

Public perceptions of US for-profit, nonprofit, and public hospitals

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Abstract

Nonprofit hospitals have been criticized for behaving like for-profit hospitals. One prominent defense of nonprofit hospitals is contract failure theory, which suggests that nonprofits are important in markets defined by information asymmetries. Unlike for-profits, nonprofit hospitals' inability to distribute profits may provide patients with an important assurance that they will not be exploited in the course of receiving care. We investigated support for this theory using a sample of 2569 US adults. We assessed (1) relevance of hospital ownership status; (2) respondent preferences for nonprofit, for-profit, or public hospitals; and (3) respondent ability to correctly identify hospital ownership status. We found little evidence that hospital nonprofit status influenced Americans' decisions about where to seek care. Ownership status was relevant for fewer than 30% of respondents and preference was greatest overall for public hospitals. Only 30–45% of respondents could correctly identify the ownership status of nationally recognized hospitals, and fewer than 30% could identify their local hospitals. These findings suggest that contract failure does not currently provide a justification of nonprofit hospitals' value; further scrutiny of tax exemption for nonprofit hospitals is warranted.

Key words: nonprofit; hospitals; trust; public opinion.

Introduction

Nonprofit hospitals, which currently comprise approximately 58% of the US hospitals,¹ have been repeatedly critiqued by scholars^{2–4} and policymakers⁵ for failing to live up to a poorly articulated standard of “charity care” and general benevolence. Motivating these concerns are the municipal, state, and federal tax exemptions, to the tune of \$28 billion annually,⁶ that nonprofit hospitals enjoy. Experts have questioned whether these organizations should retain their designations as charitable nonprofits if it is not clear what the American public receives in return for their tax-exempt status.²

Defenders of nonprofit hospitals have generally relied upon 2 lines of argument. The first, which we term the “production” defense, suggests that nonprofit hospitals are valuable to maintain in the US health care marketplace on the basis of what they produce—in the form of lower costs, higher quality, more community benefit, and other goods.⁷ To the extent that nonprofit hospitals are able to deliver these socially valuable outcomes, then their tax-exempt status may appear to be a reasonable exchange of value. Empirical research investigating this thesis has found mixed results, however, without clear and consistent findings indicating superiority on the part of nonprofit hospitals.^{8–10}

The second line of argument used to defend the value of nonprofit hospitals is what we call the “signaling” defense. On this account, the value of nonprofit hospitals lies not necessarily in

their differentiated production but rather in what they communicate to vulnerable patients through their ownership status. Henry Hansmann articulated such a view in 1980, suggesting that the most convincing rationale for the existence of nonprofit firms was that people are more likely to trust nonprofits than for-profits in markets, such as health care, which are defined by large informational asymmetries.¹¹ This trust is based on the patient's appreciation that nonprofit organizations are bound by the nondistribution constraint, which legally prohibits the distribution of profits to external owners (shareholders). This influential work, referred to as contract failure theory, has been cited more than 5000 times. In a health care context, the failed contract in question is between a hospital and a patient. The failure owes to the impossibility of specifying every possible contingency associated with care delivery ex ante, leaving patients to fill the contracting gap with trust in the hospital. Nonprofit hospitals' ability to cultivate such trust and overcome the contracting failure may therefore merit the significant financial value associated with tax exemption.

Hansmann was careful to say that contract failure was not the only explanation for the existence of nonprofits. In industries such as health care, nonprofits may exist simply as a matter of historical precedent, for instance. Nevertheless, we sought to examine whether the existence of nonprofit hospitals could be empirically justified using the logic of contract failure. In order for this to be the case, consumers would need to demonstrate a fair bit of sophistication in their

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attitudes and behaviors towards the US hospital marketplace. A significant proportion of people would have to (1) find a hospital's profit status relevant to where they seek care, (2) have a preference for nonprofit hospitals over other ownership types, and (3) know what a hospital's profit status is.

We know of no recent data on the general public's knowledge and attitudes of hospital profit status. A 1981 telephone survey of 225 New Haven, Connecticut, households found that many respondents could not correctly identify the profit status of numerous local nonprofits, but in most cases, had likely never patronized the organizations.¹² A 2009 survey of 1169 university students in Toronto found that, while consumers were more likely to trust nonprofits generally and hold a stated preference for nonprofits when purchasing health care, most could not correctly identify the organizational status of well-known nonprofits.¹³ Each study asked about just 1 hospital among many other types of nonprofits.

We sought to empirically test the extent to which Hansmann's contract failure theory describes the present-day value of nonprofit hospitals via a cross-sectional, geographically diverse, nonprobability survey. If survey findings supported the 3 assumptions embedded in Hansmann's theory, the signaling defense may provide a justification of nonprofit status against charges that they do not produce sufficiently differentiated costs, quality, or community investment. If any of the 3 assumptions failed, the scholarly work ahead should include either a return to the production defense or, more likely, a first principle questioning of the value of nonprofit status.

