Supporting Information

Chuan et al. 10.1073/pnas.1708293115

SI Methods

Additional Data Details. As mentioned in the text, our partner hospital system typically sends solicitation mailings to patients a few weeks after the end of a mailing cycle. There are some exceptions to this rule: patients whose first visit occurred in September or October were solicited in December in an attempt by the hospital system to leverage potentially higher giving rates during the holiday season. Patients whose first visit occurred in March or April of 2014 were not solicited until July 2014, about 6 wk later than usual, due to idiosyncratic logistical issues arising from the centralization of patient information into a new data warehouse.

Additional Methods and Results.

Analysis by severity of illness. In additional analyses, we repeat each of the two empirical approaches described in the text, but we split patients based on a proxy for the severity of their medical condition. To measure the severity of patients' ailments, we asked three physicians at our partner hospital system to independently rate each of the 11 medical departments that handled more than 1,000 outpatients in our dataset. Physicians were asked to rate departments on a scale from one (lowest severity) to seven (highest severity). Interrater agreement was strong (Cronbach's alpha = 0.88 across the ratings). The physicians unanimously rated oncology, cardiology, and surgery to be the medical departments that handled the most severe cases. We classified the 6,257 patients who visited the oncology, cardiology, and surgery departments as severe, and we classified the 8,495 patients who did not visit these departments but visited other rated departments as not severe; 3,763 patients only visited small (unclassified) departments and were dropped from these secondary analyses. Table S4 provides summary statistics describing these subsamples of our data, and Table S5 presents the regression results separately for severe and not severe patients.

Table S4 shows how severe and not severe patients compare with one another and the full sample along observable demographic characteristics. Table S5 displays the same analyses presented in Table 3 separately for severe patients [Table S5, Medical departments classified as handling severe ailments (oncology, surgery, cardiology)] and for not severe patients (Table S5, Other medical departments). The coefficient estimates show that the decay in reciprocity over time is particularly large among patients with severe ailments: a 30-d delay between visiting the hospital and receiving a solicitation decreases the donation rate by at least 0.7 percentage points (all P values < 0.01). In contrast, the decay over time in reciprocity is insignificant among not severe patients. Wald tests, presented in the bottom row of Table S5, show that the decline in giving over time is significantly steeper among severe patients than among not severe patients (all P values < 0.05).

Analysis by patient experience. To assess whether positive reciprocity is driving our results, we separately explore the behavior of patients who likely had more-positive experiences with the hospital system and patients who likely had less-positive experiences. We take three approaches, which all provide suggestive evidence that patients who are more satisfied with their experiences and thus are more likely to exhibit positive reciprocity display directionally larger decay.

First, we separately examine outpatients who (i) choose to return vs. (ii) choose not to return to our hospital system within a set window after their initial visit (132 d, the longest period of time between an initial visit and the corresponding solicitation mailing date). Outpatients who choose to return to the hospital system are likely more satisfied on average with their experience than outpatients who do not. If decays in reciprocity over time are driven by gratitude and not salience or forgetfulness, time-dependent positive reciprocity should be observed for more satisfied patients (i.e., repeat visitors). The results are summarized in Table S6. (Note that we only look at first visits in this analysis, since for patients who only visit the hospital system once, the first visit and last visit are the same.) We indeed find that the decay in giving that we observe overall is primarily driven by patients who make multiple visits to the hospital system. For patients who did not make repeat visits to the hospital system, the decay is directionally smaller in magnitude and insignificant.

Second, we use the data on hospital ratings from the Center for Medicare and Medicaid Services (CMS) website as a proxy for patient satisfaction. [These data are publicly provided by the CMS and are a common measure of hospital quality (31) (https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/hospitalqualityinits/hospitalcompare.html).] Only large hospitals receive a rating, and the three hospitals in our dataset with ratings include 14,504 of the 18,515 total patients in the analysis sample (about 78% of our data). As Table S7 shows, we find that patient giving statistically significantly declines over time for the two hospitals with a four-star rating. This decline is directionally smaller in magnitude and insignificant for the hospital with a lower three-star rating.

