far distances, and leaving the home (Table 1). Our model assumes that benefits and costs of check-ups are constant, so one concern may be that benefits of the check-up are higher for these worried elders. However, these mobility constraints are most likely orthogonal to the benefits of the specific heart health check-up offered in our study. We collect objective measures of cardiac risk using handheld ECG devices for a subsample of elders, and this objective measure is balanced between worried and non-worried elders. In addition, our finding of heterogeneity in take-up is not explained when we directly control for or match on differences in objective burden. When we control for these differences in functional impairment (as well as their interactions with the treatment indicator), this does not change our key finding of heterogeneity in treatment effects of the *Inform* intervention.

Uncertainty Another potential interpretation of worry about burden would be the elder’s degree of uncertainty about whether the caregiver will agree to the request. In our model, a mean-preserving increase in uncertainty about the caregiver’s pay-offs – i.e. the caregiver’s caring or benefit or cost of attending – would not change the elder’s willingness to inform, because the elder is taking an expectation over linear pay-offs. Future extensions of the model could introduce non-neutral risk preferences, in which case different degrees of uncertainty may affect on the elder willingness to inform. Empirically, we test

for this by checking whether there is heterogeneity in treatment effect of the *Inform* intervention on the attendance of the check-up by whether the caregiver or the elder was invited first to the check-up. In the field, we conducted separate visits via independent teams of enumerators to survey and deliver check-up invitations to elders and caregivers. Cases where the caregiver is visited first may have less uncertainty facing the elder about the caregiver’s willingness to attend the check-up, if it gives the caregiver a chance to initiate the conversation or if it gave the elder a chance to observe the absence of a conversation about the check-up. We find no evidence of heterogeneity in treatment effects by who was visited first, suggesting uncertainty does not play a large role in explaining our main effects.

8 Conclusion

In this paper, we take a simple behavioral insight – that even well intentioned concern for others can be misplaced when you don’t know the other person’s preferences – and study it in a high-stakes context of health decision-making in intergenerational households. We combine a framework of elders and caregiver communication with mutual caring and asymmetric information with two randomized experiments to study how household communication affects take-up of healthcare for elderly women in India. We find that an intervention directly informing caregivers about a check-up increases take-up. The effects are especially strong for households with elders who are caring and worry about being a burden to their family members. These worried elders are also less willing to communicate about the check-up and more sensitive to caregiver costs, suggesting elder care for their caregivers can interact with beliefs about imposed burden to lead to low levels of healthcare take-up. Using the caregiver experiments, we show that caregiver decisions to help are generally not driven by pressure and do not crowd out future support for the elder. As a result, the low take-up rates in status quo reflect misperceptions about pressure, and increasing involvement from caregivers is likely to be welfare-improving for both elders and caregivers.

Our findings emphasize the challenges of nuanced communication in the real-world, even between two individuals with a longstanding relationship and ongoing, repeated interactions. In our framework, we show that genuine concern for another person can interact with uncertainty about another person’s motivations for helping to lead to inefficiently low communication. Our empirics suggest that a low-communication equilibrium can persist despite mutual caring between elders and caregivers who share a common goal of keeping the elder healthy. Future work may shed light on whether these dynamics of mutual caring and low communication apply to other types of relationships within and across households and contexts. Further, our study focuses on a single decision about whether to take up preventative care that is offered for free, which has the potential of being long-term beneficial to both the elder and caregiver, saving them

both future costs. We leave it to future work to test for communication breakdowns in other aspects of the caregiving relationship and decisions, which may involve different strategic motivations and trade-offs for household members.

Our study directly studies potential solutions in policy for communicating to households about medical results and opportunities. Family caregivers play an important role in the health decisions and outcomes of the elderly, especially for older women who face especially severe healthcare access constraints and low household bargaining power in India (Dupas and Jain, 2024; Calvi, 2020). Clear, direct communication to caregivers advocating health opportunities for women and elders may be beneficial for many reasons (e.g. higher medical literacy, reduced memory concerns) including reducing the load of communicating health needs, which weigh disproportionately on older women. Importantly, these types of interventions aimed at improving information of the household as a whole can be cost-effective, with our finding that the simple intervention of informing the caregiver directly can have about two-thirds of the impact of providing private, arranged transportation.

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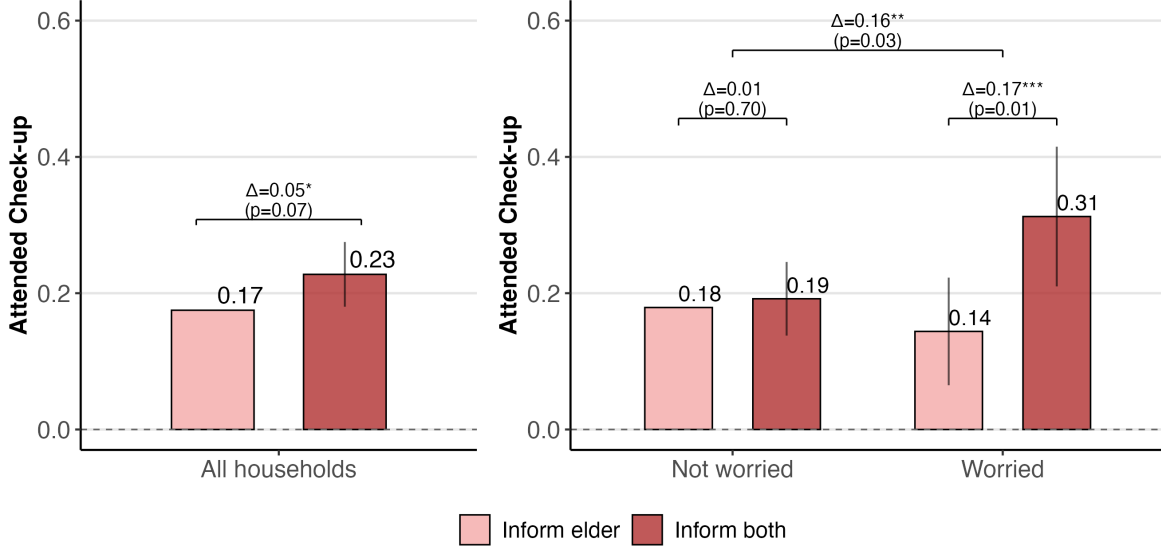
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Tables and Figures

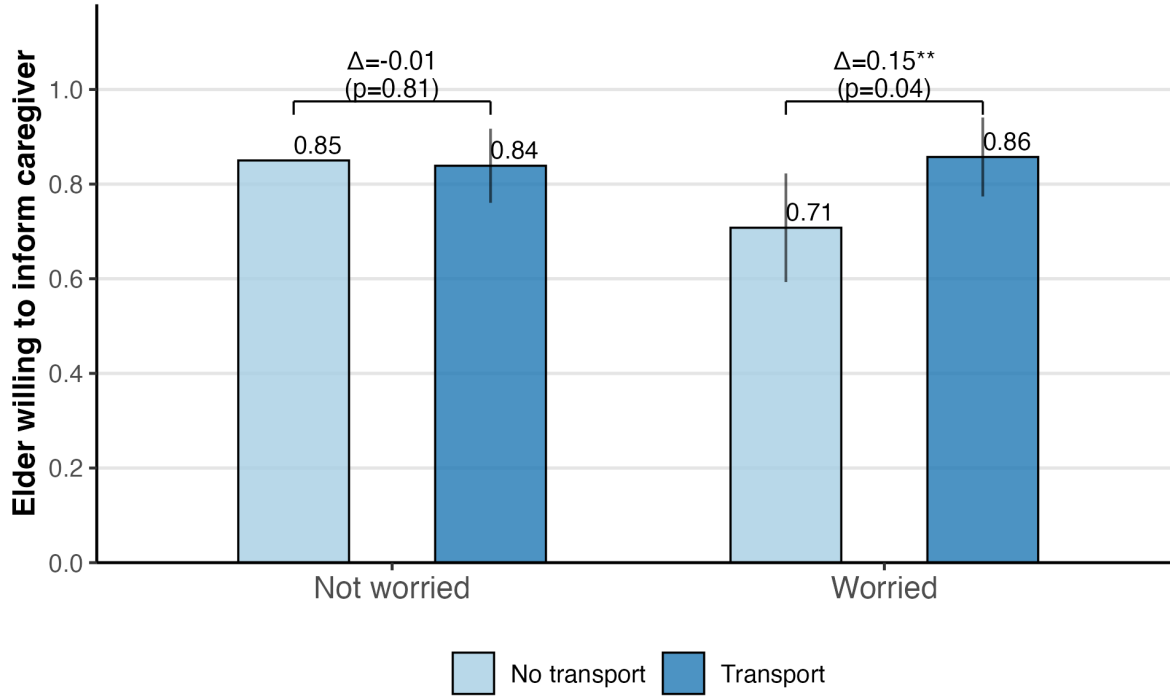
Figures

Figure 3: Take-up by Information Treatment and Worry about Burden



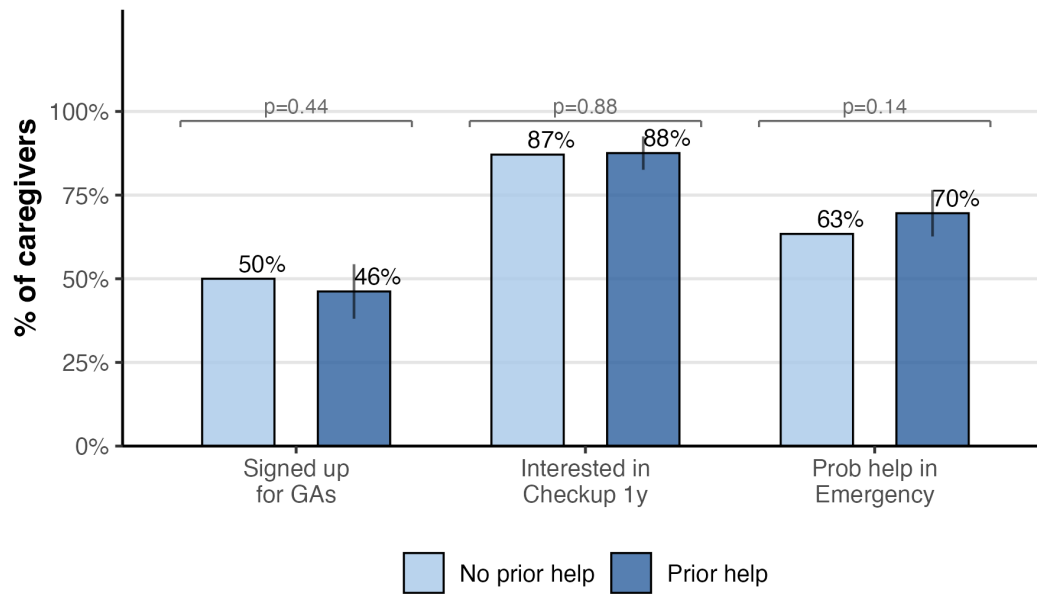
Notes: This graph shows results from Equation 13 and Equation 14, which estimates the effect of the *Inform* intervention that directly informs the caregiver about the check-up on the fraction of households whose elder attended the check-up. The left panel shows the overall effect across all households (N=731). The right panel shows the effect separately for “Worried” and “Not worried” households; a household is classified as “Worried” when the elder reported ever refusing treatment or going to the hospital to not burden their household or family in the baseline (N=187) and classified as “Not worried” otherwise (N=543). Each bar is sum of the control group mean (*Control*, in which only the elder is informed) and the relevant regression coefficients. The estimates come from the regression that includes controls for randomization strata and LASSO-selected variables. Displayed are 90% confidence intervals.

