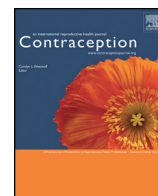




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Do women know whether their hospital is Catholic? Results from a national survey^{☆,☆☆}

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ABSTRACT

Objectives: Catholic healthcare limits access to common reproductive care. We assessed what percentage of US women seeking care at Catholic hospitals are aware of their hospital's religious affiliation and identified variables associated with correct identification.

Study design: We conducted a national survey of women ages 18–45 (response rate 50%). The survey asked participants what hospital they would go to for reproductive care and what the religious affiliation of that hospital was. We verified responses as correct or incorrect against a known Catholic hospital list. We used bivariate analysis and logistic regressions to evaluate factors associated with correct identification.

Results: Sixteen percent of women reported a Catholic hospital as their primary hospital for reproductive care. Among women whose primary hospital was Catholic, 63% [95% confidence interval (CI): 54.5–70.7] correctly identified this, compared to 93% who correctly identified their hospital as non-Catholic (95% CI 91.4–95.0). Two thirds of respondents who misidentified their Catholic hospital's affiliation reported that their hospital was secular (66%), and 48% of those women felt sure or very sure of their incorrect response. Factors associated with correctly identifying Catholic hospitals included hospital with a religious-sounding name [adjusted odds ratio (aOR)=2.80; 95% CI: 1.07–7.34], respondent older age (aOR=3.77; 95% CI: 1.35–10.56), metropolitan residence (aOR=3.35; 95% CI: 1.01–11.10) and income over \$100,000 (aOR 4.95; 95% CI 1.35–18.17).

Conclusion: Over one third of US women who named a Catholic hospital as their primary hospital for reproductive care are unaware it is Catholic. Women are more likely to correctly identify a hospital as Catholic when that hospital has a religious sounding name.

Implications: Patients need accurate information in order to make decisions about where to seek reproductive healthcare. Our results suggest that women are often unaware of their hospital's religious affiliation. Efforts are needed to increase hospital transparency and patient awareness of the implications that arise when healthcare is restricted by religion.

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1. Introduction

Catholic health systems account for a significant portion of the United States healthcare market. Since 2001, the number of Catholic-owned or -affiliated hospitals has increased by 22% [1]. As of 2016, 14.5% of acute-care hospitals, 1 in every 6 hospital beds, and 4 of the 10 largest healthcare systems are Catholic owned or affiliated [1]. In

10 states, more than 3 out of 10 acute care hospital beds are located in a Catholic hospital [1].

Catholic hospitals operate according to the *Ethical and Religious Directives for Catholic Healthcare Services* (ERDs), guidelines for healthcare delivery issued by the United States Conference of Catholic Bishops [2]. The resulting healthcare at these institutions must follow Catholic moral teachings, and the ERDs prohibit access to common reproductive services, including contraception (including sterilization), and abortion [1–14].

Studies have documented a variety of concerns about how religious restrictions affect patient care [4–8, 10–14]. A report from the American Civil Liberties Union highlighted instances when the ERDs conflicted with and precluded standard treatment [3]. Catholic hospitals have refused postpartum tubal ligations, even when this refusal would require the patient to undergo additional surgery, and have delayed

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management of miscarriages [3, 6, 8]. A national survey of obstetrician/gynecologists (ob/gyns) found that 52% of those working in Catholic hospitals have experienced a conflict with their institution over religious policies for patient care [7].

Whether patients understand the restrictions that may affect their healthcare remains unclear. In 2000, a national survey revealed that women expect comprehensive reproductive healthcare regardless of their hospital's religious affiliation [15]. A 2014 study by Guiahi and colleagues [16] found that women in the Denver, Colorado, area were unaware of any potential differences in treatment options when surveyed about two fictitious hospitals – St. Ignatius versus Metropolitan Hospital of Denver – and anticipated the ability to receive a full range of reproductive services at each of these centers, regardless of the religious implications of the name St. Ignatius. Furthermore, this information is important to women; Freedman and colleagues found that 81% of women feel that it is important to know about religious restrictions on healthcare [17], with over half feeling it is “very important.”