Third, we construct measures of medical provider quality using patient experience survey data from Press Ganey. We then investigate how the decay differs according to whether a patient visited a provider with above-median scores or a provider with below-median scores. We consider the provider associated with the first visit when analyzing the effect of the timing of the first visit and the provider associated with the last visit when analyzing the effect of the timing of the last visit. We obtained average responses to 47 questions from Press Ganey surveys of patients about a variety of topics and use factor analysis to identify the questions that are correlated with each other. There are two factors that meet the Kaiser criterion and have eigenvalues that are greater than or equal to unity (32). Factor 1 loads on the following sections of the survey: quality of care provider, personal issues like cleanliness and sensitivity to needs, overall experience, and quality of medical care given by care provider. Factor 2 loads on the following sections of the survey: ease of accessing care, quality of the waiting areas, quality of the nursing staff, and quality of the receptionists and clerks. We investigate factor 1 in Table S8 and factor 2 in Table S9. Patients whose first visit is with providers who scored above the median on factor 2 have directionally larger decays than patients who visited providers who scored below the median on factor 2. The difference in decay between above-median and below-median providers on factor 2 gets directionally larger when considering the last visit. In contrast, we find that factor 1 is not very predictive of decay.

These analyses provide additional evidence suggesting that patients with more positive experiences (i.e., those who chose to return to the hospital system for additional care after a presumably positive first interaction, those who visited a higher-rated hospital, and those who visited higher-rated providers) generally showed directionally larger declines in giving over time relative to patients with less pleasant experiences. While power limitations make it quite difficult for us to find statistically significant differences in the rate of decay across groups based on these measures, the magnitudes of decay all trend in line with our predictions and provide suggestive evidence that we are observing a decay in positive reciprocity over time.

Instructions on Data Use. Dataset S1 is the deidentified dataset used to create main and supplemental regression tables (Fig. 1, Table 3, and Tables S1–S3, S5–S7, and S10).

Dataset S2 is the deidentified dataset used to create regression tables exploring the role of patient experience (Tables S8 and S9).

Dataset S3 is the deidentified dataset used to create summary statistics tables (Tables 1 and 2 and Tables S2 and S4).

Table S1. Effect of time delay on reciprocity, including outpatients first solicited between March 2013 and April 2015

Dependent variable: Any donation (0 or 100)	Model 1	Model 2	Model 3	Model 4
Delay (d) between first visit and solicitation ×30	−0.0921* (0.0395)	−0.112** (0.0399)		
Delay (d) between last visit and solicitation ×30			−0.209* (0.0898)	−0.200** (0.0708)
Observations	149,817	149,817	149,817	149,817
R^2	0.002	0.007	0.003	0.007
Key controls	Yes	Yes	Yes	Yes
Additional controls		Yes		Yes
First-stage *F* statistic			12,980	31,602

This table reproduces Table 3 with a larger sample of outpatients. We include all outpatients who were solicited for a donation for the first time between March 2013 and April 2015 and ignore all of their visits to the hospital system before March 2013, which do not appear in our data. The key difference between this analysis and our main analysis in Table 3 is that this sample includes outpatients who had visited the hospital system before the visit that triggered a solicitation. The average donation rate in this larger sample is 0.61%. Models 1 and 2 report OLS coefficient estimates from regressions predicting a patient's decision to donate with the time delay separating that patient's first hospital visit from the date when she was solicited. Models 3 and 4 report coefficient estimates from instrumental variables analyses in which the delay between a patient's first hospital visit and the date of a solicitation mailing is used as an instrument for the delay between a patient's last presolicitation hospital visit and the date of a solicitation mailing. Models 1 and 3 include key controls: dummies for mailing cycle, hospital visited, and medical department visited. Models 2 and 4 add additional controls: dummies for a patient's total number of hospital visits before the solicitation mailings were sent, dummies for a patient's number of hospital visits within 132 d of her first hospital visit (a proxy for sickliness), and controls for gender, age, marital status, and state of residence. SEs are in parentheses.

