

Donor Responses to Marketing of Nonprofit Hospitals

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ABSTRACT

Advertising is critical for business success. However, the general public as well as funders discourage such spending (Pallotta, 2008). Drawing on IRS Form 990 advertising data as well as data from a media marketing research database, we are the first to investigate how donors respond to advertising by nonprofit (NP) hospitals. Using a sample of 2,801 hospital-year observations, we find that donors react negatively to advertising reported on IRS Form 990 whereas we find no directional reaction to advertising classified as program or administrative expenses. We also find that donors react positively to actual observable media advertising. Further, we find that, contrary to prior research, fundraising expenses do not proxy well for advertising expenses as most advertising expenses are categorized as program or administrative expenses. Lastly, we find evidence of misreporting of advertising expenses among NP hospitals. We extend the accounting literature on factors affecting donations and suggest that hospitals need to educate stakeholders on the value of advertising especially in markets where NPs compete with For-profits (FPs). Our findings are useful to donors, policy makers, the IRS, and other stakeholders when considering new performance measures for NP hospitals and other business-like entities.

INTRODUCTION

Research on factors affecting donations has focused significantly on functional expense ratios from IRS Form 990 as an indicator of efficiency that attracts donations (Weisbrod and Dominguez, 1986; Posnett & Sandler, 1989; Callen, 1994; Tinkelman, 1998; Greenlee and Brown, 1999; Greenlee and Trussel, 2000; Baber et al., 2001; Frumkin and Kim, 2001; Roberts

et al., 2006; Parsons and Trussel, 2007). Although some donors may be intrinsically motivated to give research shows that most donations are triggered by some form of solicitation (Bryant et al., 2003; Diamond and Nobel, 2001; Bekkers, 2006; Wardell and Ashley, 2011; Randle and Dolnicar, 2012). This suggests that donations and the explanatory power of the common models used depend on a precursor to donations before even considering efficiency ratios. A solicitation or request succeeds and stimulates a donation. It raises awareness of the organization, its services, and its needs. In contrast to many NP organizations, NP hospitals provide and sell services at positive margins, which makes them similar to their FP counterparts and competitors. Another similarity is that NP hospitals engage in costly advertising. However, this highly visible activity can lead to questions of legitimacy regarding the NP status as NP hospitals are tax exempt for the purpose of providing community benefits which can seem contradictory to observable advertising. Absent of ownership interests NPs rely on other monitoring mechanisms. Often donors are part of this monitoring mechanism that helps alleviate the agency conflict in NP organizations (Harris, Petrovits, & Yetman, 2015).

The NP profession is in search for performance measures. In the FP, industry decision makers often focus on sales as an important performance measure. FPs use advertising to drive sales in a competitive market and sell products and services that have direct expenses associated with them. NPs, on the other hand, advertise to increase product and service revenues as well as to receive donations that have no associated product or service cost. For NPs to survive long-term they also need to focus on revenues to cover their expenses. Donations are nonreciprocal transactions that directly affect net income with a 100 percent margin. This impact is significant and can help improve and measure NP performance. The importance of private donations to the NP industry leads us to seek an ever better understanding of donor motivation and how they use

information in decision-making (Calabrese and Grizzle, 2012). NPs are accountable to a variety of stakeholders who monitor its' activities. Thus, this research, which offers a better understanding of the effects of advertising on NP performance, is valuable to donors, lenders, customers, grantors, board members, beneficiaries, managers, and regulators. These stakeholders can reduce agency losses through monitoring (Jensen and Meckling, 1976; Fama and Jensen, 1983; Hansmann, 1996).

Spending restrictions associated with grant money, restricted donations, a focus on short-term program expenses, and discouragement of paid advertising by funders and the general public stifle NP advertising investment and NP performance (Pallotta, 2008). However, Mittendorf (2013) questions this NP advertising underinvestment and cites the lack of empirical support in Pallotta's claim. Business-like charities need to compete in their respective markets, among others, through advertising to attract customers and donors. Further, Hou, Eason, and Zhang (2014) find in their survey of Chinese donors that advertising in competitive markets, when combined with branding or distinctive identification of a NP can result in increased donations.