While in the study of Guiahi and colleagues most women expected comprehensive reproductive care regardless of where they receive treatment, no study has examined whether women are able to correctly identify the religious affiliation of their own hospital. Not knowing a hospital's religious affiliation can impede a critical step in a woman's ability to anticipate when religious refusals may impact her care. Our study aimed to determine whether women seeking care at a Catholic hospital are aware of that hospital's religious affiliation and how characteristics such as education, age, ethnicity, religion, geographic location and the name of the hospital are associated with that awareness.

2. Materials and methods

2.1. Subjects

The results of this study are based on a subset of questions from a larger survey, and our general survey methods have been described in detail in a previous publication [17].

Our study surveyed a nationally representative sample of English-speaking women ages 18 to 45 ($n=2857$) from the 2015 AmeriSpeak panel [18]. AmeriSpeak is designed and operated by NORC at University of Chicago (formerly the National Opinion Research Center) using their 2010 NORC National Sample Frame. The panel consists of civilian, non-institutionalized adults selected through area-based probability sampling. It provides 97% sample coverage using mail, telephone and in-person recruitment. We selected our sample based on age, race/ethnicity, education and gender, and we weighted responses to account for differing response rates from each demographic group. The University of Chicago and University of California, San Francisco, Institutional Review Boards deemed the study exempt.

2.2. Panel measures

NORC provided demographic data for each participating panel member. We constructed percent of acute care hospitals in the panel member's state using state of residence and information from Mergerwatch [1].

2.3. Survey measures

We based this analysis on three questions from our larger survey. First, we asked participants the name of the hospital where they would seek reproductive or ob/gyn services (referred to in this paper as their “primary hospital”). Respondents were prompted to write in the name of the hospital, its location (city and state) and the name of any system it was a part of to allow for accurate identification of the hospital following data collection. We then asked participants to identify the hospital as Jewish, Catholic, other Christian, other religion

(with a write-in option) or nonreligious. Finally, we asked participants how sure they were of the hospital's religion with the following options: very sure, somewhat sure, somewhat unsure and very unsure.

2.4. Interpretation of survey responses

We compared the religious affiliations as identified by the participants of the hospitals they named against a comprehensive list of Catholic hospitals provided by MergerWatch, an organization that advocates for medical care guided by scientifically accurate information and patients' own religious or ethical beliefs in the face of religious healthcare expansion. MergerWatch most recently updated their analysis in 2016 and reviewed all acute-care hospitals in the United States that provide a full range of services. MergerWatch provided the resulting list of Catholic-owned or -affiliated hospitals (i.e., those operating under the ERDs) to this research team upon our request, which has been made available for other research purposes [19]. This list includes some hospitals not on the Catholic Health Association (CHA) directory, a publicly available source that lists Catholic hospitals. This discrepancy is due to MergerWatch identifying hospitals that have been sold to non-Catholic entities under the condition that they continue enforcing Catholic policies for care found in the ERDs [20]. MergerWatch did not include long-term care, critical access, psychiatric or other limited-service hospitals such as pediatric facilities, so some facilities in the CHA directory are lacking in the MergerWatch list. To account for this, we conducted an independent review of all hospitals named by a survey respondent and not listed by MergerWatch to verify its Catholic/non-Catholic status using publically available information. Using this list as a rubric, we coded participants' responses as correct or incorrect about their hospital's religious affiliation.

Two researchers independently coded religiosity of Catholic hospital name on a scale of one (nonreligious; for example, Memorial), two (ambiguous; for example, Mercy) and three (very religious; for example, St. Joseph). Discrepancies existed for six hospital names, and a third researcher settled these discrepancies through a consensus process.

2.5. Statistical analysis

We used descriptive analysis to report demographic and response characteristics of the survey population. Based on MergerWatch's classification, we compared significant differences between women whose primary hospital is Catholic to those whose primary hospital is non-Catholic using bivariate analysis.