Data and methods

We designed, piloted, and fielded a survey to assess how the general public perceives nonprofit hospitals compared with for-profit or public hospitals. We identified nonprofit, for-profit, and public statuses according to the American Hospital Association's (AHA's) definitions and classification schemes.¹ When speaking generally about differences between the 3 types of hospitals, we use the term ownership status.

The survey was designed to assess 3 primary research questions: (1) whether people consider hospital ownership status relevant to where they seek care (relevance), (2) whether people have a preference for nonprofit hospitals (preference), and (3) how likely members of the general public are to correctly identify both "national brand" hospitals and their local hospitals as public, nonprofit, or for-profit (knowledge).

The survey instrument was developed by coauthors L.A.T., C.E.C., B.F., and A.Z., and took, on average, 8 minutes and 20 seconds to complete. A complete copy of the survey instrument is available in [Appendix A](#). We began with a brief education page, which included definitions of nonprofit, for-profit, and public hospitals and the proportion of community hospitals classified as each type by the AHA. We asked respondents whether any of this information was new to them. To assess the relevance of ownership status, we asked respondents whether ownership status had ever been relevant to them in deciding where to seek care (yes/no).

To assess respondents' explicit ownership preference among ownership types, we asked respondents who had indicated that ownership status was relevant to them about the type of hospital they preferred (nonprofit/public/for-profit). To directly test the theory that nonprofit status signals trustworthiness to patients, we assessed mean trust across respondents in nonprofit, for-profit, and public hospitals. We considered this

activity an assessment of implicit preference, recognizing that there may be some slippage between the concept of trust and preference. To do this, we collected data on how much respondents trusted local hospitals in their 3-digit zip codes. We used a question adapted from the Edelman Trust Barometer¹⁴—"How often do you think you can trust the following to do what is right for you or your family?"—with available answers "Almost None of the Time (1)," "Some of the Time (2)," "Most of the Time (3)," and "Almost All of the Time (4)."

We assessed respondents' knowledge about specific hospitals' statuses in 2 ways. We first quizzed respondents about the profit status of 6 hospitals that we considered "national brands," including Mayo Clinic, Cleveland Clinic, Memorial Sloan Kettering, St. Jude Children's Hospital, Bellevue Hospital, and Cancer Treatment Centers of America. For each hospital, the respondent could indicate that they believed the hospital to be nonprofit, public, or for-profit, or that they had never heard of that particular hospital.

We then asked respondents a series of similar quiz questions about hospitals in their own communities. This was an innovative aspect of the survey design that enabled respondents to answer questions about up to 3 real hospitals with which they were likely to have had first-hand experience. Achieving this capability required custom JavaScript coding within the Qualtrics survey. We describe this process in [Appendix B](#). If a respondent lived in a 3-digit zip code with fewer than 3 hospitals, they were presented with the number of hospitals available. For each local hospital, we asked respondents whether they were familiar with the hospital and, if so, collected data on the respondent's relationship to the hospital, including whether they or anyone in their household had ever worked there, been treated there, or donated there.

We chose 3-digit zip codes as the appropriate geographic region based on a review of the geographic distribution of hospitals. There are 920 3-digit zip codes in the United States, of which 814 (88%) have at least 1 general hospital. According to AHA data, the average number of hospitals in a 3-digit zip code is 5.5. We alternatively considered using 5-digit zip codes, which were too small of a geographic region for our purposes (average number of hospitals per unit = 1.1), and area codes, which we decided were too large (average number of hospitals per unit = 16.7).

Nothing precluded respondents from using the internet (or other publicly available tools) to look up answers to quiz questions. That said, the fast completion time and generally poor performance of the sample suggest that few people took this option. Moreover, our own experience has been that verifying ownership status online can be difficult, often producing conflicting results.

At the conclusion of the survey, we offered respondents an opportunity to view the "true" answers to all quiz questions that they had answered and react via an open-text box. We collected these free-text responses as a source of open-ended data.

We collected data through an online version of our survey hosted on the New York University (NYU) Grossman Medical School's Qualtrics platform and distributed by a paid panel provider, Lucid Theorem (now Cint), between November 17 and 24, 2022. The panel provider used quotas to curate a nonprobability sample of respondents that approximated the US 2020 Census in terms of age, gender, race, and geographic region. The study team received approval from the NYU Langone Health Institutional Review Board (i22-01239).

Table 1. Sample demographic characteristics.