In this research, we investigate the effects of NP hospital advertising on donations. To the best of our knowledge, we are the first to directly investigate the effects of advertising.¹ Using data from media marketing research firm that measures the observable advertising on TV, local magazines/newspapers, radio, internet, and outdoor advertising, we were able to match a subset of NP hospitals with actual observable advertising spending and find differential donor reactions to reported and actual observable advertising. We find a positive association between observable advertising and donor reaction suggesting that donors consider may be aware of the net benefits

¹ Prior research has proxied for advertising using the fundraising ratio which is the ratio of fundraising expenses to total expenses (Weisbrod and Dominguez, 1986; Okten and Weisbrod 2000).

advertising often provides whereby the associated financial inflows outweigh the outflows. This finding does not provide support for Pallotta's claim, that there is a negative attitude towards advertising among the general public. Further, we find that donors differentiate between the purpose of the advertising and only react negatively to reported advertising expenses when they are classified as part of fundraising expenses. Donors do not react positively or negatively to advertising classified as administrative or program expenses. This may be due to the realization that the net benefits of advertising often outweigh the costs. Lastly, we find evidence of misreporting where zero advertising expenses are reported when actual advertising occurred.

THEORY AND HYPOTHESES

Advertising is an essential and widely accepted tool for businesses in competitive markets to transfer information about output quality (Nelson 1970, 1974). Stockholders welcome successful advertising as it provides long-term net benefits to brand recognition and unrecognized intangible assets (Barth et al., 1998; Gu and Lev, 2003). Advertising is also associated with increased firm value (Hirschey and Weygandt, 1985; Chauvin and Hirschey, 1994). For example, Gu and Li (2010) find in their study of advertising by pharmaceuticals that even though advertising may not necessarily lead to net benefits due to uncertainty in its effectiveness, investors still consider advertising as a source of future benefits. Advertising expenses create economically significant value for shareholders, which is associated with increased firm value (Gu and Li, 2010; Hirschey and Weygandt, 1985; Chauvin and Hirschey, 1994). Advertising in the NP industry provides the same benefits (Okten and Weisbrod, 2000).

Advertising Expense

NPs often compete with FPs in the same industry and have to utilize advertising for operational success. However, in the absence of shareholders and presence of donors, the effects of advertising on a NP's financial performance are less clear. A NP depends on several different revenue streams, one of which is private donations. Donors, however, consider the price of donations by focusing on the level of charitable output achieved through their donations (Weisbrod and Dominguez, 1986). Advertising expenses can lower the charitable output of an organization thus increasing the price of donations. NPs often consider the impact of their spending on program spending ratios and forgo spending that might have a negative impact (Hager et al., 2004; Pallota, 2008; Tinkelman, 2009; Parsons et al., 2011; Petrovits et al., 2011). Advertising costs divert limited resources from other mission related activities, which influences donor decision-making (Tinkelman, 2006). This is especially critical to the NP sector as the primary goal of a 501(c)(3) charitable organization is to fulfill its mission and the various stakeholders heavily scrutinize any non-program expenses as potentially wasteful. Nevertheless, advertising may also have a positive effect on donors through reducing the cost of information, through education or name and service recognition it conveys (Hou et al., 2014). The net effect of these opposing effects determines the sensitivity of donations with respect to advertising. Research has recognized the advertising and information effect of fundraising but never considered advertising expenses directly. Okten and Weisbrod (2000), for example, investigate the effects of several market variables on voluntary giving among which they proxy for advertising using fundraising expenses. However, Tinkelman (2006) suggests that fundraising expenses are not a useful predictor of donations. To test whether advertising is a useful predictor of donations and whether donors view advertising positively or negatively, we hypothesis:

H1: Donors do not react to advertising expenses of NP hospitals.