Figure 4: Elder Willingness to Inform by Transport Treatment and Worry about Burden



Notes: The figure displays the rates of elder willingness to inform their caregiver about checkup eligibility. The rates are predicted means estimated from an OLS regression of an indicator for whether the elder is willing to inform the caregiver of the check-up on transport assignment, an indicator for a household is classified as “Worried” when the elder reported ever refusing treatment or going to the hospital to not burden their household or family in the baseline elder survey, and their interaction. Controls include strata fixed effects, LASSO-selected baseline controls, and controls for variables imbalanced by elder concern of burden. The sample is restricted to elders assigned to the *Control* arm. Bars show predicted means for each cell of the 2×2 worry-by-transport design: the Not Worried / No Transport bar equals the control mean; other bars add the relevant OLS coefficients. Brackets report the effect of free transport separately for not-worried and worried elders, with p-values computed using cluster-robust standard errors clustered at the panchayat level. Error bars show 90% confidence intervals.

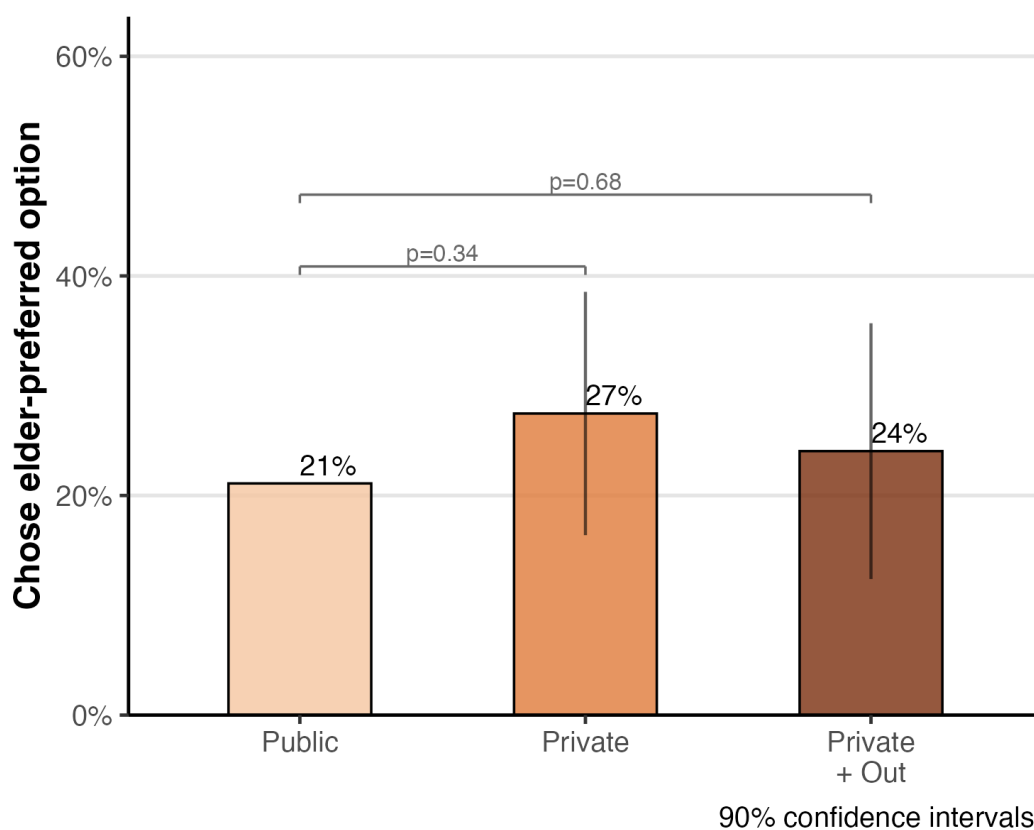
Figure 5: Caregiver Experiment: Test for Crowd-out



Treatment = invited to checkup before GAs. 90% confidence intervals.

Notes: The figure displays OLS estimates of the effect of prior checkup invitation on caregiver outcomes. "No prior help" bars show the mean outcome among caregivers assigned to the outcomes-first order; "Prior help" bars show the predicted mean for caregivers assigned to the checkup-first order (control mean plus OLS coefficient). Regressions include strata fixed effects, treatment choice fixed effects, and LASSO-selected baseline controls. Brackets report the p-value for the treatment coefficient from the underlying regression. Error bars show 90% confidence intervals based on heteroskedasticity-robust standard errors.

Figure 6: Caregiver Experiment: Test for Pressure-motivated Involvement



Notes: The figure displays OLS estimates of the effect of transport framing on caregivers' willingness to choose the elder-preferred transport option. *Public* shows the mean outcome among caregivers randomly assigned to the *Public* arm (reference group); *Private* and *Private + Out* show predicted means for the corresponding arms (control mean plus OLS coefficient). Regressions include strata fixed effects, treatment order fixed effects, and LASSO-selected baseline controls. Brackets report p-values for pairwise comparisons against the *Public* arm. Error bars show 90% confidence intervals based on heteroskedasticity-robust standard errors.

Tables

Table 1: Characteristics by Worry about Burden

Variable	Overall (1)	Not worried (2)	Worried (3)	Difference (4)	p (5)
<i><u>Elder Characteristics</u></i>					
Age over 65	0.59	0.58	0.62	0.04	0.36
Widowed	0.52	0.51	0.56	0.04	0.3
Elder living alone	0.11	0.10	0.13	0.03	0.22
Household size	3.28	3.33	3.13	-0.20	0.04**
Number of children	2.59	2.61	2.53	-0.08	0.47
Lives with caregiver	0.82	0.84	0.77	-0.07	0.04**
Checkup last 1y	0.84	0.84	0.83	-0.01	0.77
Heart checkup ever	0.42	0.43	0.39	-0.04	0.36
Heart checkup last 1y	0.15	0.15	0.17	0.02	0.59
High cardiac risk (ECG)	0.50	0.48	0.56	0.07	0.22
Has blood pressure	0.61	0.59	0.67	0.09	0.03**
Has diabetes	0.42	0.41	0.48	0.07	0.09*
Has cholesterol	0.15	0.15	0.14	0.00	0.92
Has cardiac	0.15	0.15	0.15	0.00	0.87
Has chronic pain	0.10	0.09	0.11	0.02	0.42
Difficulty leaving home	0.58	0.54	0.70	0.16	0***
Difficulty walking long dist	0.77	0.74	0.86	0.12	0***
Difficulty new task	0.65	0.59	0.83	0.24	0***
Has own phone	0.31	0.31	0.32	0.00	0.94
Interest in check-up	0.93	0.93	0.91	-0.02	0.44
Chose checkup over cash	0.60	0.62	0.57	-0.05	0.24
Pressure from asking cash	0.84	0.85	0.81	-0.04	0.2
Uncomf asking cash	0.22	0.20	0.28	0.08	0.02**
Uncomf asking transport	0.11	0.10	0.13	0.03	0.25
<i><u>Caregiver Characteristics</u></i>					
Is Husband	0.21	0.23	0.18	-0.05	0.15
Is Son	0.43	0.45	0.37	-0.07	0.08*
Is Daughter	0.15	0.14	0.19	0.05	0.07*
Is Son-in-law	0.02	0.01	0.03	0.02	0.03**
Is Daughter-in-law	0.09	0.09	0.06	-0.03	0.21
Is Grandchild	0.05	0.04	0.06	0.02	0.19
Is Other	0.06	0.04	0.10	0.05	0.01***
Average age (years)	47.78	48.15	46.71	-1.44	0.25
Married	0.87	0.87	0.86	-0.01	0.77
Household size	4.38	4.38	4.37	0.00	0.99
Working	0.68	0.69	0.65	-0.04	0.27
Monthly Income Per Capita (1000 Rs)	2.99	2.97	3.03	0.06	0.86
Social Desirability Score (Pct)	0.26	0.27	0.26	-0.01	0.49
High NCD knowledge	0.72	0.72	0.72	0.00	0.95
Interest in checkup for eld	0.85	0.84	0.87	0.03	0.48
CG present for EL invite	0.14	0.14	0.13	-0.01	0.65
<i><u>Closeness Measures</u></i>					
Agreement index (SDs)	-0.90	-0.92	-0.83	0.09	0***
CG does not feel burdened	0.56	0.52	0.67	0.15	0.03**
CG speak at least weekly	0.36	0.36	0.34	-0.02	0.65
N	730	543	187		

Notes: This table compares baseline characteristics of households by whether the elder is worried about being a burden for the N=730 households in the Household Experiment. Elders are classified as “Worried” if they report having ever forgone care or avoided the hospital out of worry of being a burden to family members. One observation has missing value for worry about burden, because the respondent refused to respond to the question. Column (1) reports the full-sample mean of each row variable. Columns (2) and (3) report means for the not-worried and worried groups. Column (4) reports the difference estimated from a regression of the row variable on the worried indicator without any controls, and column (5) reports the p-value on the difference. Elder characteristics come from the elder listing survey, and caregiver characteristics come from the caregiver baseline survey. The exceptions are the self-reported diagnoses measures, which are indicators equal to one if either caregiver or elder (from the elder follow-up survey) reports the elder having the condition. Among closeness measures, caregiver-reported variables are denoted with the prefix “CG” and elder-reported variables are denoted with the prefix “EL”. The agreement index is a standardized index where higher values indicate more agreement between elder and caregiver responses on three questions: multiple-select list of elder health diagnoses, multiple-select list of health-related tasks that the elder ⁵⁰needs support with, and elder communication style (how long it would take the elder to mention something they needed). *** p<0.01, ** p<0.05, * p<0.1.