Demographics	Frequency	Percentage or mean (SD)	National percentage
Gender			
Woman ^a	1319	51.0%	50.5% ¹⁶
Man	1203	46.8%	49.5%
Transgender woman	14	0.5%	
Transgender man	9	0.4%	—
Nonbinary/gender fluid/gender expansive	17	0.7%	—
Ethnicity			
Are you of Hispanic, Latino, or Spanish origin? – Yes	318	12.4%	19.1% ¹⁶
Are you of Hispanic, Latino, or Spanish origin? – No	2251	87.6%	80.9%
Age, y		45 (17)	
18–29 y	563	21.9%	15.8% ¹⁷
30–39 y	564	22%	13.6%
40–49 y	458	17.8%	12.4%
50–59 y	411	16%	12.7%
60–69 y	325	12.7%	12%
70–80 y	246	9.6%	7.6%
Educational level			
Some high school	108	4.2%	9% ¹⁸
High school diploma or equivalent	1115	43.4%	43% ^b
Associate’s degree	471	18.3%	10%
Bachelor’s degree	576	22.4%	23%
Graduate degree	207	8.1%	14%
Other	92	3.6%	—
Race			
American Indian or Alaska Native	33	1.3%	1.3% ¹⁶
Asian	117	4.6%	6.1%
Black or African American	350	13.6%	13.6%
Native Hawaiian or Other Pacific Islander	12	0.5%	0.3%
White	1877	73.1%	75.5%
Others (please give details)	89	3.5%	
Selected >1	91	3.5%	3.0%
Metro vs non-metro location ^c			
Metro	2140	83.0%	80% ¹⁹
Non-metro	429	16.7%	20%
Region			
Northeast	506	19.9%	17.1% ²⁰
Midwest	525	20.4%	20.6%
South	981	38.2%	38.6%
West	553	21.5%	23.6%
Health insurance			
I have public health insurance (eg, Medicaid/Medicare/TRICARE)	1308	50.9%	36.7% ²¹
I have health insurance through my or a family member’s employer	767	29.9%	48.5%
I purchase health insurance independently	245	9.5%	6.1%
I have no health insurance	209	8.1%	8.6%
Other (please give details)	40	1.6%	
Political affiliation			

(continued)

Table 1. Continued

Demographics	Frequency	Percentage or mean (SD)	National percentage
Republican	784	30.5%	28% ²²
Democrat	975	38%	28%
Independent	709	27.6%	42%
Something else	101	3.9%	2%
Health literacy ^d			
Always need help understanding	87	3.4%	14% ^{23,e}
Often need help understanding	147	5.7%	
Sometimes need help understanding	631	24.6%	22%
Rarely need help understanding	796	31%	53%
Never need help understanding	908	35.3%	12%
Health status			
Poor	102	4%	7% ²⁴
Fair	612	23.8%	20.1%
Good	1064	41.4%	32.8%
Very good	578	22.5%	26.3%
Excellent	213	8.3%	12.9%
Financial stress ^f			
Yes	1268	49.5%	57% ²⁵
No	1296	50.6%	43%
Work in health care ^g			
Yes	318	12.4%	12% ²⁶
No	2251	87.6%	88%

N = 2569. Source: Authors’ analysis of an original online survey, hosted on NYU Grossman Medical School’s Qualtrics platform and distributed by a paid panel provider, Lucid Theorem (now Cint), between November 17 and 24, 2022, among US adults aged 18+ years.

^aReference group for woman is non-woman (inclusive of trans and nonbinary people). ^bIncludes high school as the highest level of school completed (28%) + “some college but not a degree” (15%). ^cUsing respondent’s 3-digit zip code, we created a dichotomous metro/non-metro variable based on the US Department of Agricultural Rural Urban Continuum. A total of 83.3% of respondents fell into the metro category (1–3 on the continuum, indicating urban counties). ^dHealth literacy was measured with the survey question: “How often do you have problems learning about your medical condition because of difficulty understanding written information?” ^eThe lowest NAAL health literacy level “Below Basic” (14%) was described as ranging from “nonliterate in English” to having abilities such as “locating easily identifiable information and following written instructions in simple documents (eg, charts or forms).” Thus, we compared this category to our combined survey categories “Always Need Help Understanding” and “Often Need Help Understanding.” The other National Assessment of Adult Literacy (NAAL) levels were “Basic” (22%), “Intermediate” (53%), and “Proficient” (12%). ^fPercentage of survey respondents responding Yes/No to the survey question: Have you ever felt stress over inability to pay a medical bill? ^gWork in health care = respondents who answered Yes/No to “Are you currently working as a health care provider (eg, radiology technician, pharmacist, nurse, doctor)?” or “Are you currently working as another kind of health care professional (eg, receptionist, patient advocate, administrator)?”

