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**Catholic sole community hospital s are associated with decreased receipt of postpartum permanent contraception among Medicaid recipients**

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**Abstract**

**Objective:** To examine the association of Catholic hospitals with receipt of postpartum tubal ligation and long acting, reversible contraception among Medicaid recipients.

**Study Design:** We conducted a retrospective cohort study of live births from January 1, 2016 through October 31, 2016 to female Medicaid beneficiaries in the US between ages 21 to 44. Our main exposure was the presence of a Catholic affiliated sole community hospital, and our primary outcome was highly effective postpartum contraception. We examined rates of postpartum permanent contraception, along with use of a long acting, reversible form of contraception (LARC) at 3 and 60 days postpartum. We compared counties that had only a Catholic affiliated hospital with counties with only a non-Catholic hospital.

**Results:** Our study population included 14,545 postpartum Medicaid beneficiaries. Study participants came from 88 counties across 10 US states. Only 7.7% of women in counties with Catholic sole community hospitals received permanent contraception by 3 days postpartum, compared to 11.3% in counties with non-Catholic sole community hospitals (RD: -3.92%; 95% CI: -6.01%, -1.83%). This difference was not mitigated by receipt of outpatient procedures or long-acting, reversible contraception. Importantly, women residing in counties with Catholic sole community hospitals were much less likely to return postpartum for an outpatient visit between 8 and 60 days postpartum than women in counties with non-Catholic sole community hospitals (35.4% vs 45.4%, RD: -9.29%; 95% CI: -16.71%, -1.86%).

**Conclusion:** In counties where the only hospital was Catholic, Medicaid recipients giving birth were significantly less likely to receive permanent contraception and to return for postpartum care.

**Keywords:** Catholic, Medicaid, postpartum permanent contraception, contraception

**Implications:**

Catholic hospitals are increasing in the United States, which may restrict access to postpartum contraception, particularly in rural areas. We found that Medicaid recipients giving birth at a Catholic sole community hospital were less likely to receive permanent contraception and to return for care.

## 1. Introduction

A growing number of women in the United States (US) give birth in a Catholic hospital, which may have important implications for the quality of their postpartum care. Catholic hospitals operate under Ethical and Religious Directives for Catholic Health Care Services issued and enforced by the U.S. Conference of Catholic Bishops [1]. The directives explicitly prohibit the provision of contraception, a critical, evidence-based component of postpartum care [1-3]. These directives include, and may disproportionately impact long-acting methods, including permanent contraception [4].

Postpartum contraception is an effective and safe strategy to promote both reproductive health and autonomy [5, 6]. Permanent female contraception, or tubal ligation, is one of the most common forms of contraceptive used in the US; in 2016, an estimated 22% of contraceptive users relied on a permanent, female method [7]. For women who desire permanent contraception, admission for childbirth is a common time to request and obtain it, particularly if a cesarean birth occurs. However, despite the safety, effectiveness, and popularity of postpartum permanent contraception, requests for tubal ligation commonly go unfulfilled [8]. Multiple barriers exist to obtaining postpartum contraception, in particular permanent methods [9].

The growing predominance of Catholic health systems in the US presents another barrier to obtaining postpartum permanent contraception [10, 11]. Over the last two decades, through acquisitions and mergers, there has been a steady increase in the growth of Catholic hospitals [12]. The ten largest Catholic health systems have experienced a 50% growth in ownership of acute care hospitals since 2001 [12]. The number of communities where a Catholic hospital is the only choice has continued to increase. In 2020, there were 52 hospitals operating under Catholic restrictions that were the sole community hospital for people living in their region [12]. To qualify, hospitals must be at least 35 miles from another hospital offering similar services [13].

In this study, we use national Medicaid claims data to determine the association between the presence of a Catholic sole community hospital and receipt of postpartum permanent contraception.