Results from bivariate analyses informed subsequent multivariable regression modeling. We performed logistic regressions to assess factors associated with naming a Catholic facility as one's primary hospital and with ability to correctly identify that hospital as Catholic. We did not omit any variables included in analysis from the tables. Respondent characteristics included demographic information and religiosity of hospital name. For regression analyses, we collapsed respondent's religious identification into Catholic and non-Catholic.

We weighted survey responses to reflect nationwide demographics provided by the 2015 CPS March Supplement. Alpha was set at 0.05. We analyzed all data using Stata statistical software, Version 14. All analyses accounted for the complex sampling design.

3. Results

We invited 2857 women to participate and received 1430 responses, for a response rate of 50.1%. We excluded women whose hospital was permanently closed or unidentifiable along with incomplete responses and those who indicated that they did not receive ob/gyn care, leaving an analytic sample of 1279.

Table 1 displays participant demographics according to whether their primary hospital is Catholic or non-Catholic. The sample included 201 Roman Catholic women of 1279 total (15.7% raw percent, 17.0%

Table 1
Survey respondent characteristics by whether their primary hospital was Catholic or non-Catholic

	Total respondents		Primary hospital is Catholic		Primary hospital is not Catholic		
	n=1279	%	n=199	%	n=1080	%	
Age, years							p=.8088
18–26	450	31.5	64	31.9	324	30	
27–35	484	33.9	71	35.8	377	34.9	
36–45	496	34.7	64	32.3	379	35.1	
Race/ethnicity							p=.8760
White, non-Hispanic	800	56	116	58.2	608	56.3	
Black, non-Hispanic	197	13.8	25	12.3	143	13.2	
Hispanic	289	20.2	43	21.4	219	20.3	
Other	144	10.1	16	8.1	110	10.2	
Education							p=.7280
Less than high school	146	10.2	25	12.7	102	9.4	
High school graduate	336	23.5	43	21.4	250	23.2	
Some college	482	33.7	66	33	365	33.8	
College graduate	467	32.6	66	32.9	363	33.6	
Religion							p=.1579
Protestant, not Born Again	139	11.8	16	9.4	111	12.2	
Roman Catholic	201	17	25	15.2	161	17.8	
Other Christian/just Christian	125	10.6	19	11.6	97	10.7	
Other	130	11	12	7.4	105	11.6	
Nothing/atheistic/agnostic	298	25.3	38	22.9	228	25.2	
Born Again Protestant	287	24.3	56	33.6	204	22.5	
Religious attendance							p=.2349
Never	275	23.3	29	17.3	215	23.7	
Less than monthly	466	39.5	65	38.8	367	40.4	
Monthly	154	13	22	13.3	117	12.9	
Weekly	287	24.3	52	30.6	209	23	
Residential area							p=.0830
Metropolitan	1268	88.6	183	91.9	945	87.5	
Nonmetropolitan	162	11.4	16	8.1	135	12.5	
Region							p<.0001
Northeast	248	17.3	10	5.2	226	20.9	
Midwest	292	20.4	65	32.4	196	18.2	
South	542	37.9	60	30.3	416	38.5	
West	349	24.4	64	32.1	243	22.5	
Annual income							p=.1360
Less than \$25,000	379	26.5	55	27.8	274	25.3	
\$25,000–\$49,999	395	27.6	53	26.6	295	27.4	
\$50,000–\$74,999	227	15.9	44	22	165	15.3	
\$75,000–\$99,999	167	11.7	22	11.1	127	11.8	
\$100,000+	262	18.3	25	12.6	219	20.3	
Type of insurance							p=.0244
Private/employer/exchange	589	53.5	84	50.7	456	54.8	
Public	240	21.8	36	21.8	184	22.1	
Other	130	11.8	11	7	104	12.5	
None	142	12.9	34	20.5	88	10.6	
% of acute hospital beds in state that are in Catholic-owned or -affiliated settings							p<.0001
<20%	892	69.7	93	46.7	799	74	
20%–29%	201	15.7	46	22.9	155	14.4	
30%–39%	102	8	23	11.5	79	7.4	
40%+	84	6.6	38	18.9	47	4.3	
Reported hospital of choice							
Catholic	199	15.6					
Non-Catholic	1080	84.4					

survey-weighted percent; remaining percentages given in the text are survey-weighted to represent estimates of the US population of women ages 18–45). Close to 40% of all participants (441/1279) reported attending weekly or monthly religious services.