Results

Study population

Overall, 2569 people completed the survey and efforts to approximate national demographics were fairly successful (Table 1). A total of 51.3% of the sample identified as female and 1.6% identified as transgender or nonbinary.¹⁵ A total of 73.1% of respondents identified as White, 13.6% identified as Black, 4.6% identified as Asian, and 3.5% identified as multi-racial. A total of 12.4% of the sample identified as being of Hispanic, Latino, or Spanish origin. The age of the sample skewed younger than the American population, as is common in online surveys. A total of 21.9% of the sample reported being 18–29 years old, and only 9.6% reported being over 70 years of age.

A total of 27.6% of our sample identified as political independents, 38% identified as Democrats, and 30.5% identified as Republicans. The geographic distribution included 19.9% of people living in the Northeast, 20.4% living in the Midwest, 38.2% living in the South, and 21.5% living in the West. Using respondents' 3-digit zip code, we created a dichotomous metro/non-metro variable based on the US Department of Agricultural Rural Urban Continuum.²⁷ A total of 83.3% of respondents fell into the metro category (1–3 on the continuum, indicating urban counties).

We also collected a series of health-related demographic information. A total of 50.9% of the sample had a form of public health insurance (including Medicare, Medicaid, and TRICARE), 29.9% were on employer-sponsored insurance, 9.5% purchased insurance independently, and 8.1% of the sample was uninsured.²¹ Because respondents were only given an opportunity to indicate that they were on “public insurance” rather than the type of public insurance (Medicare, Medicaid, TRICARE, etc), we attempted to isolate the 2 major public insurance programs by stratifying by age. We created a proxy variable for Medicare for those who were on public insurance and at least 65 years old and a proxy variable for Medicaid for those who were on public insurance and under 65 years.

A total of 12.4% of our sample worked in health care in some capacity. We also asked participants to provide self-ratings for 3 items: health status²⁸ (rate from 1 to 5, with 1 = poor and 5 = excellent), health literacy (rate from 1 to 5, with 1 = always needing help and 5 = never needing help), and ever feeling stress over inability to pay a medical bill (1 = yes, 0 = no).

Our sample of 2569 respondents lived in 3-digit zip codes that ranged from having 0 hospitals to 28 hospitals, with an average of 8 hospitals (see Appendix B). Forty respondents lived in 3-digit zip codes with no hospitals. A total of 673 (25.4%) lived in a 3-digit zip code that we classified as having no choice in ownership status, either because there was only 1 hospital or because all hospitals in the 3-digit zip code had the same ownership status. The majority, 1894 (73.7%), lived in a 3-digit zip code in which there were at least 2 hospitals of different ownership statuses.

Relevance of ownership status to respondents

Fewer than one-third of respondents (29.0%) indicated that hospital status had ever been relevant to them in making decisions about where to seek care. In descriptive analyses, ownership status was significantly more important to respondents who indicated the lowest health literacy—74.7% of whom answered the key question affirmatively—than it was for people who indicated high health literacy, of whom only 18.3% found hospital ownership status to be relevant. Ownership status was also considerably more relevant for people working in health care than for those who did not work in health care (61.0% vs 24.5%). The relationship between education and relevance of ownership status resembled a U-curve across levels of education, with 34.3% of people with less than a high school degree and 35.8% of people with a graduate degree reporting that ownership status was relevant. People with in-between educational levels (high school, associate's, or bachelor's degrees) found ownership status less relevant (27.0%, 29.3%, and 30.2%, respectively). Finally, the relevance of hospital ownership status varied considerably by insurance

status. A total of 35.3% of people who were under 65 years and on public insurance found ownership status relevant compared to 25.3% of individuals under 65 years who were not on public insurance. Only 7.0% of individuals over 65 years on public insurance found ownership status relevant as compared to 32.5% of their counterparts. A total of 29.2% of people on employer-sponsored insurance found ownership status relevant.

In multivariable logistic regression, females (odds ratio [OR] = 0.71; 95% CI, 0.59–0.86), participants with higher health literacy (OR = 0.63; 95% CI, 0.58–0.69), and those over 65 years who were enrolled in public insurance (OR = 0.27; 95% CI, 0.17–0.42) had lower odds of finding ownership status relevant (Table 2, model 1). Respondents with higher self-rated health (OR = 1.24; 95% CI, 1.12–1.37), those under 65 years who were enrolled in public insurance (OR = 1.41; 95% CI, 1.14–1.74), respondents identifying as Black (OR = 1.62; 95% CI, 1.25–2.10) or Hispanic (OR = 1.59; 95% CI, 1.22–2.01), and respondents working in health care (3.24; 95% CI, 2.48–4.24) had higher odds of finding ownership status relevant.