Table 2: Effect of Interventions on Take-up

	Signed up		Attended	
	No controls (1)	Controls (2)	No controls (3)	Controls (4)
<u>Panel A: Inform both</u>				
Inform	0.069** (0.033) <i>0.035</i>	0.077** (0.033) <i>0.020</i>	0.046 (0.029) <i>0.112</i>	0.053* (0.029) <i>0.069</i>
Control mean	0.258	0.258	0.175	0.175
<u>Panel B: Free transport</u>				
Transport	0.105*** (0.035) <i>0.003</i>	0.111*** (0.036) <i>0.002</i>	0.089*** (0.031) <i>0.005</i>	0.086*** (0.033) <i>0.010</i>
Control mean	0.227	0.227	0.143	0.143
<u>Panel C: Interacted</u>				
Inform	0.073* (0.043) <i>0.093</i>	0.090** (0.045) <i>0.046</i>	0.035 (0.034) <i>0.310</i>	0.044 (0.036) <i>0.216</i>
Transport	0.110** (0.047) <i>0.019</i>	0.124*** (0.048) <i>0.010</i>	0.079* (0.042) <i>0.060</i>	0.077* (0.044) <i>0.080</i>
Inform $\times$ Transport	-0.011 (0.065) <i>0.864</i>	-0.027 (0.067) <i>0.685</i>	0.018 (0.055) <i>0.738</i>	0.016 (0.058) <i>0.779</i>
Control mean	0.198	0.198	0.132	0.132
<i>p: Inform = Transport</i>	<i>0.443</i>	<i>0.478</i>	<i>0.288</i>	<i>0.435</i>
<i>p: Inform+Tran = Inform</i>	<i>0.043</i>	<i>0.053</i>	<i>0.019</i>	<i>0.032</i>
<i>p: Inform+Tran = Transport</i>	<i>0.197</i>	<i>0.185</i>	<i>0.208</i>	<i>0.161</i>
Observations	731	731	731	731
Strata FE	X	X	X	X
Controls (LASSO)		X		X

Notes: This table presents estimated treatment effects of the two interventions (*Inform* and *Transport*) on take-up (sign-up and attendance rates). Panel A reports coefficients from regressing take-up on an indicator for assignment to the *Inform* treatment. Panel B reports coefficients from regressing take-up on an indicator for the *Transport* treatment. Panel C reports coefficients from a regression of take-up on both treatment indicators and their interaction. Columns (1) and (2) show the effects on a sign-up indicator, which is equal to 1 when the household called to make an appointment at the check-up. Columns (3) and (4) show the effects on an attendance indicator, which is equal to 1 when the elder shows up for the health check-up after their household called to make an appointment. All regressions include strata fixed effects. Columns (2) and (4) add baseline controls selected via post-double-selection LASSO and, in Panels A and B, an indicator for assignment to the other (cross-randomized) treatment. Standard errors are reported in parentheses, clustered at the transport-randomization cluster level in Panels B and C. P-values are reported in italics below. The bottom rows report p-values from Wald tests based on the interacted specification in Panel C. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: Effect of Information Intervention on Take-up by Worry about Burden

	Signed up			Attended		
	(1)	(2)	(3)	(4)	(5)	(6)
<u>Panel A: Inform effect for Worry</u>						
Inform	0.126* (0.068) <i>0.062</i>	0.202*** (0.068) <i>0.003</i>	0.201*** (0.068) <i>0.003</i>	0.119* (0.061) <i>0.053</i>	0.169*** (0.062) <i>0.007</i>	0.168*** (0.062) <i>0.007</i>
Control mean	0.288	0.288	0.288	0.162	0.162	0.162
<u>Panel B: Inform effect for Not Worry</u>						
Inform	0.045 (0.037) <i>0.228</i>	0.033 (0.038) <i>0.388</i>	0.035 (0.038) <i>0.365</i>	0.018 (0.032) <i>0.577</i>	0.013 (0.033) <i>0.696</i>	0.015 (0.033) <i>0.650</i>
Control mean	0.256	0.256	0.256	0.179	0.179	0.179
<u>Panel C: Inform $\times$ Worry</u>						
Inform	0.045 (0.037) <i>0.228</i>	0.033 (0.038) <i>0.388</i>	0.035 (0.038) <i>0.365</i>	0.018 (0.032) <i>0.577</i>	0.013 (0.033) <i>0.696</i>	0.015 (0.033) <i>0.650</i>
Worry	0.032 (0.053) <i>0.544</i>	0.009 (0.055) <i>0.869</i>	0.005 (0.055) <i>0.930</i>	-0.017 (0.047) <i>0.711</i>	-0.035 (0.048) <i>0.465</i>	-0.043 (0.049) <i>0.378</i>
Inform $\times$ Worry	0.081 (0.078) <i>0.296</i>	0.169** (0.079) <i>0.033</i>	0.167** (0.079) <i>0.034</i>	0.100 (0.070) <i>0.150</i>	0.156** (0.071) <i>0.029</i>	0.153** (0.071) <i>0.031</i>
Observations	730	730	730	730	730	730
Strata FE	X	X	X	X	X	X
Controls (LASSO)		X	X		X	X
Controls (Worry predictors)			X			X

Notes: This table presents estimated treatment effects and treatment effect heterogeneity of the *Inform* intervention on take-up (sign-up and attendance rates). Panel A and B report coefficients from regressing take-up on an indicator for assignment to the *Inform* treatment arm, separately for Worried and Not-worried elders, respectively. Panel C reports coefficients from regressing take-up on an indicator for assignment to the *Inform* treatment arm, an indicator for whether the elder is worried about being a burden, and the interaction between the two. Worry is an indicator for whether the elder reported ever forgoing healthcare or avoiding the hospital out of worry of being a burden to family members. One observation has missing value for worry about burden, because the respondent refused to respond to the question. Columns (1) - (3) show the effects on a sign-up indicator, which is equal to 1 when the household called to make an appointment at the check-up. Columns (4) - (6) show the effects on an attendance indicator, which is equal to 1 when the elder shows up for the health check-up after their household called to make an appointment. All regressions include strata fixed effects. Columns (2) and (5) add baseline controls selected via post-double-selection LASSO. Columns (3) and (6) further add controls for characteristics that are imbalanced by worry about burden (indicators for above-median functional impairment, whether the caregiver is a daughter, large household, and whether elder is co-residing with the caregiver). Standard errors are reported in parentheses. P-values are reported in italics. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4: Effect of Transport Intervention on Elder Willingness to Inform Caregiver By Worry about Burden

	Elder willing to inform		
	(1)	(2)	(3)
<u>Panel A: Transport effect, Not worried</u>			
Transport	0.010 (0.043) <i>0.816</i>	-0.002 (0.048) <i>0.968</i>	-0.011 (0.048) <i>0.814</i>
<u>Panel B: Transport effect, Worried</u>			
Transport	0.122* (0.071) <i>0.086</i>	0.136* (0.071) <i>0.058</i>	0.150** (0.071) <i>0.036</i>
<u>Panel C: Transport $\times$ Worry</u>			
Transport	0.010 (0.043) <i>0.816</i>	-0.002 (0.048) <i>0.968</i>	-0.011 (0.048) <i>0.814</i>
Worry about burden	-0.059 (0.069) <i>0.390</i>	-0.114* (0.069) <i>0.100</i>	-0.142** (0.070) <i>0.042</i>
Transport $\times$ Worry	0.111 (0.084) <i>0.187</i>	0.138 (0.088) <i>0.121</i>	0.161* (0.088) <i>0.069</i>
Control mean (Worried)	0.787	0.787	0.787
Control mean (Not worried)	0.852	0.852	0.852
Observations	364	364	364
Strata FE	X	X	X
LASSO controls		X	X
Worry predictors			X

Notes: This table presents the estimated treatment effect of the *Transport* intervention on the elder's willingness to inform their caregiver about the check-up. Panel A and B report coefficients from regressing willingness to inform on an indicator for assignment to the *Transport* treatment arm, separately for Worried and Not-worried elders, respectively. Panel C reports coefficients from regressing willingness to inform on an indicator for assignment to the *Transport* arm, an indicator for whether the elder is worried about burden, and the interaction of the two. The sample is restricted to households in the *Control* arm, in which only the elder was informed about the check-up (N=364). The dependent variable is an indicator for the elder agreeing to let the study team inform the caregiver about the check-up, elicited at the end of the elder survey. A household is classified as "Worried" when the elder reported ever refusing treatment or going to the hospital to not burden their household or family in the baseline. All columns include strata fixed effects. Column (2) adds baseline controls selected via post-double-selection LASSO. Column (3) further adds controls for characteristics imbalanced by worry about

Table 5: Effects of Invitation Timing and Choice Condition on Caregiver Behavior

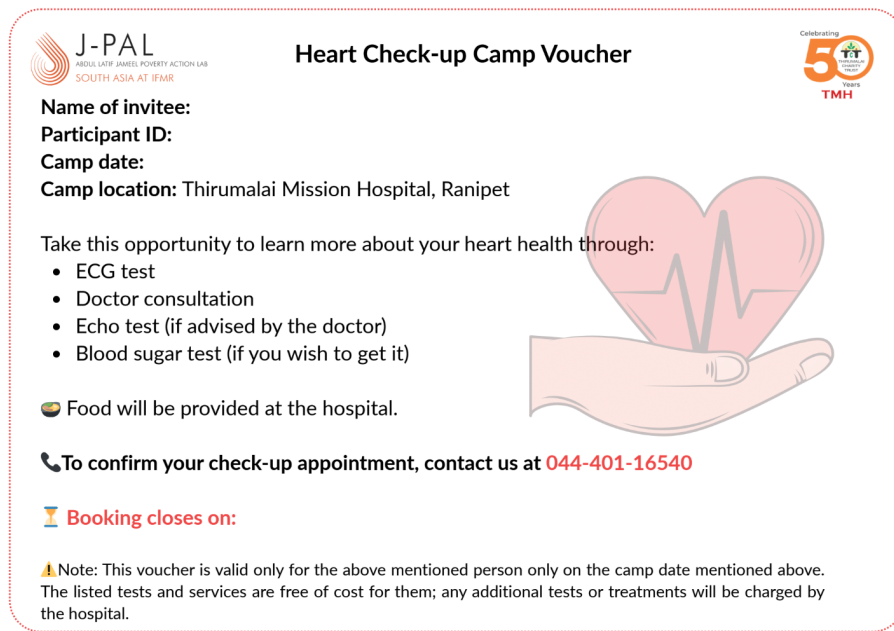
Panel A: Test for crowd-out						
	Social group sign-up		Interested in checkup 1y		Likely help in emerg	
	(1)	(2)	(3)	(4)	(5)	(6)
Invited to Checkup Prior	-0.042 (0.048) <i>0.380</i>	-0.038 (0.049) <i>0.442</i>	0.039 (0.030) <i>0.186</i>	0.005 (0.030) <i>0.880</i>	0.043 (0.042) <i>0.308</i>	0.062 (0.042) <i>0.142</i>
Control Mean	0.500	0.500	0.871	0.871	0.634	0.634
Observations	444	444	444	444	444	444
Strata FEs	X	X	X	X	X	X
Controls (LASSO)		X		X		X
Panel B: Test for pressure-based help						
	Chose elder-preferred option					
			(7)	(8)		
Private			0.024 (0.060) <i>0.683</i>	0.064 (0.067) <i>0.344</i>		
Delay			-0.030 (0.061) <i>0.623</i>	0.029 (0.071) <i>0.677</i>		
Control Mean			0.211	0.211		
Observations			278	278		
Strata FEs			X	X		
Controls (LASSO)				X		

Notes: This table presents the results of the caregiver experiment. Panel A reports the coefficients from a regression of caregiver willingness to be involved in non-check-up tasks on an indicator for whether they were assigned to the treatment arm in which they were already invited to sign the elder up for a check-up before (the *Prior help* arm). Panel A uses the full sample of caregivers in the caregiver survey experiment (N=444). *Prior help* is an indicator for the caregiver being randomly assigned to receive the elder check-up invitation before (rather than after) the outcome questions. Dependent variables: an indicator for signing the elder up for the social group activity (Columns 1-2); an indicator for expressing interest in a general check-up for the elder in one year (Columns 3-4); and an indicator for reporting they would probably or always help the elder in a medical emergency, from a five-point scale (Columns 5-6). Control mean is the mean of the dependent variable among caregivers in the *No prior help* arm. Panel B reports the coefficients from a regression of caregiver choosing the elder-preferred transportation support on indicators for which observability treatment arm they were assigned to. Panel B uses the subsample of caregivers who signed up for the check-up earlier in the survey (N=278). *Private* and *Private + Out* are indicators for the corresponding cross-randomized treatment arms. The omitted treatment group is the *Public* arm. The dependent variable is an indicator for whether the caregiver chose the option the elder prefers. All regressions include strata fixed effects. Even columns (2, 4, 6, and 8) include Lasso-selected controls. Standard errors in parentheses, and p-values are reported in italics below. * p<0.1, ** p<0.05, *** p<0.01.