Among respondents, 15.6% ($n=199$) named a Catholic institution as their primary hospital for reproductive and ob/gyn care. Women whose primary hospital was Catholic were almost six times as likely to misidentify the religious affiliation of that hospital compared to women seeking care at non-Catholic hospitals: 62.9% ($n=125/199$) of women whose primary hospital was Catholic correctly identified their hospitals as Catholic [95% confidence interval (CI): 54.5%–70.7%] compared to 93.4% ($n=1009/1080$) of women who correctly identified their hospital as non-Catholic (95% CI: 91.4%–95.0%) (Fig. 1).

For women whose primary hospitals were Catholic but were incorrect about religious affiliation, 47.9% (35/73) were sure or very sure

about the affiliation they reported. Fig. 2 shows how women incorrectly identified their Catholic hospital by the incorrect religious affiliation they named.

Table 2 shows the results of logistic regressions examining factors associated with the respondent naming a Catholic hospital as their primary ob/gyn hospital. Roman Catholic participants were no more likely to name a Catholic hospital as their primary institution [odds ratio (OR) 0.83; 95% CI, 0.48–1.42]. Patients seeking care at Catholic hospitals are religiously and demographically diverse. Lack of insurance [adjusted OR (aOR)=2.07; 95% CI: 1.06–4.07] and geographic location [living in a state with over 40% saturation of Catholic hospital beds (aOR=6.01; 95% CI: 2.80–12.92); living in a metropolitan area (aOR=2.26; 95% CI: 1.16–4.43); and living in the Midwest, south or west] significantly increased the likelihood that participants would report a Catholic facility as their primary hospital.

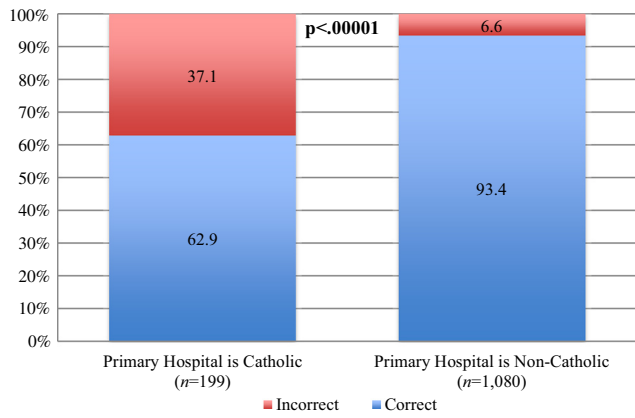


Fig. 1. Percent of US reproductive age women who correctly identify if their primary hospital is Catholic.

Table 3 shows logistic regressions examining factors associated with respondents correctly identifying their primary hospital as Catholic. Roman Catholic participants were no more likely to correctly identify their hospital as Catholic (OR 1.98; 95% CI, 0.62–6.33) compared to non-Catholics. Participants whose primary hospital had a very religious name were almost three times more likely to identify that hospital as Catholic than those whose primary hospital had a non-religious name (aOR 2.80; 95% CI, 1.07–7.34). Older age (36–45 years) was associated with better ability to correctly identify their primary hospital as Catholic compared to participants ages 18–26 (aOR 3.77; 95% CI, 1.35–10.56). Women residing in a metropolitan area were more than three times as likely as women in nonmetropolitan areas to correctly identify their hospital as Catholic (aOR 3.35; 95% CI: 1.01–11.10). Annual income over \$100,000 was also associated with ability to correctly identify one’s hospital as Catholic compared to those with household income less than \$25,000 (aOR 4.95; 95% CI, 1.35–18.17). Higher saturation of Catholic hospitals was not associated with being able to identify that hospital as Catholic (aOR 1.53; 95% CI, 0.52–4.45).