Observed Advertising

Prior research has found inconsistent results with regard to the association of efficiency ratios and donations. Many factors impact donors' use of financial information in their giving-decision (Khumawala and Gordon, 1997). For example, Tinkelman (1998) finds that donors respond to the price of donations but not to ratings. However, in experimental research, Buchheit and Parsons (2006) and Parsons (2007) find that donors do not respond to efficiency or financial information provided to them but only they themselves seek out the information. This may allude to trust deficiencies in voluntary disclosure. Further, Church and Parsons (2008) find that donors do not differentiate among the highest efficiencies but only consider whether the efficiency ratio is acceptable. Li et al. (2012) find in their archival research that donors respond to efficiency ratios. The importance of donations and the decision-making process of donors leads researchers again and again to seek out what information determines the amount of giving and what determines the beneficiary organization (Weisbrod and Dominguez, 1986; Tinkelman, 1998, 1999, 2004; Greenlee and Brown, 1999; Marudas, 2004; Tinkelman and Mankaney, 2007). One such factor that influences donations beyond financial information may be observable advertisement. Hence, we hypothesize:

H2: Donors do not react to observed media advertising of NP hospitals.

RESEARCH DESIGN

Data

For our analysis, we use the National Center for Charitable Statistics' (NCCS) IRS Form 990 dataset. All NP hospitals organized under Section 501(c)(3) of the Internal Revenue Code with gross receipts exceeding \$200,000 or total assets exceeding \$500,000 are required to file IRS

Form 990 annually.² These Form 990s are publicly available in machine-readable database formats through the NCCS, whose mission it is to “develop and disseminate high quality data on NP organizations and their activities for use in research on the relationships between the NP sector, government, the commercial sector, and the broader civil society.”

We use data covering the years 2008–2012. For our sample, we use the NCCS’s Statistics of Income (SOI) dataset, which is the largest publicly available NP database of Form 990 filings.³ The SOI sample is designed to provide for reliable statistical analyses and covers about 90 percent of all NP revenues. It contains on average 14,000 observations with 30 percent having total assets in excess of \$50 million and 70 percent selected based on a stratified random sample. IRS Form 990 was significantly redesigned for 2008 filings and limits comparability to previous years. The ending year of our panel is confined by the availability of digitized data in the NCCS database.

As in Yetman and Yetman (2013), we exclude observations with less than \$1,000 in total assets, total expenses, program expenses, or total revenues, with missing age or National Taxonomy of Exempt Entities (NTEE) codes, to ensure the homogeneity of our sample data.⁴

Our dataset starts with 9,866 year-observations of SOI data. We then lose 2,538 hospital-year observations for the calculation of lagged variables. Further, we eliminate 3,819 observations with less than \$100,000 in private donations. Lastly, we lose 708 year-observations

² In the U.S., there are about 1.5 million registered tax-exempt organizations. These organizations are subdivided into 27 types of 501(c) classifications. Over 70 percent of NP organizations are classified as 501(c)(3). Of these 501(c)(3) registrants, roughly 300,000 are required to file detailed financial information with the IRS. The other organizations are exempt from filing due to size, religious affiliation, or inactivity.

³ The IRS makes Form 990 data available by publishing each organization’s tax return. This level of public information is rare since tax information is generally confidential. For efficiency reasons, the IRS only publishes a size-weighted sample. This sample entails all large organizations with total assets greater than \$25 million. In addition, the IRS includes a stratified random sample of smaller organizations.

⁴ The National Taxonomy of Exempt Entities was established by the IRS as a categorizing schema for NPs and has 26 broad categories.

due to missing values leading to a final sample of 2,801 year-observations for the period 2009–2012⁵.

In order to test H2 we purchased the Kantar Media⁶ dataset, which measures observable advertising spending. Kantar estimates spending based on common cost rates for the time, medium, and market. The spending estimate is not affected by IRS or accounting methods and rather represents a cash flow or impact measure. Kantar Media measures media advertising, including TV, local magazines/newspapers, radio, internet, and outdoor observable advertising across most industries in the U.S. The advertising data is measured, maintained, and sold for commercial use and is intended to help quickly respond to market trends among customers and competitors. We then merge the Kantar Media dataset with the SOI dataset.

Our detailed sample derivation is presented in Table 1.

Please place Table 1 about here.

Empirical Models

Our empirical model is based on the donations’ demand model widely used in economic and accounting research (Weisbrod and Dominguez, 1986; Tinkelman, 1999; Okten and Weisbrod, 2000; Trussel and Parsons, 2007; Petrovits et al., 2011).