A Additional Tables and Figures

A.1 Study materials

Figure A.1: Check-up voucher



The voucher is a rectangular card with a red dotted border. It features the J-PAL logo (ABDUL LATIF JAMHEEL POVERTY ACTION LAB, SOUTH ASIA AT IFMR) in the top left, the title 'Heart Check-up Camp Voucher' in the top center, and a 'Celebrating 50 Years TMH' logo in the top right. The main body contains fields for 'Name of invitee:', 'Participant ID:', 'Camp date:', and 'Camp location: Thirumalai Mission Hospital, Ranipet'. Below these, it lists services: 'ECG test', 'Doctor consultation', 'Echo test (if advised by the doctor)', and 'Blood sugar test (if you wish to get it)'. An illustration of a hand holding a heart with an ECG line is on the right. Further down, it states 'Food will be provided at the hospital.' and provides a contact number '044-401-16540'. A 'Booking closes on:' field is also present. A note at the bottom states: 'Note: This voucher is valid only for the above mentioned person only on the camp date mentioned above. The listed tests and services are free of cost for them; any additional tests or treatments will be charged by the hospital.'

J-PAL
ABDUL LATIF JAMHEEL POVERTY ACTION LAB
SOUTH ASIA AT IFMR

Heart Check-up Camp Voucher

Name of invitee:
Participant ID:
Camp date:
Camp location: Thirumalai Mission Hospital, Ranipet

Take this opportunity to learn more about your heart health through:

- ECG test
- Doctor consultation
- Echo test (if advised by the doctor)
- Blood sugar test (if you wish to get it)

🍽️ Food will be provided at the hospital.

☎️ To confirm your check-up appointment, contact us at **044-401-16540**

📅 **Booking closes on:**

⚠️ **Note:** This voucher is valid only for the above mentioned person only on the camp date mentioned above. The listed tests and services are free of cost for them; any additional tests or treatments will be charged by the hospital.

Notes: This image shows the English version of the printed voucher that was given to elders when they were invited to the check-up as part of the household experiment. The vouchers used during the study were translated into Tamil.

A.2 Panel data

Table A.1: Health behaviors, attitudes, and outcomes by gender

	All		Men	Women	Women - Men	
	Mean	SD	Mean	Mean	Diff	P-val
Checkup in last year	0.78	0.41	0.78	0.79	0.01	0.58
Monthly med expenses (1000 INR)	3.29	46.10	6.13	1.56	-4.57	0.03**
Has hypertension	0.62	0.49	0.61	0.62	0.02	0.36
Has undiagnosed hypertension	0.74	0.44	0.71	0.76	0.05	0.04**
Has diabetes	0.20	0.40	0.21	0.20	-0.02	0.21
Has undiagnosed diabetes	0.61	0.49	0.57	0.64	0.07	0.11
Difficulty walking long distance (1km)	0.65	0.48	0.55	0.70	0.15	0.00***
Difficulty leaving home	0.43	0.49	0.33	0.49	0.16	0.00***
Difficulty getting to places outside home	0.53	0.50	0.40	0.61	0.22	0.00***
Difficulty learning new task	0.46	0.50	0.34	0.53	0.18	0.00***
Food and supplies provided by family	0.46	0.50	0.42	0.48	0.06	0.00***
Med expenses payer: Family	0.51	0.50	0.45	0.55	0.10	0.00***
Difficult to get tested for NCDs	0.17	0.38	0.12	0.22	0.10	0.00***
Reason: Need help from family	0.40	0.49	0.17	0.51	0.34	0.00***
Reason: Do not have money	0.64	0.48	0.70	0.61	-0.09	0.30
Worry I am a burden to my family	0.26	0.44	0.16	0.37	0.20	0.00***
Do not tell family about pain or sickness	0.29	0.46	0.25	0.35	0.10	0.00***
Refuse treatment or avoid hospital to not be burden	0.28	0.45	0.18	0.39	0.21	0.00***

Notes: This table reports means and standard deviations for respondents by gender, with data from the Tamil Nadu Elderly Panel Survey (N=3,721). We report the difference (Women - Men), with p-values from two-sided t-tests. Undiagnosed hypertension and diabetes are shares among respondents with the condition, and the reasons for difficulty getting tested are asked only of those who report having difficulty. Most variables come from the baseline wave in 2019, except the last six rows (difficulty getting tested and burden measures) which come from a randomly selected subsample of N=921 respondents who completed an additional module on health attitudes and caregiver relationships during the third wave of the survey in 2024. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.3 Balance

Table A.2: Characteristics by Treatment Assignment in Household Experiment

Variable	Control		Inform		Transport		Inform + Tran		Inform=Tran	Inform=Both	Tran=Both	N
	Mean (1)	SD (2)	Mean+ β (3)	<i>p</i> (4)	Mean+ β (5)	<i>p</i> (6)	Mean+ β (7)	<i>p</i> (8)				
<i>Elder Characteristics</i>												
Age over 65	0.58	(0.50)	0.68	<i>0.03**</i>	0.56	<i>0.75</i>	0.56	<i>0.69</i>	<i>0.02**</i>	<i>0.02**</i>	<i>0.93</i>	731
Widowed	0.49	(0.50)	0.51	<i>0.71</i>	0.57	<i>0.12</i>	0.55	<i>0.22</i>	<i>0.25</i>	<i>0.41</i>	<i>0.72</i>	731
Elder living alone	0.11	(0.31)	0.11	<i>0.94</i>	0.09	<i>0.6</i>	0.12	<i>0.66</i>	<i>0.54</i>	<i>0.71</i>	<i>0.36</i>	731
Household size	3.37	(1.20)	3.25	<i>0.3</i>	3.23	<i>0.23</i>	3.27	<i>0.41</i>	<i>0.84</i>	<i>0.85</i>	<i>0.7</i>	731
Number of children	2.63	(1.22)	2.56	<i>0.57</i>	2.64	<i>0.97</i>	2.55	<i>0.59</i>	<i>0.53</i>	<i>0.94</i>	<i>0.53</i>	731
Lives with caregiver	0.83	(0.38)	0.81	<i>0.57</i>	0.83	<i>0.97</i>	0.83	<i>0.95</i>	<i>0.61</i>	<i>0.55</i>	<i>0.92</i>	731
Checkup last 1y	0.80	(0.40)	0.81	<i>0.81</i>	0.80	<i>0.94</i>	0.88	<i>0.05*</i>	<i>0.89</i>	<i>0.09*</i>	<i>0.08*</i>	659
Heart checkup ever	0.43	(0.50)	0.46	<i>0.51</i>	0.37	<i>0.27</i>	0.44	<i>0.84</i>	<i>0.08*</i>	<i>0.67</i>	<i>0.18</i>	659
Heart checkup last 1y	0.19	(0.40)	0.19	<i>0.86</i>	0.12	<i>0.08*</i>	0.15	<i>0.25</i>	<i>0.12</i>	<i>0.34</i>	<i>0.5</i>	659
High cardiac risk (ECG)	0.56	(0.50)	0.48	<i>0.32</i>	0.50	<i>0.41</i>	0.51	<i>0.43</i>	<i>0.85</i>	<i>0.7</i>	<i>0.87</i>	357
Difficulty leaving home	0.58	(0.49)	0.60	<i>0.67</i>	0.58	<i>0.93</i>	0.55	<i>0.5</i>	<i>0.74</i>	<i>0.28</i>	<i>0.44</i>	730
Difficulty walking long dist	0.78	(0.42)	0.81	<i>0.41</i>	0.79	<i>0.85</i>	0.74	<i>0.3</i>	<i>0.54</i>	<i>0.08*</i>	<i>0.23</i>	731
Difficulty new task	0.64	(0.48)	0.72	<i>0.09*</i>	0.64	<i>0.94</i>	0.61	<i>0.56</i>	<i>0.05*</i>	<i>0.02**</i>	<i>0.58</i>	727
Often worry burden	0.27	(0.44)	0.22	<i>0.33</i>	0.24	<i>0.45</i>	0.27	<i>0.99</i>	<i>0.8</i>	<i>0.31</i>	<i>0.47</i>	730
Often forgo treatment	0.18	(0.39)	0.21	<i>0.54</i>	0.14	<i>0.33</i>	0.17	<i>0.77</i>	<i>0.11</i>	<i>0.34</i>	<i>0.48</i>	730
Uncomf asking for cash	0.67	(0.47)	0.65	<i>0.64</i>	0.68	<i>0.96</i>	0.67	<i>0.99</i>	<i>0.64</i>	<i>0.67</i>	<i>0.96</i>	626
Uncomf asking for transport	0.62	(0.49)	0.60	<i>0.73</i>	0.64	<i>0.6</i>	0.67	<i>0.32</i>	<i>0.45</i>	<i>0.24</i>	<i>0.61</i>	626
Chose checkup over cash	0.65	(0.48)	0.59	<i>0.23</i>	0.59	<i>0.23</i>	0.60	<i>0.3</i>	<i>1</i>	<i>0.85</i>	<i>0.83</i>	659
Interest in check-up	0.91	(0.28)	0.92	<i>0.78</i>	0.94	<i>0.44</i>	0.96	<i>0.09*</i>	<i>0.57</i>	<i>0.12</i>	<i>0.36</i>	729
<i>Caregiver Characteristics</i>												
Is Husband	0.21	(0.41)	0.23	<i>0.81</i>	0.20	<i>0.79</i>	0.22	<i>0.9</i>	<i>0.6</i>	<i>0.91</i>	<i>0.67</i>	731
Is Son	0.45	(0.50)	0.41	<i>0.5</i>	0.44	<i>0.98</i>	0.40	<i>0.42</i>	<i>0.53</i>	<i>0.9</i>	<i>0.43</i>	731
Is Daughter	0.16	(0.37)	0.16	<i>0.92</i>	0.14	<i>0.65</i>	0.14	<i>0.66</i>	<i>0.73</i>	<i>0.74</i>	<i>0.99</i>	731
Is Son-in-law	0.02	(0.15)	0.02	<i>0.89</i>	0.01	<i>0.44</i>	0.01	<i>0.2</i>	<i>0.36</i>	<i>0.15</i>	<i>0.56</i>	731
Is Daughter-in-law	0.09	(0.28)	0.06	<i>0.28</i>	0.10	<i>0.73</i>	0.10	<i>0.58</i>	<i>0.18</i>	<i>0.15</i>	<i>0.83</i>	731
Is Grandchild	0.03	(0.16)	0.06	<i>0.06*</i>	0.06	<i>0.12</i>	0.04	<i>0.48</i>	<i>0.91</i>	<i>0.3</i>	<i>0.35</i>	731
Average age (years)	47.66	(14.08)	48.98	<i>0.42</i>	46.90	<i>0.61</i>	47.70	<i>0.98</i>	<i>0.2</i>	<i>0.46</i>	<i>0.59</i>	731
Married	0.87	(0.34)	0.86	<i>0.76</i>	0.84	<i>0.36</i>	0.89	<i>0.42</i>	<i>0.58</i>	<i>0.29</i>	<i>0.08*</i>	731
Household size	4.27	(1.71)	4.52	<i>0.24</i>	4.25	<i>0.92</i>	4.57	<i>0.15</i>	<i>0.15</i>	<i>0.8</i>	<i>0.08*</i>	731
Monthly Income Per Capita (1000 Rs)	2.92	(2.44)	2.83	<i>0.84</i>	2.77	<i>0.64</i>	3.30	<i>0.48</i>	<i>0.91</i>	<i>0.45</i>	<i>0.26</i>	469
Social Desirability Score (Pct)	0.27	(0.15)	0.26	<i>0.44</i>	0.27	<i>0.93</i>	0.26	<i>0.62</i>	<i>0.35</i>	<i>0.79</i>	<i>0.56</i>	720
Invited CG First	0.64	(0.48)	0.58	<i>0.17</i>	0.57	<i>0.13</i>	0.60	<i>0.36</i>	<i>0.87</i>	<i>0.73</i>	<i>0.55</i>	731
F-stat p.			<i>0.23</i>		<i>0.7</i>		<i>0.09*</i>					
Observations	182		175		183		191					731