4. Discussion

While many women need further education on how religious affiliation can influence reproductive healthcare, awareness of a hospital’s religious affiliation is an important step in making an informed decision about where to seek care. The potential harms of misunderstanding the religious affiliation of one’s hospital include not getting timely and patient-centered miscarriage management resulting in infection, excessive blood loss, unnecessary distress or being denied a postpartum sterilization or contraception and remaining at risk for unintended pregnancy. Such denials can be financially, logistically, physically and emotionally challenging for some patients.

Among women whose primary hospital is Catholic, over a third were unaware of that hospital’s religious affiliation. The majority of these

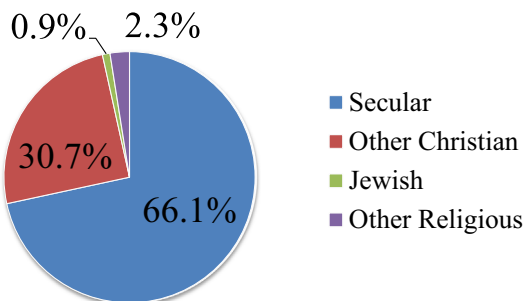


Fig. 2. How women incorrectly identify their Catholic hospital (n=76).

Table 2 Factors associated with women reporting a hospital identified as Catholic by the researchers as their primary hospital for reproductive care (n=199)

	N (%)	OR (95% CI)	aOR (95% CI)
Age, years			
18–26	64 (16.4)	Ref	
27–35	71 (15.9)	97 (0.61–1.53)	
36–45	64 (14.5)	0.87 (0.54–1.40)	
Race/ethnicity			
White, non-Hispanic	116 (16.0)	Ref	
Black, non-Hispanic	25 (14.7)	0.90 (0.45–1.82)	
Hispanic	43 (16.3)	1.02 (0.63–1.65)	
Other	16 (12.8)	0.77 (0.42–1.40)	
Education			
Less than high school	25 (19.9)	Ref	
High school graduate	43 (14.6)	0.68 (0.30–1.56)	
Some college	66 (15.3)	0.73 (0.34–1.52)	
College graduate	66 (15.3)	0.73 (0.34–1.53)	
Religion			
Not Catholic	142 (16.0)	Ref	
Roman Catholic	25 (13.6)	0.83 (0.48–1.42)	
Residential area			
Nonmetropolitan	16 (10.7)	Ref	Ref
Metropolitan	183 (16.2)	1.62 (0.93–2.82)	2.26 (1.16–4.43)
Region			
Northeast	10 (4.4)	Ref	Ref
Midwest	65 (24.8)	7.14 (3.41–14.94)	3.22 (1.16–8.96)
South	10 (12.7)	3.15 (1.45–6.86)	2.83 (1.22–6.55)
West	64 (20.9)	5.72 (2.64–12.39)	3.86 (1.46–9.55)
Annual income			
Less than \$25,000	55 (16.8)	Ref	Ref
\$25,000–\$49,999	53 (15.2)	0.89 (0.54–1.45)	0.85 (0.47–1.54)
\$50,000–\$74,999	44 (21.0)	1.31 (0.77–2.23)	1.16 (0.58–2.32)
\$75,000–\$99,999	22 (14.8)	0.86 (0.42–1.74)	0.93 (0.35–2.48)
\$100,000+	25 (10.3)	0.57 (0.31–1.04)	0.49 (0.23–1.02)
Type of insurance			
Private/employer/exchange	84 (15.5)	Ref	Ref
Public	36 (16.3)	1.06 (0.63–1.79)	1.06 (0.55–2.07)
Other	11 (9.9)	0.60 (0.27–1.32)	0.62 (0.27–1.42)
None	34 (27.7)	2.09 (1.13–3.86)	2.07 (1.06–4.07)
% of acute hospital beds in state that are in Catholic-owned or -affiliated settings			
<20%	93 (10.4)	Ref	Ref
20%–29%	46 (22.7)	2.52 (1.60–3.98)	1.84 (0.87–3.90)
30%–39%	23 (22.5)	2.48 (1.47–4.20)	1.73 (0.88–3.37)
40%+	38 (44.6)	6.91 (3.91–12.21)	6.01 (2.80–12.92)

OR= odds ratio; aOR= adjusted odds ratio

women identified their hospital as nonreligious, suggesting little understanding of how religious affiliation may impact their healthcare. Half of the women who incorrectly identified their Catholic hospital as non-Catholic were sure or very sure that they were correct. These results illustrate the information gap that may obscure how hospital religious affiliation may impede access to appropriate care.