*$P < 0.05$.

**$P < 0.01$.

Table S2. Summary statistics and balance tests

Variable	Summary statistics	Regressions predicting timing of first visit	
		Model 1	Model 2
Patient demographics			
Age, y	Avg. = 64.19 (SD = 11.45)	0.0189 (0.0123)	0.0185 (0.0120)
Single	18.50%		
Married	64.09%	−0.0381 (0.326)	−0.177 (0.318)
Divorced	5.87%	−0.304 (0.575)	−0.340 (0.560)
Separated	0.60%	−0.403 (1.560)	−0.130 (1.533)
Widowed	8.21%	−0.0525 (0.543)	−0.0395 (0.530)
Marital status unknown	2.73%		
In-state resident	57.87%	−12.76 (12.50)	−10.44 (10.54)
Female name	45.71%	−0.525 (0.460)	−0.452 (0.447)
Male name	46.14%	−0.0809 (0.460)	−0.0223 (0.447)
Gender of name unknown	8.15%		
Hospital visits			
No. of hospital visits between first visit and solicitation	Avg. = 3.42 (SD = 3.11)		
No. of hospital visits within 132 d of first visit	Avg. = 4.44 (SD = 4.74)		
Donations			
Donate, %	0.83%		
Donation ∣ donation >0	Avg. = $49.14 (SD = $36.68)		
Patients	18,515	18,515	18,515
R^2		0.048	0.104
Key controls		Yes	Yes
State dummies		Yes	Yes
No. of hospital visits between first visit and solicitation			Yes
No. of hospital visits within 132 d of first visit			Yes
F statistic		1.010	1.041
P value		0.455	0.391

This table presents summary statistics describing our study sample. Sample means are shown, with SDs in parentheses. Several patients' age data were missing from our primary age data source (solicitation administrative data); for these patients, we imputed age from the date of birth in the administrative health data (N = 3,695). To protect patient privacy, imputed age was top-coded at 90 y old in the data. Gender was imputed from patients' first names using the mapping in the work by Morton et al. (30). Models 1 and 2 present OLS regressions of the time delay separating a patient's first hospital visit from the date of her solicitation on the patient's age when solicited, marital status (single is the omitted category), gender (gender unknown is the omitted category), and state of residence. We perform a joint *F* test on these demographic characteristics and report the *F* statistic and *P* value. Model 1 includes the control variables included in all of our main regressions (mailing cycle, hospital, and medical department visited). Model 2 adds additional controls (dummies for number of hospital visits between the first patient visit and the solicitation mailing, dummies for number of hospital visits within 132 d of first visit). The *F* tests presented here show that patient demographics do not jointly predict the time delay separating a patient's first hospital visit from her receipt of a solicitation mailing, suggesting that this time delay is uncorrelated with other factors that might influence donation decisions (as we assume throughout our analyses). Avg., average.

Table S3. Effect of time delay on reciprocity (robustness checks)

Dependent variable: Any donation (0 or 100)	Model 1	Model 2	Model 3	Model 4	Model 5
Delay (d) between first visit and solicitation ×30	−0.184* (0.0973)	−0.298** (0.122)	−0.301** (0.123)	−0.274** (0.126)	−0.247** (0.125)
Delay (d) between last visit and solicitation ×30	−0.330* (0.174)	−0.509** (0.208)	−0.477** (0.195)	−0.452** (0.207)	−0.407** (0.204)
Observations	18,515	18,515	18,515	18,515	18,515
Key controls		Yes	Yes	Yes	Yes
No. of hospital visits between first visit and solicitation			Yes	Yes	Yes
No. of hospital visits within 132 d of first visit				Yes	Yes
Demographic controls					Yes

This table presents variants on Models 1 and 2 from Table 3 as robustness checks. These models all report OLS coefficient estimates from regressions predicting a patient's decision to donate with the time delay separating that patient's first hospital visit from the date when she was solicited. Model 1 includes no controls. Model 2 controls for hospital visited, mailing cycle of patient visit, and medical department visited (replicating Model 1 from Table 3). Model 3 adds control dummies for the number of hospital visits a patient made before the solicitation mailings were sent. Model 4 adds controls for the patient's total number of hospital visits within 132 d of his or her first hospital visit. Finally, Model 5 adds control dummies for patient gender, age, marital status, and state of residence (replicating Model 2 from Table 3). SEs are in parentheses.