Notes: This table shows randomization balance for baseline observable variables by each of the four treatment groups. In each row, the columns (1) and (2) report the mean and standard deviation in the *Control* group (only elder informed, no transport). For each treatment arm (*Inform*, *Transport*, and *Inform + Transport*), the table reports the control mean plus the arm coefficient β from a regression of the row variable on indicators for the three arms with strata fixed effects, along with the p-value on β (in italics). Columns (9)-(11) report p-values from Wald tests of pairwise equality of the three arm coefficients. Standard errors are clustered at the transport-randomization cluster level. The N column reports the number of observations with non-missing values of the row variable. Elder variables come from the elder listing survey, and caregiver variables come from the caregiver baseline survey. The F-stat row reports the p-value from a joint F-test of all baseline characteristics in a regression of the arm indicator on all listed variables (omitting categories that would be collinear). *** p<0.01, ** p<0.05, * p<0.1.

Table A.3: Characteristics by Treatment Assignment in Caregiver Experiment

Variable	Checkup Order				Transport Choice				
	No prior help (1)	Prior help (2)	<i>p</i> (3)	N (4)	Public (5)	Private (6)	Delay (7)	<i>p</i> (8)	N (9)
<i>Elder Characteristics</i>									
Age over 65	0.65	0.63	<i>0.65</i>	444	0.62	0.61	0.67	<i>0.56</i>	278
Widowed	0.52	0.46	<i>0.23</i>	444	0.53	0.43	0.42	<i>0.30</i>	278
Elder living alone	0.17	0.17	<i>0.88</i>	444	0.22	0.15	0.17	<i>0.39</i>	278
Household size	3.12	3.14	<i>0.86</i>	444	2.87	3.11	3.14	<i>0.23</i>	278
Number of children	2.92	2.84	<i>0.57</i>	444	3.06	2.86	2.65	<i>0.23</i>	278
Checkup last 1y	0.85	0.88	<i>0.30</i>	444	0.90	0.88	0.87	<i>0.85</i>	278
Heart checkup ever	0.41	0.39	<i>0.68</i>	444	0.39	0.38	0.40	<i>0.96</i>	278
Heart checkup last 1y	0.18	0.15	<i>0.36</i>	444	0.18	0.17	0.09	<i>0.23</i>	278
Often worry burden	0.32	0.31	<i>0.97</i>	444	0.37	0.38	0.29	<i>0.36</i>	278
Often forgo treatment	0.25	0.22	<i>0.48</i>	444	0.21	0.30	0.27	<i>0.42</i>	278
Chose checkup over cash	0.62	0.66	<i>0.56</i>	198	0.79	0.64	0.68	<i>0.36</i>	115
<i>Caregiver Characteristics</i>									
Is Husband	0.25	0.25	<i>0.98</i>	444	0.26	0.22	0.25	<i>0.84</i>	278
Is Son	0.39	0.36	<i>0.60</i>	444	0.37	0.37	0.29	<i>0.44</i>	278
Is Daughter	0.12	0.13	<i>0.61</i>	444	0.11	0.12	0.17	<i>0.50</i>	278
Is Son-in-law	0.00	0.00	<i>0.33</i>	444	0.00	0.00	0.01	<i>0.44</i>	278
Is Daughter-in-law	0.10	0.07	<i>0.24</i>	444	0.07	0.09	0.11	<i>0.53</i>	278
Is Grandchild	0.06	0.07	<i>0.54</i>	444	0.04	0.07	0.07	<i>0.66</i>	278
Is Other	0.08	0.09	<i>0.80</i>	444	0.13	0.10	0.07	<i>0.36</i>	278
Average age (years)	49.33	48.71	<i>0.69</i>	444	49.92	49.15	49.18	<i>0.93</i>	278
Married	0.81	0.86	<i>0.12</i>	444	0.83	0.81	0.87	<i>0.55</i>	278
Household size	4.15	4.20	<i>0.79</i>	444	3.98	4.00	4.32	<i>0.44</i>	278
Working	0.60	0.54	<i>0.22</i>	444	0.62	0.52	0.56	<i>0.42</i>	278
Monthly Income Per Capita (1000 Rs)	3.16	3.02	<i>0.74</i>	177	2.61	3.15	3.74	<i>0.41</i>	114
Social Desirability Score (Pct)	-0.26	-0.75	<i>0.55</i>	444	-1.00	-0.95	0.25	<i>0.59</i>	278
High NCD knowledge	0.82	0.92	<i>0.00***</i>	444	0.87	0.86	0.87	<i>0.99</i>	278
F-stat p.			<i>0.89</i>					<i>0.71</i>	
Observations	224	220		444	89	94	95		278

Notes: This table shows randomization balance for baseline observable variables across the two cross-randomized experiments. Columns (1)–(4) report balance for the checkup order experiment (*No prior help* vs. *Prior help*). Columns (1) and (2) report the mean of the row variable in each arm, pooling across transport choice assignment. Column (3) reports the p-value on the arm coefficient β from a regression of the row variable on the order indicator with transport choice arm fixed effects (in italics). Column (4) reports the number of observations with non-missing values of the row variable. Columns (5)–(9) report balance for the transport choice experiment (*Public*, *Private*, *Private + Out*), restricted to caregivers who chose a checkup for their elder. Columns (5)–(7) report the mean of the row variable in each arm, pooling across checkup order assignment. Column (8) reports the p-value from a joint F-test of the two arm coefficients from a regression of the row variable on transport choice indicators with checkup order fixed effects (in italics). Column (9) reports the number of observations with non-missing values of the row variable in this subsample. The F-stat row reports the p-value from a joint F-test of all baseline characteristics in a regression of the arm indicator on all listed variables (omitting categories that would be collinear). When a variable is missing more than 10% of its observations, we impute the average value for the missing observations and include a dummy for whether the variable is missing a value in the joint F-test regression. Elder variables come from the elder listing survey, and caregiver variables come from the caregiver baseline survey. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

A.4 Effects on Take-up: Tables

Table A.4: Effect of Transport on Take-up by Worry about Burden

	Signed up			Attended		
	(1)	(2)	(3)	(4)	(5)	(6)
<u>Panel A: Transport effect for Worry</u>						
Transport	0.195*** (0.070) <i>0.005</i>	0.210*** (0.070) <i>0.003</i>	0.205* (0.106) <i>0.054</i>	0.163** (0.065) <i>0.013</i>	0.153** (0.065) <i>0.019</i>	0.152 (0.095) <i>0.112</i>
Control mean	0.252	0.252	0.252	0.137	0.137	0.137
<u>Panel B: Transport effect for Not Worry</u>						
Transport	0.081** (0.040) <i>0.045</i>	0.081* (0.042) <i>0.051</i>	0.092 (0.096) <i>0.334</i>	0.067* (0.034) <i>0.053</i>	0.064* (0.037) <i>0.084</i>	0.088 (0.079) <i>0.265</i>
Control mean	0.227	0.227	0.227	0.144	0.144	0.144
<u>Panel C: Transport $\times$ Worry</u>						
Transport	0.081** (0.040) <i>0.044</i>	0.081* (0.042) <i>0.051</i>	0.092 (0.096) <i>0.334</i>	0.067* (0.034) <i>0.052</i>	0.064* (0.037) <i>0.084</i>	0.088 (0.079) <i>0.265</i>
Worry	0.025 (0.054) <i>0.639</i>	0.026 (0.059) <i>0.664</i>	0.029 (0.058) <i>0.624</i>	-0.007 (0.047) <i>0.877</i>	-0.010 (0.049) <i>0.847</i>	0.003 (0.050) <i>0.947</i>
Transport $\times$ Worry	0.114 (0.079) <i>0.147</i>	0.129 (0.080) <i>0.109</i>	0.112 (0.080) <i>0.162</i>	0.095 (0.071) <i>0.182</i>	0.089 (0.072) <i>0.219</i>	0.063 (0.073) <i>0.384</i>
Observations	730	730	730	730	730	730
Strata FE	X	X	X	X	X	X
Controls (LASSO)		X	X		X	X
Controls (Worry predictors)			X			X

Notes: This table presents estimated treatment effects and treatment effect heterogeneity of the transport intervention on take-up (sign-up and attendance rates). Each panel reports coefficients from regressing take-up on an indicator for assignment to the *Transport* arm, an indicator for whether the elder is worried about being a burden, and the interaction between the two. Worry is an indicator for whether the elder reported ever forgoing healthcare or avoiding the hospital out of worry of being a burden to family members. Columns (1) - (3) show the effects on a sign-up indicator, which is equal to 1 when the household called to make an appointment at the check-up. Columns (4) - (6) show the effects on an attendance indicator, which is equal to 1 when the elder shows up for the health check-up after their household called to make an appointment. All regressions include strata fixed effects. Columns (2) and (5) add baseline controls selected via post-double-selection LASSO. Columns (3) and (6) add controls for characteristics that are imbalanced by worry about burden (indicators for above-median functional impairment, whether the caregiver is a daughter, large household, and whether elder is co-residing with the caregiver). Standard errors are reported in parentheses, clustered at the transport-randomization cluster level. P-values are reported in italics below. The control mean is the mean of the dependent variable among untreated households with not-worried elders. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