Catholic women in our study were no more or less likely to report a Catholic hospital as their primary hospital compared to other participants, indicating that many patients seeking care at Catholic hospitals likely do not hold the same religious values that dictate what services are available. Even among Catholic women, reports from the Guttmacher Institute show that the vast majority use a contraceptive method other than natural family planning, suggesting that the values upheld by the ERDs do not necessarily represent those of Catholic patients [21].

While Catholic hospital market saturation increased the likelihood that a woman would anticipate going to a Catholic hospital, it was not significantly associated with being able to identify that hospital as Catholic. Given the growth of Catholic healthcare, especially in certain states and regions, this disconnect demonstrates a tension in how patients are able to identify and subsequently understand potential limitations on the care available to them in their primary hospital. Adding weight to recent findings that women of color in some states

Table 3

Factors associated with participants correctly identifying their primary hospital as Catholic (n=125)

	N (%)	OR (95% CI)	aOR (95% CI)
Age, years			
18–26	30 (47.0)	Ref	Ref
27–35	43 (60.6)	1.74 (0.73–4.02)	1.18 (0.49–2.87)
36–45	52 (81.3)	4.91 (1.97–12.25)	3.77 (1.35–10.56)
Race/ethnicity			
White, non-Hispanic	71 (61.6)	Ref	
Black, non-Hispanic	12 (47.4)	0.56 (0.15–2.14)	
Hispanic	33 (77.2)	2.11 (0.80–5.54)	
Other	10 (59.0)	0.9 (0.28–2.82)	
Education			
Less than high school	16 (63.5)	Ref	
High school graduate	18 (43.3)	0.44 (0.10–1.86)	
Some college	45 (68.6)	1.26 (0.34–4.61)	
College graduate	46 (70.8)	1.33 (0.35–5.01)	
Religion			
Not Catholic	88 (61.8)	Ref	
Roman Catholic	19 (76.3)	1.98 (0.62–6.33)	
Residential area			
Nonmetropolitan	6 (34.6)	Ref	Ref
Metropolitan	120 (65.4)	3.57 (1.28–10.00)	3.35 (1.01–11.10)
Region			
Northeast	7 (64.9)	Ref	
Midwest	47 (72.6)	1.44 (0.29–6.99)	
South	32 (52.6)	0.60 (0.11–3.16)	
West	40 (62.7)	0.91 (0.18–4.62)	
Annual income			
Less than \$25,000	27 (48.9)	Ref	Ref
\$25,000–\$49,999	30 (56.1)	1.34 (0.54–3.32)	1.63 (0.59–4.54)
\$50,000–\$74,999	30 (67.6)	2.18 (0.85–5.63)	2.20 (0.75–6.44)
\$75,000–\$99,999	16 (74.6)	3.08 (0.77–12.23)	2.98 (0.73–12.23)
\$100,000+	23 (89.8)	9.22 (2.68–31.74)	4.95 (1.35–18.17)
Type of insurance			
Private/employer/exchange	60 (71.3)	Ref	
Public	20 (56.0)	0.51 (0.20–1.33)	
Other	6 (56.2)	0.52 (0.11–2.39)	
None	18 (52.6)	0.45 (0.14–1.39)	
% of acute hospital beds in state that are in Catholic-owned or -affiliated settings			
<20%	51 (54.5)	Ref	Ref
20%–29%	34 (74.8)	2.48 (1.05–5.82)	2.14 (0.92–5.01)
30%–39%	14 (59.4)	1.22 (0.47–3.19)	1.06 (0.32–3.46)
40%+	27 (71.7)	2.11 (0.83–5.36)	1.53 (0.52–4.45)
Religiosity of hospital name			
Ambiguous	22 (47.0)	Ref	Ref
Somewhat religious	21 (55.8)	1.42 (0.53–3.86)	1.57 (0.52–4.71)
Very religious	83 (71.7)	2.85 (1.19–6.80)	2.80 (1.07–7.34)