*P < 0.1.

**P < 0.05.

Table S4. Summary statistics by patient severity

Variable	Full sample	Severe	Not severe
Patient demographics			
Age, y	Avg. = 64.19 (SD = 11.45)	Avg. = 65.29 (SD = 11.45)	Avg. = 63.50 (SD = 11.37)
Single	18.50%	17.07%	18.08%
Married	64.09%	64.65%	65.45%
Divorced	5.87%	5.61%	5.74%
Separated	0.60%	0.67%	0.55%
Widowed	8.21%	9.16%	7.30%
Marital status unknown	2.73%	2.84%	2.87%
In-state resident	57.87%	51.29%	62.47%
Female name	45.71%	44.94%	45.18%
Male name	46.14%	48.22%	46.40%
Gender of name unknown	8.15%	6.84%	8.42%
Hospital visits			
No. of hospital visits between first visit and solicitation	Avg. = 3.42 (SD = 3.11)	Avg. = 4.60 (SD = 3.66)	Avg. = 2.84 (SD = 2.11)
No. of hospital visits within 132 d of first visit	Avg. = 4.44 (SD = 4.74)	Avg. = 6.00 (SD = 5.74)	Avg. = 3.71 (SD = 3.54)
Donations			
Donate, %	0.83%	1.29%	0.62%
Average donation ∣ donation >0	Avg. = $49.14 (SD = $36.68)	Avg. = $48.64 (SD = $36.10)	Avg. = $47.30 (SD = $32.09)
Patients	18,515	6,257	8,495

Sample means are shown for each population, with SDs in parentheses. Column 2 shows summary statistics for the full study sample. Column 3 shows summary statistics for patients who visited a medical department classified as handling severe ailments (oncology, surgery, or cardiology). Column 4 shows summary statistics for patients who only visited departments that were not classified as handling severe ailments (primary care; dermatology; ear, nose, and throat; gastroenterology; orthopedics; radiology; neurology; and urology). The remaining 3,763 patients only visited unclassified departments and were excluded from our secondary analyses examining ailment severity as a moderator of our main effect. Several patients' age data were missing from our primary age data source (solicitation administrative data); for these patients, we imputed age from the date of birth in the administrative health data (n = 3,695). To protect patient privacy, imputed age was top-coded at 90 y old in the data. Gender was imputed from patients' first names using the mapping in the work by Morton et al. (30). Avg., average.

Table S5. Effect of time delay on reciprocity by severity of patient's ailment

Dependent variable: Any donation (0 or 100)	Model 1	Model 2	Model 3	Model 4
Medical departments classified as handling severe ailments (oncology, surgery, cardiology), n = 6,257				
Delay (d) between first visit and solicitation ×30	−0.735* (0.264)	−0.781* (0.274)		
Delay (d) between last visit and solicitation ×30			−1.420* (0.511)	−1.420* (0.491)
R^2	0.004	0.032	0.000	0.027
First-stage F statistic			774	1,757
Other medical departments, n = 8,495				
Delay (d) between first visit and solicitation ×30	−0.0223 (0.158)	0.115 (0.157)		
Delay (d) between last visit and solicitation ×30			−0.0402 (0.285)	0.185 (0.251)
R^2	0.004	0.018	0.004	0.017
First-stage F statistic			1,212	3,255
Key controls	Yes	Yes	Yes	Yes
Additional controls		Yes		Yes
Wald test P value: severe vs. other	0.021	0.005	0.013	0.004