⁵ Our sample of hospitals is limited to entities under 501(c)(3) tax status. NCCS has discontinued it’s data service. The last year of available data was 2012. NCCS no longer allows access to or extractions of the data. Other sources for digitized IRS Form 990 data are <https://www.irs.gov/uac/soi-tax-stats-charities-and-other-tax-exempt-organizations-statistics>, <http://www.nber.org/data/soi-tax-stats-annual-extracts-form-990.html> and <https://aws.amazon.com/public-datasets/irs-990/>.

⁶ <http://www.kantarmedia.com/us> Kantar Media is a well-known media research firm that specializes in tracking consumer advertising expenditures. Kantar does not distinguish between FP and NP organizations, they simply capture advertising data and estimate the amount spent by each advertiser in each DMA Market.

$$\begin{aligned}
Private\ Donations_{it} = & \beta_0 + \beta_1 PRICE_{it-1} + \beta_2 PROGREV_{it-1} + \beta_3 MARGIN_{it-1}^7 + \\
& \beta_4 AGE_{it-1} + \beta_5 GRANTS_{it-1} + \beta_6 FUND_{it-1} + \dots + \\
& Year\ Indicators + State\ Indicators + \varepsilon_{it}
\end{aligned}
\tag{1}$$

Our variables are defined in Table 2. We proxy for efficiency using PRICE; for stability using MARGIN and PROGREV; for information using FUND; and for reputation using AGE and GRANTS. Our advertising variables of interest (*990_ADV_TOT*, *990_ADV_PROG*, *990_ADV_MGT*, *990_ADV_FUND*, *ADVSPND*) proxy for information (Nelson, 1970, 1974).

Our PRICE variable is defined as the donor's cost of one dollar of organizational program output. We expect a negative relation of PRICE and donations as a higher price indicates less efficiency in the fulfillment of an organizations mission, which generates fewer donations (Posnett & Sandler, 1989; Callen, 1994; Tinkelman, 1998).

PROGREV is defined as the natural logarithm of program revenue. PROGREV may have a crowding in effect in that it proxies for size and larger hospitals have more visibility and receive more donations. Further, higher program revenues may proxy for less financial vulnerability and higher financial stability as well as a mission focus, hence we expect a positive association (Okten and Weisbrod, 2000).

MARGIN is defined as revenue less expenses as a percent of revenues and proxies for financial stability (Trussel and Parsons, 2007). We predict a positive association of MARGIN and PRIVATE DONATIONS following Greenlee and Trussel (2000) as well as Parsons and

⁷ Our results hold when adding the natural log of total assets as a proxy for size. Margin and total assets are significantly correlated at 0.89 and have variance inflation factors above 3, hence we cannot keep both in our model for reasons of colinearity.

Trussel (2009) who find that higher margins indicate less financial vulnerability and higher financial stability, which is rewarded with higher donations hence, we expect a positive relation.

AGE is measured as the time since the formation of the organization, and GRANTS is defined as the natural logarithm of government grants. These variables proxy for reputation effects (Trussel and Parsons, 2007). Older organizations are generally held in higher esteem and carry increased levels of trustworthiness (Weisbrod and Dominguez, 1986; Posnett and Sandler, 1989). The literature shows mixed results in relation to the association of AGE and donations (Tinkelman, 1999; Parsons & Trussel, 2007). This may be related to mergers and acquisitions and their effects on the formation variable in the NCCS database.⁸ We expect AGE to be positively related to donations.

GRANTS may have a crowding in effect in that it suggests an elevated level of reputation along with increased government monitoring. This may cause donors to be more likely to give to an organization with higher government grants (Trussel and Parsons, 2007). We expect a positive association of GRANTS and donations.

FUND is defined as the share of fundraising expenses to total expenses or as the fundraising expense ratio. We expect a negative association of FUND to donations (Krishnan, Yetman, and Yetman, 2006).

Our variables of interest are related to advertising expenses and observable advertising. We measure the former by 990_ADV_TOT measured as the natural logarithm of total advertising expenses. Further, we analyze the three functional (program, administration, fundraising) components of total advertising separately. Lastly, to measure observable advertising

⁸ The IRS Form 990 instructions state for the field “Year of Formation”: “Enter the year in which the organization was legally created under state or foreign law. If a corporation, enter the year of incorporation.”

we use ADVSPND measured by the observable advertising amount recorded in the Kantar Media database.

Please place Table 2 about here.