OR= odds ratio; aOR= adjusted odds ratio

have greater odds of delivering in Catholic hospitals and may be disproportionately exposed to religious restrictions on care [19], our finding that women with an annual income under \$25,000 per year are less likely to be able to identify that their hospital is Catholic may further compound racial and economic disparities in healthcare generally and reproductive healthcare specifically. Furthermore, given that 80% of women say it is important to know about religious restrictions to reproductive healthcare before deciding where to seek care, efforts to increase transparency and awareness of how Catholic systems may limit care are especially urgent and responsive to patient needs within all racial and economic strata [17].

Hospital name and marketing represent potential areas to increase transparency of religious affiliations. Women were significantly better able to identify hospitals as Catholic when a hospital had a very religious-sounding name. Recent mergers among hospitals, in which previously non-Catholic hospitals are purchased by Catholic networks and agree to comply with the ERDs as part of their contract, may further compromise patients' ability to recognize their hospital as Catholic owned or affiliated. Catholic-affiliated hospitals complying with the ERDs could improve transparency by advertising this religious affiliation clearly and prominently on their websites and in hospital and clinic facilities. Physicians and other healthcare workers at these hospitals

could then further educate women by counseling patients in the full range of reproductive services and elucidating when patients may need to seek care at other hospitals for these services.

A particular strength of our study is that it tests women's ability to identify their own hospital as Catholic, applying our research question to real-world conditions. By collecting information about respondents' own hospitals and back-checking these hospitals' religious affiliations, we are able to identify and integrate local healthcare patterns to illustrate how trends in the healthcare landscape filter down to individual women's reproductive healthcare. The main limitation of our study is the use of a panel-based sample rather than random sampling from the general population. However, our sampling method is diverse and weighted according to current US census data, resulting in a nationally representative sample. Another limitation of our study is that correctly identifying the religious affiliation of a hospital does not imply that our participants are aware of religious restrictions or that those restrictions are implemented uniformly at all Catholic facilities. Finally, while MergerWatch updated its list of Catholic hospitals in 2016, mergers and acquisitions among hospitals are constantly developing, and our identification of hospital affiliations may not perfectly reflect women's experiences seeking care in these hospitals.

At Catholic hospitals, the ERDs prohibit common reproductive services that are critical to women's lives, such as contraception, sterilization and abortion procedures. Building upon the finding of Guiahi et al. finding that few women can discern if or how religion affects care, our results add further evidence that many US women are unable to identify the religious affiliation of their hospital in the first place [16].

These findings have important implications for a woman's ability to make an informed decision about where to seek reproductive and ob/gyn healthcare. Increased transparency surrounding religious affiliations and the resulting restrictions on healthcare services is necessary to aid women in determining where their health needs will be met. Further research is necessary to investigate how to increase awareness about these restrictions, particularly with regards to how women choose their primary hospital, what resources women use to find information about that hospital and how efforts to increase transparency of religious affiliations and restrictions might better equip women to make these choices in the future.

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References

- [1] Uttley L, Khaikin C, HasBrouck P. Growth of Catholic hospitals and health systems: 2016 update of the miscarriage of medicine report. Available from: http://static1.1.sqspcdn.com/static/f/816571/27061007/1465224862580/MW_Update-2016-MiscarriageOfMedicine-report.pdf?token=7BGsnPyq440GPR0AyWEggOThYQ8%3D; 2016.
- [2] United States Conference of Catholic Bishops. Ethical and religious directives for Catholic health care services. 5. Available from: <http://www.usccb.org/issues-and-action/human-life-and-dignity/health-care/upload/Ethical-Religious-Directives-Catholic-Health-Care-Services-fifth-edition-2009.pdf>; 2009.
- [3] Kaye J, Amiri B, Telling L, Dalven J. Health care denied: patients and physicians speak out about Catholic hospitals and the threat to women's health and lives. American Civil Liberties Union 2016 [40]. Available from: https://www.aclu.org/sites/default/files/field_document/healthcaredenied.pdf.
- [4] Foster AM, Dennis A, Smith F. Do religious restrictions influence ectopic pregnancy management? A national qualitative study. *Womens Health Issues* 2011;21(2):104–9.
- [5] Freedman LR, Landy U, Steinauer J. When there's a heartbeat: miscarriage management in Catholic-owned hospitals. *Am J Public Health* 2008;98(10):1774–8.