Table S5 replicates the analysis from Table 3, splitting the sample by severity of ailment. Patients are analyzed in the top panel if they visited "Medical departments classified as handling severe ailments (oncology, surgery, cardiology)." Patients are analyzed in the bottom panel if they only visited "Other medical departments" (including primary care; dermatology; ear, nose, and throat; gastroenterology; orthopedics; radiology; neurology; and urology). Patients are excluded from this table if they only visited medical departments that were too small to be classified. Models 1 and 2 report OLS coefficient estimates from regressions predicting a patient's decision to donate with the time delay separating that patient's first hospital visit from the date when she was solicited. Models 3 and 4 report coefficient estimates from instrumental variables analyses in which the delay between a patient's first hospital visit and the date of a solicitation mailing is used as an instrument for the delay between a patient's last presolicitation hospital visit and the date of a solicitation mailing. Models 1 and 3 include key controls: dummies for mailing cycle, hospital visited, and medical department visited. Models 2 and 4 add additional controls: dummies for a patient's total number of hospital visits before the solicitation mailings were sent, dummies for a patient's number of hospital visits within 132 d of her first hospital visit (a proxy for sickliness), and controls for gender, age, marital status, and state of residence. The final row shows P values from Wald tests comparing the effect of delay between the two groups. SEs are in parentheses.

*$P < 0.01$.

Table S6. Effect of time delay on reciprocity for patients with one vs. multiple hospital visits

Dependent variable: Any donation (0 or 100)	Model 1	Model 2
Patients with multiple visits in 132 d, n = 14,898		
Delay (d) between first visit and solicitation ×30	−0.377** (0.139)	−0.300* (0.142)
R^2	0.007	0.023
Patients with only one visit in 132 d, n = 3,617		
Delay (2) between first visit and solicitation ×30	−0.0573 (0.249)	−0.0708 (0.252)
R^2	0.011	0.029
Key controls	Yes	Yes
Additional controls		Yes
Wald test P value: one visit vs. multiple visits	0.263	0.429

Table S6 replicates the analysis in Models 1 and 2 from Table 3, splitting the sample by number of visits. In the top panel we analyze "Patients with multiple visits in 132 d." In the bottom panel we analyze "Patients with only one visit in 132 d." Models 1 and 2 report OLS coefficient estimates from regressions predicting a patient's decision to donate with the time delay separating that patient's first hospital visit from the date when she was solicited. Model 1 includes key controls: dummies for mailing cycle, hospital visited, and medical department visited. Model 2 adds additional controls: dummies for a patient's total number of hospital visits before the solicitation mailings were sent, dummies for a patient's number of hospital visits within 132 d of her first hospital visit (a proxy for sickliness), and controls for gender, age, marital status, and state of residence. The final row shows P values from Wald tests comparing the effect of delay between the two groups. SEs are in parentheses.

*$P < 0.05$.

**$P < 0.01$.

Table S7. Effect of time delay on reciprocity by hospital rating

Dependent variable: Any donation (0 or 100)	Model 1	Model 2	Model 3	Model 4
Hospitals with four-star ratings (n = 12,079)				
Delay (d) between first visit and solicitation ×30	−0.362** (0.160)	−0.295* (0.165)		
Delay (d) between last visit and solicitation ×30			−0.635** (0.281)	−0.511* (0.285)
R^2	0.007	0.026	0.006	−0.001
First-stage F statistic			1859	3,796
Hospital with three-star rating (n = 2,425)				
Delay (d) between first visit and solicitation ×30	−0.174 (0.258)	−0.138 (0.269)		
Delay (d) between last visit and solicitation ×30			−0.269 (0.397)	−0.209 (0.400)
R^2	0.013	0.037	0.002	0.001
First-stage F statistic			576	1054
Key controls	Yes	Yes	Yes	Yes
Additional controls		Yes		Yes
Wald test P value: four-star vs. three-star	0.536	0.620	0.450	0.533