## 2. Methods

We conducted a retrospective cohort study of live births from January 1, 2016 through October 31, 2016 to female Medicaid beneficiaries between ages 21 to 44. Our primary outcome was the receipt of permanent contraception. We measured rates of permanent contraception during the inpatient admission (within three days of childbirth) and during the first 60 days postpartum. Secondary outcomes included attendance at a postpartum visit and receipt of long-acting, reversible contraception (an intrauterine (IUD) device or implant) within 60 days. We followed the Strengthening the Reporting Of Observational Studies in Epidemiology reporting guidelines [14]. The institutional review board at Oregon Health & Science University reviewed and approved the study protocol.

Our primary explanatory variable was the presence of a Catholic-affiliated sole community hospital at the county level. Designation as a sole community hospital means that the facility is located at least 35 miles away from other similar hospitals, or is located in a rural area and meets certain other criteria, such as being at least 45 minutes in travel time away from the next closest hospital [13]. We determined the association between presence of a Catholic sole community hospital and receipt of permanent contraception.

### 2.1 Data and Study Sample

We used national Medicaid claims and enrollment data from the most recently available year (2016) of the Transformed Medicaid Statistical Information Systems (T-MSIS) Analytic

Files (TAF) to capture demographic data, birth outcomes, postpartum contraceptive use, and care attendance. We identified sole community hospitals using 2016 provider files from the Center for Medicare & Medicaid Services (CMS), in combination with files from the National Bureau of Economic Research [15]. We used a database of Catholic-affiliated hospitals maintained by Community Catalyst and cross-referenced with a publicly available dataset to evaluate the religious affiliation of each sole community hospital [1, 12].

To allow for clear identification of our exposure, Catholic sole community hospital, we excluded counties that contained both Catholic- and Non-Catholic-affiliated sole community hospitals. To control for state-level factors influencing care, we included in our analysis only the ten states that contributed at least one county with a Catholic sole community hospital and at least one county with a Non-Catholic affiliated sole community hospital.

We evaluated data quality using standardized assessments from CMS and excluded states with data identified as “unusable” or “high concern” [16]. We excluded beneficiaries with unstable enrollment information, missing or invalid county or state of residence, those who lived outside of the state they were receiving Medicaid benefits from, those who were enrolled in multiple states during 2016, and those enrolled in Emergency Medicaid, as contraception, including permanent contraception, is not a federal benefit. We also excluded critical access hospitals from our analyses because they may have affiliations with Catholic hospitals solely for the purpose of transferring patients for more advanced types of care, which may not require them to operate under Catholic Ethical and Religious Directives[12]. Figure 1 in the Appendix provides the full details of our study cohort creation.

Our primary outcomes were receipt of permanent contraception following childbirth. We included all forms of tubal permanent contraception (e.g partial salpingectomy, complete

salpingectomy, fulguration, clip) in our outcome, and did not differentiate by type in our analysis. We measured permanent contraceptive use at two time points: during the first three days (inpatient) postpartum and within 60 days following childbirth. This allowed us to investigate whether women who were unable to access permanent contraception in the inpatient setting were subsequently able to obtain permanent contraception postpartum. Given similar contraceptive effectiveness and the long-acting nature of the IUD and implant, we also measured LARC initiation during the first 60 days postpartum. We examined rates of outpatient postpartum care attendance from eight to 60 days postpartum to evaluate whether people in both groups were as likely to obtain follow-up care.

We measured postpartum contraceptive use with a modified version of the Office of Population Affairs's contraceptive metric. This validated measure uses diagnosis, procedural, and drug codes to capture and classify contraceptive methods [17]. According to metric guidelines, live births occurring after October 31, 2016 were excluded to ensure 60 days of postpartum follow-up were available in the measurement year for the individual to receive contraception. Outpatient postpartum visits were identified using diagnosis and procedure codes per the HEDIS 2016 Prenatal and Postpartum Care (PPC) Postpartum Visits and Postpartum Bundled Services Value Sets [18]. Supplementary details can be found in the Appendix.

## *2.2 Explanatory Variable of Interest and Covariates*

Our primary explanatory variable was an indicator for the presence of a Catholic-affiliated sole community hospital located in the beneficiary's county of residence. Full details on the process used to identify sole community hospitals can be found in the Appendix.