Respondents' preference for ownership status

Only respondents who indicated that ownership status had ever been relevant to them—29.2% of the total sample—were asked to indicate their explicit preference among ownership types. Among those respondents, 29.5% indicated a preference for nonprofits, 53.9% indicated a preference for public hospitals, and 16.6% indicated a preference for for-profits.

In a series of multivariable logistic regression models using binary preference for each ownership status as an outcome, we found the following (Table 2, models 2–4):

Nonprofit: Older respondents had slightly higher odds of preferring nonprofit hospitals compared with younger respondents (OR = 1.02; 95% CI, 1.01–1.03). Respondents with lower self-rated health had lower odds of preferring nonprofit hospitals as compared with other ownership types (OR = 0.78; 95% CI, 0.67–0.92).

For-profit: Respondents who were older also had slightly higher odds of preferring for-profit hospitals (OR = 1.02; 95% CI, 1.01–1.04). Respondents with higher self-rated health also had higher odds of preferring for-profits (OR = 1.62; 95% CI, 1.29–2.02), as did people with higher education (OR = 1.53; 95% CI, 1.27–1.85). Those who were uninsured (OR = 0.31; 95% CI, 0.10–0.89) had lower odds of preferring for-profits.

Public: Respondents who were relatively younger (OR = 0.96; 95% CI, 0.96–0.98) and those with lower education (OR = 0.81; 95% CI, 0.71–0.93) had lower odds of preferring public hospitals. Those who were Hispanic (OR = 1.69; 95% CI, 1.11–2.56) had higher odds of preferring public hospitals.

We also assessed the preference for ownership status implicitly, using trust in hospitals of various ownership types as a proxy. Across our full sample, mean trust in nonprofit hospitals was 2.91 (SD = 0.92), indicating that people trust nonprofit hospitals to do what is right for them and their family most of the time (coded as =3). Mean trust for public hospitals was 2.85 (SD = 0.84) and for for-profit hospitals was 2.83 (SD = 0.87). We also assessed mean trust scores among only

Table 2. Multivariable regression results.

Predictors	Relevance, outcome, and regression type ^a			Preference, outcome, and regression type ^b						Knowledge, outcome, and regression type ^c			
	Model 1: Relevance of ownership status (<i>n</i> = 2569) ^b (No = 0/Yes = 1)			Model 2: Preference for nonprofit hospitals (<i>n</i> = 742) (No = 0/Yes = 1)		Model 3: Preference for public hospitals (<i>n</i> = 742) (No = 0/Yes = 1)		Model 4: Preference for for-profit hospitals (<i>n</i> = 742) (No = 0/Yes = 1)		Model 5: Knowledge of national hospital brands (<i>n</i> = 1370)		Model 6: Knowledge of local hospital brands (<i>n</i> = 1841)	
	OR	95% CI	Logit	OR	95% CI	OR	95% CI	OR	95% CI	<i>b</i>	95% CI	<i>b</i>	95% CI
Age ^c	0.97**	(0.96-0.98)	1.02**	(1.01-1.03)	0.97**	(0.96-0.98)	1.02**	(1.01-1.04)	0.00**	(0.00-0.00)	0.00*	(0.00-0.00)	
Health literacy (1 = always needing help; 5 = never needing help)	0.66**	(0.60-0.73)	1.08	(0.93-1.25)	1.02	(0.90-1.17)	0.87	(0.73-1.05)	0.00	(-0.01 to 0.02)	0.01	(-0.00 to 0.03)	
Health status (1 = poor; 5 = excellent)	1.17**	(1.06-1.30)	0.80**	(0.67-0.94)	0.94	(0.81-1.10)	1.62**	(1.23-2.02)	-0.03**	(-0.04 to -0.01)	-0.01	(-0.03 to 0.01)	
Female ^d	0.69**	(0.57-0.84)	1.37	(0.99-1.91)	0.67*	(0.49-0.92)	1.30	(0.84-2.00)	0.01	(-0.01 to 0.03)	0.00	(-0.04 to 0.03)	
Medicare proxy—public insurance and >65 y of age	0.63	(0.38-1.04)	1.69	(0.66-4.37)	1.92	(0.74-5.01)	0.06*	(0.01-0.53)	0.06**	(0.02-0.11)	0.04	(-0.02 to 0.11)	
Medicaid proxy—public insurance and <65 y of age	1.37**	(1.10-1.69)	1.09	(0.76-1.57)	1.31	(0.94-1.83)	0.54**	(0.34-0.85)	-0.01	(-0.04 to 0.02)	-0.02	(-0.06 to 0.02)	
Uninsured	1.16	(0.81-1.66)	1.29	(0.70-2.38)	1.31	(0.72-2.38)	0.30*	(0.10-0.89)	0.02	(-0.02 to 0.07)	-0.02	(-0.09 to 0.05)	
Black ^e	1.41*	(1.08-1.83)	0.91	(0.59-1.40)	1.31	(0.88-1.94)	0.72	(0.41-1.28)	-0.04*	(-0.07 to -0.00)	-0.02	(-0.06 to 0.03)	
Hispanic	1.33*	(1.02-1.75)	0.76	(0.48-1.20)	1.69*	(1.11-2.56)	0.58	(0.31-1.09)	-0.01	(-0.05 to 0.02)	0.00	(-0.05 to 0.05)	
Education (0–5, with 5 = graduate degree)	1.10	(1.01-1.20)	0.96	(0.83-1.11)	0.81**	(0.71-0.93)	1.53**	(1.27-1.85)	0.01*	(0.00-0.02)	0.01	(-0.01 to 0.02)	
Metro ^f	1.30	(1.00-1.70)	1.14	(0.70-1.86)	0.72	(0.46-1.13)	1.48	(0.73-2.99)	0.00	(-0.03 to 0.03)	0.06*	(0.01-0.10)	
Work in health care ^g	3.06**	(2.33-4.02)	0.94	(0.63-1.41)	1.36	(0.94-1.97)	0.62	(0.369-1.05)	-0.04*	(-0.08 to -0.01)	0.05	(-0.00 to 0.09)	
Constant	2.06	(1.10-3.87)	0.26	(0.09-0.79)	7.96	(2.78-22.81)	0.01	(0.00-0.04)	0.42	(0.33-0.50)	0.15	(0.04-0.27)	