A.5 Robustness

Table A.5: Effect of Inform on Take-up by Worry - Robustness

	(1)	(2)	(3)	(4)	(5)	(6)
<u>Panel A: Sign-up</u>						
Inform	0.045 (0.037) <i>0.228</i>	0.033 (0.038) <i>0.388</i>	0.035 (0.038) <i>0.365</i>	-0.011 (0.096) <i>0.909</i>	-0.091 (0.105) <i>0.387</i>	0.014 (0.039) <i>0.716</i>
Worry	0.032 (0.053) <i>0.544</i>	0.009 (0.055) <i>0.869</i>	0.005 (0.055) <i>0.930</i>	0.003 (0.056) <i>0.956</i>	0.012 (0.055) <i>0.832</i>	-0.014 (0.059) <i>0.811</i>
Inform $\times$ Worry	0.081 (0.078) <i>0.296</i>	0.169** (0.079) <i>0.033</i>	0.167** (0.079) <i>0.034</i>	0.166** (0.079) <i>0.036</i>	0.161** (0.079) <i>0.041</i>	0.197** (0.083) <i>0.018</i>
Control mean	0.256	0.256	0.256	0.256	0.256	0.249
<u>Panel B: Attendance</u>						
Inform	0.018 (0.032) <i>0.577</i>	0.013 (0.033) <i>0.696</i>	0.015 (0.033) <i>0.650</i>	0.052 (0.080) <i>0.522</i>	-0.044 (0.092) <i>0.636</i>	0.005 (0.035) <i>0.893</i>
Worry	-0.017 (0.047) <i>0.711</i>	-0.035 (0.048) <i>0.465</i>	-0.043 (0.049) <i>0.378</i>	-0.039 (0.049) <i>0.429</i>	-0.033 (0.048) <i>0.498</i>	-0.039 (0.051) <i>0.445</i>
Inform $\times$ Worry	0.100 (0.070) <i>0.150</i>	0.156** (0.071) <i>0.029</i>	0.153** (0.071) <i>0.031</i>	0.144** (0.071) <i>0.042</i>	0.150** (0.071) <i>0.036</i>	0.161** (0.074) <i>0.030</i>
Control mean	0.179	0.179	0.179	0.179	0.179	0.178
Observations	730	730	730	730	730	648
Strata FE (village)	X	X	X	X	X	X
Controls (LASSO)		X	X	X	X	X
Controls (Worry predictors)			X	X		
Controls (Worry predictors $\times$ Inform)				X		
Controls (Caregiver altruism)					X	

Notes: This table presents estimated treatment effects and treatment effect heterogeneity of the *Inform* intervention on attendance rates, with different sets of control variables included. All specifications include randomization strata fixed effects and an indicator for whether the household was assigned to the *Transport* treatment. Column (1) specification only includes strata controls. Column (2) specification includes Lasso-selected controls. Column (3) specification includes Lasso-selected controls and variables that are imbalanced by elder worry about burden (indicators for whether the elder is above median mobility-impaired, whether the elder has daughter as caregiver, whether elder has above-median household size, whether elder co-resides with caregiver). Column (4) includes Lasso-selected controls, imbalanced variables, and imbalanced variables each interacted with the treatment indicator for *Inform*. Column (5) includes Lasso-selected controls, imbalanced variables, and controls for caregiver altruism (i.e. an indicator for whether the caregiver was asked to respond to the Zarit Burden Index (ZBI) subscale comprised of 5 questions about the degree to which the respondent feels burdened by their caregiving duties; the ZBI score when present; a variable interacting the two; an indicator for whether the caregiver was offered a choice between a check-up for the elder and a cash transfer; an indicator for whether the caregiver chose the check-up over the cash transfer; and a variable interacting the two).

Table A.6: Effect of Inform on Take-up by Worry - Controlling for differences

	(1)	(2)	(3)	(4)	(5)
<u>Panel A: Sign-up</u>					
Inform	0.033 (0.038) <i>0.388</i>	-0.011 (0.095) <i>0.909</i>	0.021 (0.041) <i>0.613</i>	0.064 (0.065) <i>0.326</i>	-0.015 (0.061) <i>0.803</i>
Worry	0.009 (0.055) <i>0.869</i>	0.003 (0.056) <i>0.956</i>	0.005 (0.055) <i>0.921</i>	0.016 (0.068) <i>0.820</i>	0.010 (0.071) <i>0.885</i>
Inform $\times$ Worry	0.169** (0.079) <i>0.033</i>	0.166** (0.079) <i>0.036</i>	0.181** (0.078) <i>0.020</i>	0.115 (0.101) <i>0.258</i>	0.224** (0.096) <i>0.020</i>
Control mean	0.256	0.256	0.264	0.273	0.299
<u>Panel B: Attendance</u>					
Inform	0.013 (0.033) <i>0.696</i>	0.052 (0.080) <i>0.522</i>	0.018 (0.036) <i>0.622</i>	0.042 (0.057) <i>0.460</i>	-0.002 (0.054) <i>0.973</i>
Worry	-0.035 (0.048) <i>0.465</i>	-0.039 (0.049) <i>0.429</i>	-0.034 (0.048) <i>0.478</i>	-0.023 (0.059) <i>0.700</i>	-0.036 (0.064) <i>0.572</i>
Inform $\times$ Worry	0.156** (0.071) <i>0.029</i>	0.144** (0.071) <i>0.042</i>	0.156** (0.072) <i>0.032</i>	0.115 (0.092) <i>0.209</i>	0.182** (0.089) <i>0.041</i>
Control mean	0.179	0.179	0.181	0.170	0.223
Observations	729	729	729	427	429
Strata FE (village)	X	X	X	X	X
Controls (LASSO)	X	X	X	X	X
Sample	Full	Controls	Rewighted	Matched	Matched
Variables adjusted on		Imbal. * Inform	Imbal. (IPW)	Imbal. (PS)	Demog. (PS)

Notes: The table reports the heterogeneity of the effect of the *Inform* treatment (both elder and caregiver informed of the check-up) by whether the elder is worried about burdening the caregiver (“Worry”) for outcomes of sign-up (Panel A) and attendance (Panel B). All columns are estimated by OLS with panchayat strata fixed effects, PDS-LASSO-selected controls, and a control for the free-transport treatment. The table reports the *Inform* effect for not-worried elders, the Worry main effect, and the *Inform* $\times$ Worry interaction. Standard errors are clustered by elder, shown in parentheses; *p*-values are in italics. Column (1) is the baseline specification on the full sample. Column (2) adds as controls the four imbalanced covariates (low mobility, caregiver is a daughter, large household, elder lives with caregiver) and each of them interacted with *Inform*. Column (3) re-weights not-worried elders by inverse-propensity weights, $\hat{p}/(1 - \hat{p})$, from a logit of Worry on the four imbalanced covariates (weights trimmed at the 99th percentile); no observations are dropped. Column (4) matches on the propensity score estimated from the same four covariates (nearest neighbor). Column (5) uses the same matching procedure but with a propensity score estimated on a broader set of demographics: elder age over 65, widowed, household size, number of children, lives with caregiver, low mobility, above-median income, and caregiver is daughter/husband/son, caregiver age, married, household size, working. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.7: Elder reason for not wanting to inform caregiver

Reason	All elders (N=51)	Not worried (N=38)	Not worried (N=13)
I want to ask them myself	0.31	0.29	0.38
I don't want you to trouble them	0.31	0.32	0.31
I don't want to go to check-up	0.24	0.24	0.23
I don't want them to know about check-up	0.02	0	0.08
I think they will say no	0	0	0
Refused	0.04	0.05	0
Do not know	0	0	0
Other	0.08	0.11	0

Other reasons include: No phone (N=4), Caregiver in room (N=1), and unclear Tanglish (N=1).

A.6 Robustness: Effects on Take-up - Only Caregiver Calls

Table A.8: Effect of Interventions on Take-up (Restricting to Caregiver Sign-ups Only)

	Signed up		Attended	
	No controls (1)	Controls (2)	No controls (3)	Controls (4)
<u>Panel A: Inform both</u>				
Inform	0.071** (0.030) <i>0.020</i>	0.075** (0.031) <i>0.017</i>	0.059** (0.027) <i>0.027</i>	0.063** (0.027) <i>0.022</i>
Control mean	0.186	0.186	0.123	0.123
<u>Panel B: Free transport</u>				
Transport	0.054* (0.030) <i>0.072</i>	0.056* (0.033) <i>0.090</i>	0.042 (0.027) <i>0.113</i>	0.037 (0.029) <i>0.206</i>
Control mean	0.185	0.185	0.123	0.123
<u>Panel C: Interacted</u>				
Inform	0.085** (0.040) <i>0.033</i>	0.090** (0.042) <i>0.033</i>	0.061* (0.033) <i>0.065</i>	0.063* (0.034) <i>0.067</i>
Transport	0.068 (0.042) <i>0.108</i>	0.071 (0.044) <i>0.106</i>	0.044 (0.037) <i>0.233</i>	0.037 (0.039) <i>0.350</i>
Inform × Transport	-0.030 (0.064) <i>0.643</i>	-0.030 (0.066) <i>0.650</i>	-0.005 (0.054) <i>0.919</i>	0.000 (0.057) <i>0.998</i>
Control mean	0.148	0.148	0.099	0.099
<i>p: Inform = Transport</i>	<i>0.712</i>	<i>0.692</i>	<i>0.664</i>	<i>0.515</i>
<i>p: Inform+Tran = Inform</i>	<i>0.403</i>	<i>0.411</i>	<i>0.328</i>	<i>0.383</i>
<i>p: Inform+Tran = Transport</i>	<i>0.262</i>	<i>0.229</i>	<i>0.194</i>	<i>0.151</i>
Observations	731	731	731	731
Strata FE	X	X	X	X
Controls (LASSO)		X		X

Notes: This table presents estimated treatment effects of the two interventions (*Inform* and *Transport*) on take-up (sign-up and attendance rates), where the outcomes are only equal to one when the caregiver is the one who made the phone call. Panel A reports coefficients from regressing take-up on an indicator for assignment to the *Inform* treatment. Panel B reports coefficients from regressing take-up on an indicator for the *Transport* treatment. Panel C reports coefficients from a regression of take-up on both treatment indicators and their interaction. Columns (1) and (2) show the effects on a sign-up indicator, which is equal to 1 when the household called to make an appointment at the check-up. Columns (3) and (4) show the effects on an attendance indicator, which is equal to 1 when the elder shows up for the health check-up after their household called to make an appointment. All regressions include strata fixed effects. Columns (2) and (4) add baseline controls selected via post-double-selection LASSO and, in Panels A and B, an indicator for assignment to the other (cross-randomized) treatment. Standard errors are reported in parentheses, clustered at the transport-randomization cluster level in Panels B and C. P-values are reported in italics below. The bottom rows report p-values from Wald tests based on the interacted specification in Panel C. *** p<0.01, ** p<0.05, * p<0.1.