We obtained enrollee demographic data (including sex, age, race, ethnicity, and county of residence) from the TAF Demographic and Eligibility file. We used the 2013 National Center for

Health Statistics Urban-Rural Classification Scheme for Counties to classify urbanization level (metropolitan or nonmetropolitan)[19].

### 2.3 Statistical Analysis

We estimated the rates for receipt of 3- and 60-day postpartum tubal permanent contraception, 60-day LARC, 60-Day postpartum permanent contraception or LARC, and 60-day postpartum care visits for women in counties with Catholic- and non-Catholic-affiliated sole community hospitals. We estimated rate differences (RDs) using a linear probability model with state-level fixed effects for each outcome with the following functional form:

$$\gamma_{ics} = \beta_0 + \beta_1 X_i + \beta_2 X_c + \beta_3 \text{Catholic}_c + \delta_s + \epsilon_{ics}$$

where  $\gamma_{ics}$  is a binary indicator measuring the use of the contraception type or completion of a follow-up care visit in the respective postpartum period,  $\text{Catholic}_c$  is an indicator for whether the county only contains Catholic-affiliated sole community hospitals,  $X_i$  is a vector of patient characteristics,  $X_c$  is a vector of county characteristics, and  $\delta_s$  are state-level fixed effects. Our parameter of interest is  $\beta_3$ , which measures the difference in contraception utilization or postpartum care visit completion associated with the presence of a Catholic-affiliated sole community hospital. We examined variation in our outcomes by drawing a combined box plot, showing the median and interquartile range (IQR) for each outcome (Appendix Figures 1-4). Our models adjusted for enrollee 4-year age groups (21-24, 25-28, 29-32, 33-36, 37-40, 41-44) and rurality. Models also included state fixed effects to adjust for differences in access and coverage between states.

Racial and ethnic disparities in contraceptive use, in particular permanent methods, has been well described in the literature [20-24]. Therefore, we conducted a supplemental analysis of the interaction between residence in a county with a Catholic-affiliated sole community hospital



and beneficiary race and ethnicity group to determine if the presence of a Catholic sole community hospital had a differential effect on receipt of postpartum permanent contraception by race or ethnicity.

$$\gamma_{ics} = \beta_0 + \beta_1 X_i + \beta_2 X_c + \beta_3 \text{Catholic}_c + \beta_4 \text{Race}_i + \beta_5 \text{Catholic}_C \text{Race}_i + \delta_s + \epsilon_{ics}$$

where our parameter of interest is  $\beta_3$  for the reference race and ethnicity group, and the differential effect  $\beta_5$ .

All analyses were conducted using R software, version 4.1.2. Statistical tests were two-sided and p-values less than 0.05 were considered statistically significant.

### 3. Results

Our final cohort included 14,545 female Medicaid beneficiaries living in 88 counties across 10 US states (Table 1, Figure 2 Map). This cohort represents 1.2% of Medicaid recipients who gave birth during our study period ( $n=1,165,358$ , Table 1). A majority of our sample identified as non-Hispanic white (68.4%). States meeting inclusion criteria were primarily located in the West and Midwest regions of the country (Figure 2).

In our sample, 26.3% ( $n= 3,828$ ) of women giving birth resided in counties with a Catholic-affiliated sole community hospital. Mean age was similar between groups (Table 1). Women giving birth in counties with Catholic-affiliated sole community hospitals were slightly more likely to be Hispanic, and less likely to be Black than women in counties with Non-Catholic sole community hospitals. Women residing in counties with non-Catholic sole community hospitals were more likely to be from nonmetropolitan areas than those from counties with Catholic sole community hospitals (86.5% vs 70.4%, Table 1).

In 2016, only 7.7% of women in counties with Catholic sole community hospitals received permanent contraception by 3 days postpartum, compared to 11.3% in counties with Non-Catholic sole community hospitals (RD: -3.92%; 95% CI: -6.01%, -1.83%) (Table 2). This difference was not mitigated by receipt of outpatient permanent contraception between postpartum days 3 and 60. The rates of permanent contraception increased only slightly between 3 and 60 days postpartum for both groups. Among women in counties with non-Catholic sole community hospitals, 13.5% received permanent contraception by 60 days postpartum as opposed to just 9.1% in counties with Catholic sole community hospitals (RD: -4.24%; 95% CI: -6.29%, -2.18%).