Table S7 replicates the analysis from Table 3, splitting the sample by hospital rating. Patients are analyzed in the top panel if they visited one of the two "Hospitals with four-star ratings." Patients are analyzed in the bottom panel if they visited the one "Hospital with three-star rating." Patients are excluded from this table if they did not visit one of the rated hospitals. Models 1 and 2 report OLS coefficient estimates from regressions predicting a patient's decision to donate with the time delay separating that patient's first hospital visit from the date when she was solicited. Models 3 and 4 report coefficient estimates from instrumental variables analyses in which the delay between a patient's first hospital visit and the date of a solicitation mailing is used as an instrument for the delay between a patient's last presolicitation hospital visit and the date of a solicitation mailing. Models 1 and 3 include key controls: dummies for mailing cycle, hospital visited, and medical department visited. Models 2 and 4 add additional controls: dummies for a patient's total number of hospital visits before the solicitation mailings were sent, dummies for a patient's number of hospital visits within 132 d of her first hospital visit (a proxy for sickliness), and controls for gender, age, marital status, and state of residence. The final row shows P values from Wald tests comparing the effect of delay between the two groups. SEs are in parentheses.

*$P < 0.1$.

**$P < 0.05$.

Table S8. Effect of time delay on reciprocity by medical provider rating (factor 1)

Dependent variable: Any donation (0 or 100)	Model 1	Model 2	Model 3	Model 4
Above median				
Delay (d) between first visit and solicitation ×30	−0.523* (0.268)	−0.366 (0.276)		
Delay (d) between last visit and solicitation ×30			−1.235** (0.563)	−0.800 (0.512)
Patients	4,745	4,745	4,908	4,908
R^2	0.016	0.047	0.011	0.000
First-stage *F* statistic			551.3	1358
Below median				
Delay (d) between first visit and solicitation ×30	−0.570** (0.235)	−0.529** (0.237)		
Delay (d) between last visit and solicitation ×30			−0.571 (0.356)	−0.434 (0.337)
Patients	4,724	4,724	4,934	4,934
R^2	0.016	0.084	−0.004	−0.001
First-stage *F* statistic			749.4	1737
Key controls	Yes	Yes	Yes	Yes
Additional controls		Yes		Yes
Wald test *P* value: above vs. below median	0.895	0.655	0.318	0.550

Table S8 replicates the analysis from Table 3, splitting the sample by provider rating on a quality measure ("factor 1") calculated from a factor analysis of Press Ganey Patient Experience Survey data. Factor 1 loads on the following sections in the Press Ganey survey: quality of care provider, personal issues like cleanliness and sensitivity to needs, overall experience, and quality of medical care given by care provider. Patients are analyzed in the top panel if their relevant visit was to a medical provider who scored "Above median" on factor 1. Patients are analyzed in the bottom panel if their relevant visit was to a medical provider who scored "Below median" on factor 1. Patients are excluded from this table if their relevant visit was to a medical provider without available Press Ganey data. Models 1 and 2 report OLS coefficient estimates from regressions predicting a patient's decision to donate with the time delay separating that patient's first hospital visit from the date when she was solicited. Models 3 and 4 report coefficient estimates from instrumental variables analyses in which the delay between a patient's first hospital visit and the date of a solicitation mailing is used as an instrument for the delay between a patient's last presolicitation hospital visit and the date of a solicitation mailing. Models 1 and 3 include key controls: dummies for mailing cycle, hospital visited, and medical department visited. Models 2 and 4 add additional controls: dummies for a patient's total number of hospital visits before the solicitation mailings were sent, dummies for a patient's number of hospital visits within 132 d of her first hospital visit (a proxy for sickliness), and controls for gender, age, marital status, and state of residence. The final row shows *P* values from Wald tests comparing the effect of delay between the two groups. SEs are in parentheses.

*$P < 0.1$.