Source: Authors' analysis of an original online survey, hosted on NYU Grossman Medical School's Qualtrics platform and distributed by a paid panel provider, Lucid Theorem (now Cint), between November 17 and 24, 2022, among US adults aged 18+ years.

Abbreviations: OLS, ordinary least squares; OR, odds ratio.
^aOdds ratios are used for binary logistic regression models; *b*-coefficients are used for ordinary least-squares regression models. ^bSample size across models differs due to skip logic in the survey and participant nonresponse. ^cWe treated age as a continuous variable. ^dReference group for female is non-female (inclusive of trans and nonbinary people). ^eReference group for Black is non-Black. ^fUsing respondent's 3-digit zip code, we created a dichotomous metro/non-metro variable based on the US Department of Agricultural Rural Urban Continuum; 83.3% of respondents fell into the metro category (1–3 on the continuum, indicating urban counties). ^gWork in health care = respondents who answered Yes to "Are you currently working as a health care provider (eg, radiology technician, pharmacist, nurse, doctor)?" or "Are you currently working as another kind of health care professional (eg, receptionist, patient advocate, administrator)?"^h * *P* < .01; ** *P* < .05.

Table 3. Performance of the sample on national quiz questions.

National brand	Respondents who had never heard of this hospital	True ownership status	Respondents who correctly identified ownership status
St Jude's Children's	3.5%	Nonprofit	74.8%
Bellevue	32.5%	Public	46.7%
Sloan Kettering	26.8%	Nonprofit	43.6%
Mayo Clinic	11.1%	Nonprofit	41.7%
Cleveland Clinic	25.6%	Nonprofit	33.9%
Cancer Treatment Centers of America	10.1%	For-profit	32.8%

Source: Authors' analysis of an original online survey, hosted on NYU Grossman Medical School's Qualtrics platform and distributed by a paid panel provider, Lucid Theorem (now Cint), between November 17 and 24, 2022, among US adults aged 18+ years.

those respondents who had indicated that ownership status was relevant to decisions about where to seek care. We found identical mean trust scores for nonprofit and for-profit hospitals (2.85; SD = 0.84), although trust in public hospitals was slightly lower (2.77; SD = 0.93). Analysis of variance (ANOVA) testing showed no significant differences in trust among the 3 ownership statuses.

Respondents' knowledge of ownership status

Respondents performed poorly on both the national and local quiz questions. A majority of respondents were familiar with the 6 national hospital brands, but less than half of respondents who were familiar with each hospital were able to correctly identify the ownership status (Table 3). In 2 cases (Cleveland Clinic and Cancer Treatment Centers of America), the sample performed worse than random chance. The sample performed best when asked about St. Jude Children's Hospital, with 74.5% of respondents correctly identifying it as a nonprofit.

Among local hospitals, the sample's performance was similarly poor in spite of considerable familiarity with the hospitals that we presented. Respondents were presented with up to 3 local hospitals in their 3-digit zip code and an average of 2 hospitals. A total of 92.4% of the sample was familiar with at least 1 of the local hospitals presented. A total of 86.6% reported having received care from at least 1 of the hospitals, 34.8% had worked in at least 1 of the hospitals, and 29.5% had donated to at least 1 of the hospitals.