Table A.9: Effect of Information Intervention on Take-up by Worry about Burden (Restricting to Caregiver Sign-ups Only)

	Signed up			Attended		
	(1)	(2)	(3)	(4)	(5)	(6)
<u>Panel A: Inform effect for Worry</u>						
Inform	0.108* (0.063) <i>0.086</i>	0.155** (0.064) <i>0.016</i>	0.155** (0.064) <i>0.016</i>	0.127** (0.055) <i>0.022</i>	0.163*** (0.060) <i>0.006</i>	0.164*** (0.060) <i>0.006</i>
Control mean	0.213	0.213	0.213	0.107	0.107	0.107
<u>Panel B: Inform effect for Not Worry</u>						
Inform	0.055 (0.035) <i>0.115</i>	0.046 (0.036) <i>0.204</i>	0.046 (0.036) <i>0.203</i>	0.033 (0.030) <i>0.269</i>	0.029 (0.031) <i>0.358</i>	0.029 (0.031) <i>0.354</i>
Control mean	0.183	0.183	0.183	0.128	0.128	0.128
<u>Panel C: Inform $\times$ Worry</u>						
Inform	0.055 (0.035) <i>0.115</i>	0.046 (0.036) <i>0.204</i>	0.046 (0.036) <i>0.203</i>	0.033 (0.030) <i>0.269</i>	0.029 (0.031) <i>0.358</i>	0.029 (0.031) <i>0.354</i>
Worry	0.030 (0.049) <i>0.538</i>	0.026 (0.051) <i>0.612</i>	0.021 (0.052) <i>0.686</i>	-0.021 (0.040) <i>0.604</i>	-0.032 (0.043) <i>0.459</i>	-0.040 (0.045) <i>0.367</i>
Inform $\times$ Worry	0.053 (0.072) <i>0.464</i>	0.109 (0.075) <i>0.145</i>	0.109 (0.075) <i>0.144</i>	0.094 (0.063) <i>0.139</i>	0.135** (0.069) <i>0.050</i>	0.135** (0.068) <i>0.049</i>
Observations	730	730	730	730	730	730
Strata FE	X	X	X	X	X	X
Controls (LASSO)		X	X		X	X
Controls (Worry predictors)			X			X

Notes: This table presents estimated treatment effects and treatment effect heterogeneity of the *Inform* intervention on take-up (sign-up and attendance rates), where the outcomes are only equal to one when the caregiver is the one who made the phone call. Panel A and B report coefficients from regressing take-up on an indicator for assignment to the *Inform* treatment arm, separately for Worried and Not-worried elders, respectively. Panel C reports coefficients from regressing take-up on an indicator for assignment to the *Inform* treatment arm, an indicator for whether the elder is worried about being a burden, and the interaction between the two. Worry is an indicator for whether the elder reported ever forgoing healthcare or avoiding the hospital out of worry of being a burden to family members. One observation has missing value for worry about burden, because the respondent refused to respond to the question. Columns (1) - (3) show the effects on a sign-up indicator, which is equal to 1 when the household called to make an appointment at the check-up. Columns (4) - (6) show the effects on an attendance indicator, which is equal to 1 when the elder shows up for the health check-up after their household called to make an appointment. All regressions include strata fixed effects. Columns (2) and (5) add baseline controls selected via post-double-selection LASSO. Columns (3) and (6) further add controls for characteristics that are imbalanced by worry about burden (indicators for above-median functional impairment, whether the caregiver is a daughter, large household, and whether elder is co-residing with the caregiver). Standard errors are reported in parentheses. P-values are reported in italics. ¹*** p<0.01, ** p<0.05, * p<0.1.

A.7 Heterogeneity by other variables

Table A.10: Heterogeneity in Effect of Information Intervention on Take-up

Heterogeneity by	(1) Low mobility	(2) CT is husband	(3) High disagreement
<u>Panel A: Sign-up</u>			
Inform	0.054 (0.046) <i>0.249</i>	0.049 (0.038) <i>0.190</i>	0.064 (0.054) <i>0.235</i>
Heterogeneity variable	-0.009 (0.050) <i>0.863</i>	0.144* (0.086) <i>0.093</i>	-0.146*** (0.048) <i>0.002</i>
Inform $\times$ Het. variable	0.059 (0.072) <i>0.411</i>	0.105 (0.082) <i>0.198</i>	0.020 (0.069) <i>0.768</i>
Control mean (het. var. = 0)	0.246	0.241	0.333
<u>Panel B: Attendance</u>			
Inform	0.025 (0.040) <i>0.533</i>	0.027 (0.033) <i>0.403</i>	0.014 (0.048) <i>0.768</i>
Heterogeneity variable	-0.009 (0.046) <i>0.851</i>	0.001 (0.085) <i>0.987</i>	-0.119*** (0.043) <i>0.006</i>
Inform $\times$ Het. variable	0.064 (0.065) <i>0.327</i>	0.102 (0.073) <i>0.162</i>	0.066 (0.062) <i>0.287</i>
Control mean (het. var. = 0)	0.160	0.169	0.235
Observations (Sign-up)	659	731	731
Observations (Attendance)	659	731	731
Share with het. var. = 1	0.457	0.213	0.576
Strata FE (village)	X	X	X
Controls (LASSO)	X	X	X

Notes: This table presents estimated treatment effects of the *Inform* intervention on take-up (sign-up in Panel A and attendance in Panel B), and how these effects vary with other observable characteristics. Each column interacts treatment with a different dimension of heterogeneity, labeled at the top of the column; each variable is a binary indicator, and the share of the sample for which it equals one is reported in the bottom panel. All specifications include panchayat strata fixed effects and LASSO-selected controls. In Column (2), we exclude the LASSO-selected control for the caregiver's relationship to the elder, because it is collinear with whether the caregiver is the husband of the elder. Control means are for respondents in the control group with the heterogeneity variable equal to zero. Standard errors are in parentheses and p-values are in italics. *** p<0.01, ** p<0.05, * p<0.1.

B Study details

B.1 Survey modules

B.1.1 Crowne-Marlowe Social Desirability Bias

We measure social desirability bias for all caregivers in our study using a seven-item subset of the Crowne-Marlowe Social Desirability Bias survey questionnaire (Crowne and Marlowe, 1960). The seven yes-or-no questions are the same as the ones used in Webb (forthcoming):

1. I sometimes feel annoyed at people when I don't get what I want.
2. No matter who I'm talking to, I'm always a good listener. (reverse coded)
3. I sometimes try to take revenge instead of forgiving and forgetting.
4. I am always polite, even to people who are not nice. (reverse coded)
5. There have been times when I was jealous of other people's luck.
6. I am sometimes annoyed when people ask me for favors.
7. I have deliberately said something that hurt someone's feelings.

To calculate each individual's social desirability score, the number of socially desirable answers given is summed across the items (items 2 and 4 are reverse-coded in the scoring).

B.1.2 Zarit Burden Interview

The Zarit Burden Interview is a widely used questionnaire that measures the perceived emotional, physical, social, and financial strain experienced by informal caregivers. The full interview consists of 29 survey items (Zarit et al., 1980). Based on piloting interviews with caregivers, we selected 5 items for brevity and appropriateness in our context.

The following introduction was given to respondents before asking the questions: *We are asking you for information about your present situation caring for your family. The following is a list of statements that reflect how people sometimes feel when taking care of another person. After reading each statement, indicate how often you experience the feelings mentioned.*

Each question could be answered on a 6-point scale (0=Never, 1=Rarely, 2=Sometimes, 3=Frequently, 4=Nearly Always, 5=Always). Respondents always had the option to select Refused or Do Not Know.

1. How often do you feel you don't have enough time for yourself?
2. How often do you feel stressed between caring and meeting other responsibilities (work, family)?
3. How often do you feel strained when you are around your family?
4. How often do you feel your health has been affected because of your involvement with your family members?
5. How often do you feel your social life has been affected because you are caring for your family members?

B.2 Study timeline

The household experiment was conducted over 12 weekly waves to accommodate capacity limits at the hospital hosting the check-ups. Eligible households recruited to the study via the listing survey were assigned to waves based on their village size and location²⁶ For each wave, we conduct the study over four stages:

1. **Caregiver and elder visits** (Days 1-3): At the start of the week, we conduct separate home visits with elders and caregivers to conduct surveys and deliver the invitations.

- (a) **Caregiver invitation.** Enumerators conduct a 10- to 15-minute baseline survey²⁷ to collect information on demographics, occupation, relationship with the elder (tasks to support elder, knowledge of elder's health symptoms and status, communication patterns). We also measure social desirability bias using a seven-item subset of the Crowne and Marlowe, 1960 questionnaire (see Appendix B.1.1 for details) to be used in analysis to check whether caregiver-reported measures are influenced by wanting to present themselves to others in a particular way.

Caregivers in the *Control* arm who do not receive an invitation are asked survey questions about frequency of interaction with the elder, perceived caregiving burden (as measured with a 5-item subset of the Zarit Burden Index), their own non-communicable disease (NCD) status and knowledge, care-seeking behavior, and life satisfaction.

²⁶Each week, the remaining set of households were allocated to surveyor and supervisor teams to balance travel requirements (i.e. distance to hospital) across teams and to account for survey productivity (e.g. some weeks included local holidays, so fewer days could be allocated to delivering invitations to ensure households had time to sign up for the check-up).

²⁷Caregivers who cannot be reached in person after three attempts are surveyed by phone.

For caregivers in the *Inform* arm, the enumerator elicits incentivized measures of demand for check-ups for the elder and delivers the check-up invitation to the randomly selected 95% subsample who were selected to receive their choice. Caregivers assigned to the *Transport* arm are informed about the option to utilize free transport to and from the check-up.

- (b) **Elder invitation.** Enumerators conduct a 15- to 20-minute follow-up survey with elders to deliver the invitation and collect information on income (receipt of pension), NCD health status and utilization. All elders are informed of the check-up and given a paper voucher with the check-up details. Elders assigned to the *Transport* arm are informed about the option to utilize free transport. All elders are offered to have a reading conducted by the enumerator using a handheld single-lead ECG device, as a way to explain the check-up (to demonstrate the ECG) and collect an objective measure of cardiac risk for all participants in our study. Enumerators are instructed to prioritize privacy during the survey. For visits where the survey is able to be conducted out of earshot of the caregiver and other household members, the elder responds to a survey module on relationship with the caregiver (whether the elder supports the caregiver with childcare or financial assistance, communication patterns, comfort asking for transport or financial support).²⁸
2. **Sign-up deadline** (Day 5): Households who are interested in the check-up were instructed to have the caregiver call the research team’s phone hotline by noon on the day of the deadline to reserve a slot at the check-up.
3. **Caregiver follow-up survey** (Days 5-6): Once the sign-up deadline has passed, all caregivers who have not already called to reserve a spot at the check-up receive a follow-up phone call, regardless of the treatment arm, with the purpose of collecting both a prompted and unprompted measure of whether the elder has informed the caregiver about the check-up in the *Control* arm. For caregivers who know about the check-up (either reported knowing from elder or were directly informed in the *Inform* arm), they are offered a last chance to sign up for the check-up.
4. **Reminders** (Day 6): The evening before the check-up, caregivers that have confirmed attendance for their elder receive a reminder call about the camp, with information about their assigned time slot, free food at the hospital, and the transport pickup arrangements, if applicable.
5. **Check-up.** (Day 7): The check-up is held at the partner hospital. During the check-up, research team enumerators are present to collect vouchers, guide participants through the hospital, and

²⁸Surveys were completely private for 86% of visits, for whom we were able to collect these measures of relationship closeness.

conduct a brief exit survey on who accompanied the elder to the visit, how they traveled to the hospital, and what she learned from the consultation (diagnoses, treatments prescribed).