RESULTS

Our descriptive statistics for our sample of 2,801 NP hospital year-observations are presented in Table 3. The mean total private donations are \$3,402,796 which represents a small fraction of total revenues of \$400 million. NP hospitals depend heavily on the public's support and trust which is often measured by donations. The mean Total Expenses is with \$378 very close to the total revenue number suggesting a margin of about 5.3%. A low margin is expected for NP organizations. Further notable is the mean program expense ratio of 87% (\$327 million program expenses / \$378 million total expenses). This suggests that 87 cents of every dollar in donations is used for program activities. The mean observable advertising is \$148,232 which is significantly less than total advertising expenses. Observable advertising only measures the third party cost to the hospital to run an ad whereas advertising expenses include internal costs as well as costs that are not directly associated with the running of ads, like market research, consulting, or internal advertising managers' salaries. The mean advertising expense is \$1,075,282 which is significantly more than the mean fundraising expenses of \$512,252. This suggests that fundraising expenses are not a good proxy for advertising. A comparison between the private donations and fundraising expenses shows a fundraising efficiency of 7 meaning that each dollar in fundraising expenses returns about seven dollars in donations. Most of advertising expenses are allocated to Management (55%) and Program (45%) functional expense categories. Only 1 percent of advertising expenses is allocated to fundraising expenses.

Please place Table 3 about here

Misreporting

Table 4 shows a univariate analysis of our sample specifically related to advertising. We focus on advertising because, for example, Okten and Weisbrod (2000) use fundraising expenses as a proxy for advertising in their investigation of the effects of several market variables on voluntary giving. However, Tinkelman (2006) suggests that fundraising expense is not a useful predictor of donations. Already, in Table 3 we found that advertising and fundraising expenses are vastly different. In fact, in Table 4 we find that 72% of our sample show zero advertising allocated to fundraising expenses and 82% of hospitals with advertising expenses allocate zero percent of advertising to fundraising expenses. The majority of advertising expenses is allocated to first administrative expenses and second to program expenses in our sample. This suggests that fundraising is not an appropriate proxy for advertising expenses.

We also find that 14% of hospitals that report zero advertising on their Form 990 actually run media advertising. Further, 16% of hospitals that report zero media advertising on their Form 990 also run media advertising. Expense ratio management is a prevalent issue in the extant literature (Weisbrod & Dominguez, 1986; Posnett & Sandler, 1989; Callen, 1994; Tinkelman, 1999). Our findings suggest misreporting of advertising expenses exists in a magnitude that exceeds the zero-fundraising anomaly reported by Krishnan et al. (2006) who find that 7% of medical NPs have reported their fundraising expenses inaccurately.

Please place Table 4 about here

Correlations

Table 5 presents our Spearman correlation matrix. We find no unexpectedly high correlations. We also analyze the variance inflation factors (VIFs) for our model and find that all are below 2 (untabulated).

Please place Table 5 about here

Donor Response to Advertising

In Table 6 column A we test whether advertising expenses are significantly associated with donations. We find no evidence that donors react to advertising expenses. This suggests that the negative stigma attached to advertising expenses does not exist and that NP hospitals may more freely compete. In column B we show our results for the detailed analysis of advertising expenses by functional expense category and find that donors only react to advertising expenses in the fundraising functional expense category. This negative reaction is above and beyond the negative response to all other fundraising expenses. We further find that donors do not react to the majority of advertising expenses classified as program and management expenses. In summary, we find evidence that donors react to advertising expense. Our results are highly significant at the 1 percent level and our model has a 36% adjusted R^2 hence, we reject (H1).

Table 6 column C presents our base model for comparison and shows that donors react significantly positively to PROGREV ($p \leq 0.01$) MARGIN ($p \leq 0.01$) and GRANTS ($p \leq 0.10$) This suggests that donors support financially stable organizations and crowd-in with grants likely due to the suggestion of increased need and monitoring. We also find that donors react negatively to FUND ($p \leq 0.01$) as per our expectations suggesting that fundraising expenses are viewed as highly critical as they do not directly sever the fulfillment of the NP's mission.