**$P < 0.05$.

Table S9. Effect of time delay on reciprocity by medical provider rating (factor 2)

Dependent variable: Any donation (0 or 100)	Model 1	Model 2	Model 3	Model 4
Above median				
Delay (d) between first visit and solicitation ×30	−0.713** (0.270)	−0.710** (0.266)		
Delay (d) between last visit and solicitation ×30			−1.152* (0.451)	−1.057** (0.409)
Patients	4,718	4,718	4,910	4,910
R^2	0.015	0.051	0.004	−0.001
First-stage *F* statistic			700.9	1661
Below median				
Delay (d) between first visit and solicitation ×30	−0.364 (0.228)	−0.156 (0.238)		
Delay (d) between last visit and solicitation ×30			−0.659 (0.467)	−0.0971 (0.441)
Patients	4,751	4,751	4,932	4,932
R^2	0.013	0.087	−0.001	0.000
First-stage *F* statistic			604	1417
Key controls	Yes	Yes	Yes	Yes
Additional controls		Yes		Yes
Wald test *P* value: above vs. below median	0.323	0.121	0.448	0.111

Table S9 replicates the analysis from Table 3, splitting the sample by provider rating on a quality measure ("factor 2") calculated from a factor analysis of Press Ganey Patient Experience Survey data. Factor 2 loads on the following sections in the Press Ganey survey: ease of accessing care, quality of waiting areas, quality of the nurse, and quality of the clerks and receptionists. Patients are analyzed in the top panel if their relevant visit was to a medical provider who scored "Above median" on factor 2. Patients are analyzed in the bottom panel if their relevant visit was to a medical provider who scored "Below median" on factor 2. Patients are excluded from this table if their relevant visit was to a medical provider without available Press Ganey data. Models 1 and 2 report OLS coefficient estimates from regressions predicting a patient's decision to donate with the time delay separating that patient's first hospital visit from the date when she was solicited. Models 3 and 4 report coefficient estimates from instrumental variables analyses in which the delay between a patient's first hospital visit and the date of a solicitation mailing is used as an instrument for the delay between a patient's last presolicitation hospital visit and the date of a solicitation mailing. Models 1 and 3 include key controls: dummies for mailing cycle, hospital visited, and medical department visited. Models 2 and 4 add additional controls: dummies for a patient's total number of hospital visits before the solicitation mailings were sent, dummies for a patient's number of hospital visits within 132 d of her first hospital visit (a proxy for sickliness), and controls for gender, age, marital status, and state of residence. The final row shows *P* values from Wald tests comparing the effect of delay between the two groups. SEs are in parentheses.

*$P < 0.05$.

**$P < 0.01$.

Table S10. Effect of time delay on log donation amount

Dependent variable: log(donation in $ + 1)	Model 1	Model 2	Model 3	Model 4
Delay (d) between first visit and solicitation ×30	−0.011** (0.0046)	−0.0090* (0.0048)		
Delay (d) between last visit and solicitation ×30			−0.019** (0.0079)	−0.015* (0.0078)
Observations	18,515	18,515	18,515	18,515
R^2	0.006	0.021	0.006	0.021
Key controls	Yes	Yes	Yes	Yes
Additional controls		Yes		Yes
First-stage F statistic			3,092	6,757

Table S10 replicates the analysis from Table 3, replacing whether a donation was made with log(donation amount + 1). Models 1 and 2 report OLS coefficient estimates from regressions predicting a patient's log donation amount with the time delay separating that patient's first hospital visit from the date when she was solicited. Models 3 and 4 report coefficient estimates from instrumental variables analyses in which the delay between a patient's first hospital visit and the date of a solicitation mailing is used as an instrument for the delay between a patient's last presolicitation hospital visit and the date of a solicitation mailing. Models 1 and 3 include key controls: dummies for mailing cycle, hospital visited, and medical department visited. Models 2 and 4 add additional controls: dummies for a patient's total number of hospital visits before the solicitation mailings were sent, dummies for a patient's number of hospital visits within 132 d of her first hospital visit (a proxy for sickliness), and controls for gender, age, marital status, and state of residence. SEs are in parentheses.

*$P < 0.1$.

**$P < 0.05$.

Other Supporting Information Files

Dataset S1 (CSV)
Dataset S2 (CSV)
Dataset S3 (CSV)