B.3 Check-up invitation materials

B.3.1 Video script

The video begins with a title slide: “J-PAL Heart Health Check-up Camp” This is followed by a slide that reads: “Tests and Services Provided at the Camp” The video then shows an elderly woman arriving at Thirumalai Mission Hospital and participating in the different components of the check-up camp. Visuals include:

- Blood pressure (BP) screening
- ECG test
- Doctor consultation

The video then shows a slide highlighting: “Free Food Provided”

Doctor’s Message (Dr. Peter Samuel):

Rather than waiting for heart problems to become severe and then treating them, it is better to identify them early and seek treatment to prevent the condition from worsening. Today, our lifestyles and eating habits have changed significantly. Compared to the past, many of us do not lead healthy lifestyles. As a result, health conditions such as heart disease are becoming increasingly common.

Many people are aware that chest pain can be a warning sign of heart disease. However, there are several other symptoms. These include shortness of breath while doing small routine activities, unexplained sweating, racing heartbeat, and unexplained dizziness.

If you are above 60 years of age and experience any of these symptoms, it is encouraged to visit a hospital and undergo a medical evaluation.

The video concludes with the J-PAL and Thirumalai Mission Hospital logos displayed on screen.

B.4 Elder and caregiver survey choice experiments

In addition to the main household experiment that we analyze in the paper, we also pre-registered and conducted two survey choice experiments: we conduct incentivized survey choice experiments for all elders (during the listing exercise) and for the caregivers in the *Inform* arm. We use these experiments to learn more precisely about each person’s separately expressed demand for the check-up (as opposed to the joint, single decision of take-up). The survey choice experiments also allow us to estimate how a richer set of factors affect demand for a check-up for the elder. In particular, we measure how demand for check-up varies with the degree of caregiver involvement required.

We measure each respondent’s demand for a check-up for the elder through a series of incentivized choice questions. Respondents make a series of choices between a free health check-up and a cash alternative. We measure respondent demand for a check-up, as well as how it changes in response to whether transport support is provided or not. We ask about two types of transportation support: arranged transportation and a transportation reimbursement. The type of support asked about is varied across participants.

Randomization of which choice is implemented is done at the pair-level (elder-caregiver pairs). Other logistical randomizations regarding the presentation of the choice questions in the survey are all independently randomized at the individual respondent-level (e.g. ordering of choices, which choices are shown, cash transfer amount).

B.4.1 Elder survey experiment

In the elder experiment, we measure the elder’s demand for the check-up through a series of incentivized choice questions. Elders make a series of four choices between a free health check-up and an alternative gift. To ensure that choices are incentive compatible, elders are informed that we will choose one of their choices to implement as long as their caregiver participates in the household survey.

We measure how elder demand for a check-up changes in response to whether transport support is provided.

We ask elders two questions in which they are asked to choose between a check-up and a one-time cash payment. The baseline check-up is a free heart check-up at a nearby private hospital. In one question, the check-up comes with transportation assistance of some form; in the other, the check-up is offered alone. The order of these two questions is randomized.

We offered check-up variants with two types of transportation support: free arranged transportation and a transportation reimbursement (subsidy) of 500 Rs. The type of support that was provided alongside

the check-up is varied across participants.

1. **Arranged transport and accompaniment at hospital.** This option reduces the involvement needed from the caregiver in terms of both financial costs of transport, as well as time costs of providing and accompanying the elder.
2. **Transportation reimbursement.** This option reduces the financial costs of the caregiver’s involvement. The reimbursement amount was up to 500 INR, which is sufficient to cover an auto-rickshaw ride to and from the hospital in most of our study areas.

To benchmark the demand responses to transport in monetary units, we also estimate the demand response to the cash amount. For elders, we randomly vary the outside option between 500 and 1000 INR across participants. For caregivers, the cash amounts are varied between 200 and 500 INR.

Elders then make two last choices for the purposes of study implementation, which we exclude from our empirical analysis. First, to have a choice that was feasible to implement at scale, we ask elders to choose between a check-up and a small gift of herbal ointment ²⁹. The last “check-up vs herbal oil” choice is the choice that is implemented for 95% of participants. Further, in order to invite all elders in the household experiment to the check-up, we gave check-ups and ointments to all participants. If this was the choice to be implemented and they choose the ointment, they are given the ointment and surprise upgraded to also get the check-up. If they choose the check-up, they are given the check-up and surprise-upgraded to the ointment. Even under this surprise upgrade structure, it is in the elder’s best interest to select what they prefer most in each choice. Second, we have one choice that is between a non-health-related benchmark good and the cash transfer. The benchmark good is a “senior clubs” program in which elders participate in weekly meetings with other elderly women in the area to play games, do light physical exercises, and do laughter therapy. The benchmark good is a non-fungible benefit to the elder.

B.4.2 Caregiver survey experiment

We conduct a parallel survey experiment among caregivers in the *Inform* arm to measure caregiver demand for a check-up for their elder. For caregivers in households that are randomized into the *Inform* arm, we also elicit their incentivized choices over check-ups and alternative goods, before being invited to the check-up at the end of the survey. Caregivers are asked the same set of questions as those asked to the elder, except the cash amounts are varied between 200 INR and 500 INR. At the end of the survey, we choose one of their choices to implement.

²⁹Herbal ointments are used for cooling and joint pain relief. They are broadly available at medical shops in our context and worth 100-150 INR at the time of the study

Additionally, the implementable choice is between the check-up and a one-time mobile phone recharge of 200 Rs, selected to be a gift to the caregiver but comparable to the market value of the herbal oil. Similar to the elder’s survey choice implementation, the randomly selected 95% of households whose elders received the implementable choice had caregivers also receive the implementable choice. We surprise upgrade caregivers who chose the mobile recharge so that they are offered a check-up in addition.

B.5 Deviations from the pre-analysis plan

We deviate from the protocol outlined in our pre-analysis plan in two places.

Study outcomes. We had originally specified that our primary measure of take-up would be whether the household signed up for the check-up at all. This includes sign-ups that we allowed to occur during the caregiver follow-up survey, after the original sign-up deadline had already passed. However, the rate at which we were able to reach caregivers for follow-up surveys was differential by treatment group. In the *Inform* arm, we were able to reach 61% of caregivers, compared to 51% in the *Control* arm. Because of this, this outcome is subject to endogeneity from selectively being able to reach the households in the *Inform* arm. In light of this, our primary take-up measure in the paper only counts sign-ups made by calling before the deadline. Attendance is likewise counted only for these sign-ups.

Sample exclusion. We had originally specified that we would exclude elders who have had a check-up in the last six months. After conducting the baseline elder listing exercise, we decided to include these elders because, relative to piloting, there were many more respondents who reported having had a recent heart check-up in the last six months, and we were concerned about sample size. We show in the Appendix (Table A.5) that our main results are robust to ex-post excluding this group of elders (N=83, or 11.3% of the sample).

C Alternative Models

C.1 Two-period model and crowd-out

In this section, we describe a model with multiple periods and a budget constraint fixed by the caregiver. In each period, the elder decides whether to inform the caregiver about a need, and the caregiver decides whether to help if informed.

We introduce a budget constraint faced by the caregiver in providing help, where h_t is an indicator for whether help is provided in period $t \in \{1, 2\}$, $q_t > 0$ is the capacity required to provide help, and M is

the overall capacity that the caregiver has for supporting the elder:

$$q_1 h_1 + q_2 h_2 \leq M. \quad (18)$$

Let I_t indicate whether the caregiver is informed in period t , with $h_t \leq I_t$. We assume that the only link between periods is the capacity constraint, holding preferences, task characteristics, and beliefs otherwise fixed.

As before, let $u_t^c := \alpha^c B_t - \kappa_t$ denote the caregiver's net pay-off from helping. If informed but not helping, the caregiver incurs pressure cost ϕ_t ; if uninformed, they receive zero utility. Their present discounted utility is therefore

$$U_c = h_1 u_1^c - (I_1 - h_1) \phi_1 + r [h_2 u_2^c - (I_2 - h_2) \phi_2], \quad (19)$$

where $r \in (0, 1]$ is the discount factor. The elder's utility is

$$U_e = h_1 B_1 + r h_2 B_2 + \alpha^e U_c. \quad (20)$$

In the second period, the caregiver helps if informed, if helping is preferable to declining, and if they have remaining capacity:

$$h_2 = I_2 \mathbf{1}\{u_2^c \geq -\phi_2\} \mathbf{1}\{q_2 \leq M - q_1 h_1\}. \quad (21)$$

If capacity is sufficient to provide help in both periods, help in the first period does not affect the caregiver's second-period decision. Help in period 1 prevents otherwise feasible help in period 2 when

$$q_1 \leq M, \quad q_2 \leq M < q_1 + q_2. \quad (22)$$

For this constraint to crowd out actual help, the caregiver must also have been informed and willing to help in period 2 in the absence of first-period help.

In the first period, a forward-looking caregiver also considers the effect of helping on their remaining capacity. Let $V_{c,2}(m)$ denote their expected continuation utility from the second-period interaction when remaining capacity is m , including the elder's decision whether to inform. If informed and $q_1 \leq M$, the caregiver helps when

$$u_1^c + \phi_1 \geq r [V_{c,2}(M) - V_{c,2}(M - q_1)]. \quad (23)$$

The one-period condition $u_1^c \geq -\phi_1$ applies when helping today does not change continuation utility.

The two-period model thus introduces another reason that elders may not inform caregivers in the first

period: caregiver involvement today may crowd out potential involvement in the second period. Let $\widehat{V}_{e,2}(m)$ denote the elder's perceived expected continuation utility when remaining capacity is m , including both her direct benefits and the caregiver utility she internalizes. She chooses to inform in period 1 when

$$\widehat{\mathbb{E}} \left[h_1(B_1 + \alpha^e u_1^c) - (1 - h_1)\alpha^e \widehat{\phi}_1 + r \left\{ \widehat{V}_{e,2}(M - q_1 h_1) - \widehat{V}_{e,2}(M) \right\} \right] \geq 0. \quad (24)$$

Here the expectation uses the elder's subjective beliefs about caregiver pay-offs and pressure, and h_1 is the caregiver's response if informed. The first two terms give the expected current pay-off from informing, as in the static model. The final term captures the change in expected future utility due to capacity used today. We do not introduce additional misperceptions about the capacity constraint.³⁰ If capacity is sufficient to provide help in both periods, and there are no other links between periods, the interaction reduces to separate one-period decisions. An absence of observed crowd-out is consistent with the static model, but does not by itself establish that dynamic considerations are absent.

Prediction 5 (Crowd-out) *Holding second-period information and task fixed, providing help in the first period weakly reduces the likelihood of help in the second period through the capacity constraint.*

³⁰Survey data collected from elders show that most elders do not report crowd-out as a consideration when deciding whether to ask caregivers for help on tasks.