Table 6 column D shows our results for the test of observable advertising. We find that donors react negatively to direct media observable advertising ($p \leq 0.01$). This results leads us to

reject H2. Considering that observable media advertising is highly visible, is timely, relevant, and widely accessible for potential donors while Form 990 advertising expense data are much more cumbersome to attain, delayed, and may be influenced by accrual accounting; we suggest that donor engagement and sophistication may lead to the varying responses to advertising by NPs. Almost all advertising expenses are classified as program and management expenses on Form 990 and donors do not react. They only react to the smallest part that is classified as fundraising expenses. This suggests that donors are not deterred from advertising expenses or observable advertising in the functions most critical to the growth, competitiveness, and survival of the NP hospital but rather by advertising combined with solicitation that would be classified as fundraising activity.

Please place Table 6 about here

CONCLUSIONS

We investigate how donors react to NPs' observable advertising using a sample of 2,801 hospital-year observations of observable advertising data and merge it with the National Center for Charitable Statistics' (NCCS) Form 990 database. We find that donors react positively to observable advertising. Our findings do not support Pallotta's (2008), claim that discouragement of paid advertising by funders and the general public stifle NP advertising investment and performance in the NP hospital sector. On the contrary, our findings support the questions raised by Mittendorf (2013) who suggests that business-like charities need to compete, among others, through advertising to attract customers and donors. Further, our findings support Hou et al. (2014) who find that advertising can result in increased donations.

Donors and other stakeholders need to be more educated on the functional classification employed on Form 990 along with the critical nature of advertising especially in an industry where NPs and FPs compete for the same resources. For donors, the net benefits of advertising seem to outweigh the costs of resource diversion. However, donors react differently to advertising expense data found on IRS Form 990. Only advertising classified as fundraising expenses turns donors away. The majority of advertising expenses reported on Form 990 do not effect donor reactions suggesting that these expenses are seen as a necessary cost of growing and sustaining a business.

Our analysis aims to fill a gap in the accounting literature. Since data on advertising was previously not available advertising was often proxied for using fundraising expenses. However, by definition these two differ in that fundraising efforts include solicitations for donations but advertising does not. We are the first to investigate the differing effects of advertising expenses and observable advertising on donor reactions.

Our findings are useful to hospital managers, policy makers, and the IRS when considering constituency improvements in functional expense classifications and new performance measures for the NP profession. As NPs are accountable to a variety of stakeholders who monitor its activities, this research is valuable to donors, lenders, customers, grantors, board members, beneficiaries, managers, and regulators who can benefit from a better understanding of the effects of advertising on NP performance, which in turn can reduce agency losses and system costs broadly benefiting the community (Jensen and Meckling, 1976; Fama and Jensen, 1983; Hansmann, 1996).

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TABLE 1
Sample Derivation

	<i>Observations</i>
NCCS SOI Database Hospital Sample, 2008-2012	9,866
Less:	
No lagged values	2,538
Less than \$100,000 in donations	3,819
Missing values	708
 Final Sample	 <u>2,801</u>

Note: We eliminate observations that have less than \$100,000 in private donations because these entities are less reliant on donations and donors may respond less to organizational activities (Gordon & Khumawala 1999; Tinkelman & Mankaney 2007; Yetman and Yetman 2013). The observations used in our analysis vary slightly because we exclude overly influential observations (absolute value of Studentized residuals greater than 2) as in Yetman and Yetman (2013).

Table 2
Variable Definitions

<i>Variable</i>	<i>Expect.</i>	<i>Description</i>
<i>Private Donations</i>		ln(Private donations).
<i>PRICE</i>	-	ln(Total expenses/Program expenses).
<i>PRICE_NO_ADV</i>		ln(Total expenses/Program expenses less 990 advertising – total).
<i>PROGREV</i>	+	ln(Program Service Revenue).
<i>MARGIN</i>	+	ln(Total revenue – Total expense)/Total revenue.
<i>AGE</i>	+	ln(Number of year since organizations was formed).
<i>GRANTS</i>	+	ln(government grants).
<i>FUND</i>	-	ln(Fundraising expense/Total expenses).
<i>FUND_NO_ADV</i>	-	ln(Fundraising expense less 990 advertising – fundraising/Total expenses).
<i>990_ADV_TOT</i>	±	ln(990 advertising – total/Total expenses).
<i>990_ADV_PROG</i>	±	ln(990 advertising – program services/Total expenses).
<i>990_ADV_MGT</i>	±	ln(990 advertising – management & general/Total expenses).
<i>990_ADV_FUND</i>	±	ln(990 advertising – fundraising/Total expenses).
<i>ADVSPND</i>	±	ln(Kantar Media amount of observable advertising/Total expenses).