Among respondents who indicated that they were familiar with a local hospital, less than half (46.5%) were able to correctly identify the ownership status. When the local hospital was a nonprofit hospital, the sample faced still more difficulty in correctly identifying the correct ownership status. In these cases, the sample performed worse than random chance (24%).

The local quiz results provide a snapshot of how respondents view the national hospital landscape. The true ownership breakdown of the nation's community hospitals is as follows: 57% nonprofit, 24% for-profit, and 19% public. Our survey sample was presented with a set of local hospitals that broke down as follows: 61% nonprofit, 21% for-profit, and 18% public. Extrapolating based on the answers the sample provided to local quiz questions, respondents believed 23% of hospitals to be nonprofit, 43% to be for-profit, and 34% to be public (Figure 1).

We modeled respondents' knowledge of ownership status using the percentage correct on the national quiz questions (Table 2, model 5) and percentage correct on the local quiz questions (Table 2, model 6). With regard to the national

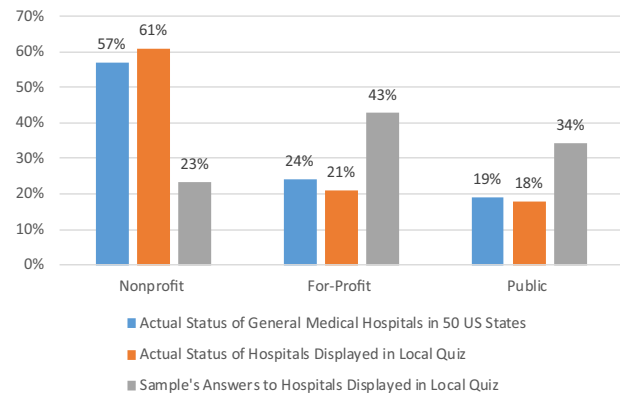


Figure 1. Reality vs respondents' perception of national hospital landscape. Source: Authors' analysis of an original online survey, hosted on NYU Grossman Medical School's Qualtrics platform and distributed by a paid panel provider, Lucid Theorem (now Cint), between November 17 and 24, 2022, among US adults ages 18+ years. Within each ownership type (Nonprofit, For-Profit, and Public), left bar represents the proportion of that ownership type among all general medical hospitals in the 50 US states, center bar represents the proportion of that ownership type among all hospitals presented to survey respondents in local quiz questions, and right bar represents the proportion of that ownership type among guesses made by survey respondents to local quiz questions.

quiz, our multivariable regression analysis found that those working in health care performed worse, on average, than people not working in health care ($b = -0.04$; 95% CI, -0.08 to 0.01). People who had more education performed better than people with less education ($b = 0.01$; 95% CI, 0.00 – 0.02).

In the local quiz, older respondents scored higher than younger respondents. Respondents living in metro zip codes more often identified the ownership status of local hospitals correctly than those living in non-metro zip codes. We also reran our base model to include whether the respondent or anyone in their household had worked at the hospital, received care there, or donated there and found no statistically significant relationships between these variables and performance on the local quiz.

Additional sensitivity checks and explorations of potential objections are reported in Appendix C.

Respondents' reactions to the survey

More than half of people opted to view the correct responses to national and local quiz questions and were given an opportunity to react to those answers and the survey generally in an open-text box. The most directly relevant comments concerned respondents' willingness to trust hospitals of various ownership types, given that contract failure theory hinges on

an assumption that nonprofit hospitals signal trustworthiness. In [Appendix D](#) we present all responses that directly mentioned trust ($n = 5$), 3 of which mentioned trust differentials based on ownership status. Respondents were divided in which ownership type they most trusted. One respondent indicated that learning that Cancer Treatment Centers of America was for-profit made them “trust them less overall,” while another indicated, “I feel I would trust a for-profit hospital over a public or nonprofit hospital.” A third respondent submitted, “I have to trust that I’ll get the best care possible regardless of nonprofit or for profit.”

Discussion

Our findings fail to support the contract failure theory of nonprofits, or what we have called the signaling defense of nonprofit hospitals. In order for contract failure theory to empirically hold, we would have expected to see evidence that respondents find ownership status relevant, that they prefer nonprofit hospitals over other types of hospitals, and that they can correctly identify nonprofit hospitals in their communities. Our data refute the assumptions about relevance and knowledge: less than one-third of respondents have ever considered ownership status relevant and respondents performed worse than random chance when presented with local nonprofit hospitals and only marginally better when presented with national nonprofit hospitals, with the exception of St. Jude’s.