- [6] Freedman LR, Stulberg DB. Conflicts in care for obstetric complications in Catholic hospitals. *AJOB Prim Res* 2013;4(4):1–10.
- [7] Stulberg DB, Dude AM, Dahlquist I, Curlin FA. Obstetrician-gynecologists, religious institutions, and conflicts regarding patient-care policies. *Am J Obstet Gynecol* 2012;207(1):73.e71–5.
- [8] Stulberg DB, Hoffman Y, Dahlquist IH, Freedman LR. Tubal ligation in Catholic hospitals: a qualitative study of ob-gyns' experiences. *Contraception* 2014;90(4):422–8.
- [9] Uttley LJ. How merging religious and secular hospitals can threaten health care services. *Soc Policy* 2000;30(3):4–13.
- [10] Catholics for a Free Choice. *Complying with the law? How Catholic hospitals respond to state laws mandating the provision of emergency contraception to sexual assault patients*. Washington, D.C: Catholics for a free choice; 2001.
- [11] Guiahi M, Teal SB, Swartz M, Huynh S, Schiller G, Sheeder J. What are women told when requesting family planning services at clinics associated with Catholic hospitals? A mystery caller study. *Perspect Sex Reprod Health* 2017;49(4):207–12.
- [12] Temin E, Coles T, Feldman JA, Mehta SD. Availability of emergency contraception in Massachusetts emergency departments. *Acad Emerg Med* 2005;12(10):987–93.
- [13] Polis C, Schaffer K, Harrison T. Accessibility of emergency contraception in California's Catholic hospitals. *Womens Health Issues* 2005;15(4):174–8.
- [14] Guiahi M, McNulty M, Garbe G, Edwards S, Kenton K. Changing depot medroxyprogesterone acetate access at a faith-based institution. *Contraception* 2011;84(3):280–4.
- [15] Belden Rusonello & Stewart. Religion, reproductive health and access to services: a national survey of women. Available from: <http://www.brspoll.com/uploads/files/CFFC-cons%20clause%20report.pdf>; 2000.
- [16] Guiahi M, Sheeder J, Teal S. Are women aware of religious restrictions on reproductive health at Catholic hospitals? A survey of women's expectations and preferences for family planning care. *Contraception* 2014;90(4):429–34.
- [17] Freedman LR, Hebert LE, Battistelli MF, Stulberg DB. Religious hospital policies on reproductive care: what do patients want to know? *Am J Obstet Gynecol* 2018; 218(2):251.e1–9.
- [18] Dennis M. Technical overview of the AmeriSpeak panel – NORC's probability-based research panel. Available from: [NORChttp://www.norc.org/PDFs/AmeriSpeak%20Technical%20Overview%202015%2011%2025.pdf](http://www.norc.org/PDFs/AmeriSpeak%20Technical%20Overview%202015%2011%2025.pdf); 2017.
- [19] Shepherd K, Reiner Platt E, Franke K, Boylan E. Bearing faith: the limits of Catholic health care for women of color. Available from: <https://www.law.columbia.edu/sites/default/files/microsites/gender-sexuality/PRPCP/bearingfaith.pdf>; 2018.
- [20] Sepper E. Taking conscience seriously. *Virginia Law Rev* 2012:1501–75.
- [21] Jones RK, Dreweke J. Countering conventional wisdom: new evidence on religion and contraceptive use. Available from: [Guttmacher Institutehttps://www.guttmacher.org/sites/default/files/report_pdf/religion-and-contraceptive-use.pdf](https://www.guttmacher.org/sites/default/files/report_pdf/religion-and-contraceptive-use.pdf); 2011.