Note: *Private Donations* uses ALL_OTH_CONTRI + MEMSHP_DUES + FNDRSNG_EVENTS. *Program Expenses* uses TOT_FUNC_EXPNS_PRG_SRVCS. *Total expenses* uses TOT_EXPNS_CY. *990 advertising – total* uses ADVTG_TOT. *Program Service Revenue* uses PSR_TOT. *Total revenue* uses TOT_REV_CY. *Year the organization was formed* uses YR_FRMTN. *Government grants* uses GOVT_GRNTS. *Fundraising expenses* uses TOT_FUNC_EXPNS_FNDRSNG. *990 advertising – fundraising* uses ADVTG_PRG_FNDRSNG. *990 advertising – program services* uses ADVTG_PRG_SRVCS. *990 advertising – management & general* uses ADVTG_PRG_MGMT_GEN. *Kantar Media amount of observable advertising* is derived from the Kantar Media database. All variables are derived from the NCCS 990 database unless otherwise stated.

Table 3
Descriptive Statistics
(n = 2,801)

<i>Variable</i>	<i>Mean</i>	<i>Median</i>	<i>Std. Dev.</i>
<i>Private Donations</i>	3,402,796	541,563	14,301,765
<i>Total Expenses</i>	378,441,835	186,632,823	779,938,100
<i>Program Expenses</i>	327,461,800	158,057,243	724,001,983
<i>Program Revenue</i>	376,010,657	180,977,702	799,401,637
<i>Total Revenue</i>	399,842,793	196,043,438	830,655,334
<i>Grants</i>	3,979,256	84,460	20,957,570
<i>Fundraising Expenses</i>	512,252	0	2,204,593
<i>Total Advertising Expenses</i>	1,075,282	336,290	2,342,194
<i>Program Advertising Expenses</i>	479,386	35,787	1,522,780
<i>Management Advertising Expenses</i>	586,238	85,826	1,593,331
<i>Fundraising Advertising Expenses</i>	9,658	0	100,839
<i>Kantar Media Observable advertising</i>	148,232	30,150	398,828
<i>Age</i>	66	61	40

Note: The sample includes observations from 2009–2012. The observations used in our analysis vary slightly because we exclude overly influential observations (absolute value of Studentized residuals greater than 2) as in Yetman and Yetman (2013).

Table 4
Advertising Analysis

	n	% of Sample	% of Advertising	% of Zero Advertising	% of Zero Media Advertising
100% of advertising expenses allocated to programs	239	8.5%	9.7%		
100% of advertising expenses allocated to administration	361	12.9%	14.7%		
100% of advertising expenses allocated to fundraising	5	0.2%	0.2%		
50%+ of advertising expenses allocated to programs	1124	40.1%	45.6%		
50%+ of advertising expenses allocated to administration	1307	46.7%	53.1%		
50%+ of advertising expenses allocated to fundraising	28	1.0%	1.1%		
0% of advertising expenses allocated to programs	422	15.1%	17.1%		
0% of advertising expenses allocated to administration	277	9.9%	11.2%		
0% of advertising expenses allocated to fundraising	2012	71.8%	81.7%		
zero media advertising reported on Form 990	2793	99.7%	113.4%		100%
zero advertising reported on Form 990	338	12.1%	13.7%	100%	
Kantar media advertising reported and 990 zero media advertising	457	16.3%	18.6%		16%
Kantar media advertising reported and 990 zero advertising	47	1.7%	1.9%	14%	
Kantar Media Total	458	16.4%	18.6%		
Total Observations	2801	100.0%	113.7%		
Total Advertisers	2463	87.9%	100.0%		

Table 5
Spearman Correlations
(*n*=2,801)