Our data on respondents’ preference for ownership status are less conclusive, with explicit preference data indicating a wide-margin preference for public hospitals over both nonprofit and for-profit hospitals. We also found heterogeneity in preferences for ownership type, suggesting that, depending on one’s social location, nonprofit hospitals may be preferable, but this is hardly the case for all participants. It is possible that allowing participants to indicate ranked preferences for ownership type could have better elucidated differences in support, but our data do not allow us to consider this possibility. We found high overall and nearly identical levels of stated trust in all 3 hospital types, which accords with 2021 data that more than 70% of the general public trust hospitals either somewhat or completely.²⁹ The ceiling effect we observed in our trust data makes it difficult to distinguish different levels of trust by hospital type and may suggest that ownership status is not a key factor shaping trust in hospital organizations. Unfortunately, the available literature on trust in health care sheds little light on what else may drive trust in hospital organizations. Of more than 700 papers recently reviewed, only 19 took up the issue of trust in health care organizations.³⁰

These findings suggest that the present-day value of nonprofit hospitals should not be attributed primarily to their ability to signal enhanced trustworthiness to the general public. That said, our data come from a nonprobability sample and may not be generalizable to all Americans. We also collected data from a single time point in 2022, which does not allow us to assess trends over time. It is possible that either knowledge or relevance has eroded over time and future studies should consider this possibility. Also possible is that Hansmann’s theory has always described how patients would ideally behave in the face of information asymmetries rather than how they actually do behave.

Our survey was not designed to answer why people do not find ownership status relevant or why they appear to have

trouble identifying hospitals of different ownership types. That said, we see 2 potential explanations for the discrepancy between our results and contract failure theory, which may merit further inquiry.

The first is that people do not feel they have a meaningful choice to make among hospitals, which diminishes the import of understanding ownership status even if there are multiple hospitals of differing statuses within their 3-digit zip code. Lacking a sense of choice, people’s investment in understanding the characteristics of various hospitals is likely to be minimal. Instead, Americans may simply go to monopoly providers, those closest to home, wherever a primary care doctor refers them, or to the providers that are in-network for their insurance plan. Hansmann addressed this scenario in a 1981 response to other empirical findings, writing that a consumer’s uncertainty about whether an organization is nonprofit cannot be taken as an indictment of contract failure if the person did not have a choice of providers in the first place.³¹ Indeed, our findings should not be taken as an indictment of contract failure in all nonprofit settings, but do suggest the need for alternative justifications for the retention of nonprofits in today’s health care landscape. To the extent that people face information asymmetries in deciding where to seek health care, the nonprofit form does not seem to be acting as an effective signaling device about where patients might reasonably place their trust.

The second potential explanation as to why our results fail to align with contract failure is that many people feel that all hospitals—regardless of ownership status—behave similarly. If this is the case, it is reasonable for them not to consider ownership status a meaningful marker and not invest in learning hospitals’ statuses. Over 40 years ago, Hansmann assumed that nonprofit status powerfully shaped the behavior of organizations by legally prohibiting the distribution of profits. From there, he reasoned that nonprofits had low or no incentive to exploit consumers or self-enrich because there was nowhere to send said profits. But evidence from today’s health care marketplace defies the assumption that nonprofits’ nondistribution constraint provides a powerful check on their behavior.³²⁻³⁴ Indeed, many nonprofit hospitals behave in ways indistinguishable from for-profits, no doubt partly because they must compete with them for insurance contracts, labor, and sources of capital, if not patients.

It is worth noting that our findings were not especially different for people who identified themselves as working inside the health care system and those who worked outside of it. Respondents who worked in health care considered ownership status substantially more relevant than those who did not, but did not hold discernible preferences for 1 ownership type over others in multivariable modeling and performed slightly worse than people who worked outside of health care in identifying the ownership status of national hospital brands. If we assume that the average health care worker has a better understanding of US health care and nonprofit hospitals than the average non-health care worker, the challenges that nonprofit hospitals face in establishing their value owes to more than just consumer education.

Our findings may prompt a reconsideration of the social value created by granting hospitals a nonprofit tax status. Our findings increase the import of identifying whether there are any durable advantages to nonprofit hospitals in terms of what they produce—lower costs, better quality, more community investment, or other benefits. If the stream of literature

investigating these questions continues to be inconclusive, a scholarly search for a new defense of nonprofit hospitals may be needed. Concurrently, policymakers may appropriately undertake efforts to reform the regulatory environment governing nonprofit hospitals so as to force these organizations to create differentiated value in return for the \$28 billion tax exemption they collectively enjoy.

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Supplementary material

Supplementary material is available at *Health Affairs Scholar* online.

Conflicts of interest

Please see ICMJE form(s) for author conflicts of interest. These have been provided as supplementary materials.

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