<i>Variable</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 <i>Private Donations</i>	1.00													
2 <i>PRICE</i>	-0.06	1.00												0.02
3 <i>PRICE_NO_ADV</i>	-0.06	1.00¹	1.00											-0.03
4 <i>PROGREV</i>	0.44	-0.16	-0.16	1.00										0.11
5 <i>MARGIN</i>	0.02	0.08	0.08	-0.10	1.00									-0.04
6 <i>AGE</i>	0.10	-0.02	-0.03	0.13	-0.07	1.00								0.08
7 <i>GRANTS</i>	0.26	-0.05	-0.06	0.35	-0.03	0.07	1.00							0.00
8 <i>FUND</i>	-0.21	0.05	0.06	-0.14	0.07	-0.04	-0.07	1.00						0.02
9 <i>FUND_NO_ADV</i>	-0.21	0.05	0.06	-0.14	0.07	-0.04	-0.07	0.99¹	1.00					0.03
10 <i>990_ADV_TOT</i>	-0.04	0.10	0.11	-0.12	0.02	-0.04	-0.11	0.03	0.03	1.00				0.02
11 <i>990_ADV_PROG</i>	-0.07	0.01	0.02	-0.18	0.01	0.01	-0.09	0.11	0.11	0.45	1.00			-0.03
12 <i>990_ADV_MGT</i>	-0.06	0.11	0.10	-0.16	0.02	-0.04	-0.12	0.00	0.00	0.63¹	0.29	1.00		-0.04
13 <i>990_ADV_FUND</i>	-0.17	0.02	0.02	-0.09	0.04	0.00	-0.06	0.43	0.42	0.04	0.14	0.08	1.00	0.01
14 <i>ADVSPND</i>	-0.01	0.03	0.03	-0.09	0.04	-0.08	0.00	-0.01	-0.02	-0.01	0.03	0.04	-0.01	1.00

Note: Data are for the period 2009–2012 with 2,801 NP hospital-year observations. Significant values are highlighted.

¹ These variables do not appear in the same model. Hence the high correlations are negligible.

Table 6
The Effect of Advertising on Donations

	<i>Expect.</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
<i>Constant</i>		4.859 (0.356)***	4.941 (0.358)***	4.894 (0.355)***	4.884 (0.356)***
<i>PRICE</i>	–			0.229 (0.216)	0.207 (0.216)
<i>PRICE_NO_ADV</i>		0.256 (0.217)	0.191 (0.217)		
<i>PROGREV</i>	+	0.446 (0.018)***	0.455 (0.018)***	0.456 (0.018)***	0.459 (0.018)***
<i>MARGIN</i>	+	0.039 (0.013)***	0.039 (0.013)***	0.039 (0.013)***	0.039 (0.013)***
<i>AGE</i>	+	–0.003 (0.027)	–0.004 (0.027)	–0.007 (0.027)	–0.009 (0.027)
<i>GRANTS</i>	+	0.006 (0.003)*	0.006 (0.003)*	0.006 (0.003)*	0.006 (0.003)*
<i>FUND</i>	–			–0.066 (0.006)***	–0.066 (0.006)***
<i>FUND_NO_ADV</i>	–	–0.066 (0.006)***	–0.053 (0.007)***		
<i>990_ADV_TOT</i>	±	–0.004 (0.009)			
<i>990_ADV_PROG</i>	±		0.003 (0.006)		
<i>990_ADV_MGT</i>	±		–0.000 (0.007)		
<i>990_ADV_FUND</i>	±		–0.026 (0.006)***		
<i>ADVSPND</i>	±				0.018 (0.006)***
<i>Year Indicators</i>		Included	Included	Included	Included
<i>State Indicators</i>		Included	Included	Included	Included
<i>n</i>		2,673	2,682	2,674	2,677
<i>Adj. R²</i>		36.4%	36.8%	36.4%	36.3%
<i>F</i>		25.70	25.41	26.08	25.59

Notes: *, **, *** represent two-tailed significance levels of 10, 5, and 1 percent respectively. All variables are as defined in Table 2.

¹ Fundraising expenses are defined as Fundraising expenses less the portion of advertising that is categorized under fundraising expenses.

Standard errors are present in parentheses under each coefficient estimate. The models are estimated using OLS regressions. The observations used in our analysis vary slightly because we exclude overly influential observations (absolute value of Studentized residuals greater than 2) as in Yetman and Yetman (2013).