Differences in permanent contraception rates were not offset by differences in the receipt of LARC during the 60-day postpartum period, with women in counties with Catholic sole community hospitals receiving postpartum LARC at roughly the same rate (11.3%) as those with Non-Catholic sole community hospitals (10.9%) (RD: -1.80%, 95% CI: -4.84%, 1.25%). Only 20.4% of women in counties with Catholic sole community hospitals received permanent contraception or LARC by 60 days postpartum, compared to 24.2% in counties with Non-Catholic sole community hospitals (RD: -6.06%, 95% CI: -9.63%, -2.49%) (Table 2). Women residing in counties with Catholic sole community hospitals were much less likely to complete an outpatient visit between 8 and 60 days than counties with non-Catholic sole community hospitals (35.4% vs 45.4%, RD: -9.29%; 95% CI: -16.71%, -1.86%). We examined the distribution of county rates of each of our study outcomes, by type of hospital. Within both Catholic sole community hospitals and non-Catholic sole community hospitals, considerable variation existed between counties, suggesting that additional factors, besides religious affiliation, affect rates of postpartum permanent contraception (Appendix Figures 1-4).

When stratifying by beneficiary race and ethnicity, we found similar point estimates for the association of residence in a county with a Catholic-affiliated sole community hospital for most race and ethnicity groups. However, the confidence intervals for these estimates were quite wide (Table 3). Receipt of postpartum permanent contraception among women who are Hispanic, all races in counties with Catholic sole community hospitals was 4.89% lower at 3 days (95% CI: -8.44%, -1.34%) and 5.05% lower at 60 days postpartum (95% CI: -8.98%, -1.11%) versus those in counties with Non-Catholic sole community hospitals. Receipt of postpartum permanent contraception was 3.50% lower (95% CI: -6.06%, -0.95%) at 3 days and 4.20% lower at 60 days postpartum (95% CI: -6.68%, -1.71%) among White, non-Hispanic women in counties with Catholic sole community hospitals compared to their counterparts in counties with Non-Catholic sole community hospitals. We did not find significant differences for other race or ethnicity groups.

#### 4. Discussion

Women giving birth in a county where the only hospital is Catholic were significantly less likely to receive postpartum permanent contraception than people living in a county where the hospital is not Catholic. This gap in receipt of highly effective contraception immediately postpartum was not mitigated by a higher receipt of outpatient tubal permanent contraception or LARC use by 60 days postpartum in counties with Catholic sole community hospitals. Women giving birth in a county with a Catholic sole community hospital were significantly less likely to return for a postpartum visit than their counterparts in counties with a non-Catholic sole community hospital.

Female permanent contraception remains one of the most common methods of contraception used in the US, and half of all procedures are performed during an admission for

childbirth [25]. For individuals who do not desire future fertility, it is a safe, convenient, and highly effective way to prevent pregnancy [25]. Despite the popularity of the method, about a third of women who request postpartum permanent contraception do not receive it [26, 27]. Common barriers to receiving postpartum tubal ligation include a lack of a valid Medicaid consent form, a medical condition complicating the procedure, and lack of dedicated operating rooms on Labor & Delivery to perform the procedures [28]. Many of the barriers described are failures of the health system to effectively deliver the individual's requested form of contraception. Women with Medicaid insurance are less likely to receive their requested permanent contraception than women with private insurance [27]. This has important health, equity, and cost implications for Medicaid programs. Nearly half (46%) of women who requested but did not receive a desired postpartum permanent contraception- became pregnant within the first year following delivery [26]. Pregnancies within 18 months of birth are associated with increased maternal and infant health risks, and more than half of these pregnancies are unintended [29].

Comprehensive postpartum care includes a full assessment of the woman's physical, social and psychological well-being. Postpartum care is an important opportunity to ensure women have ongoing care for chronic conditions that affect their current and future health, such as hypertension, diabetes and obesity [6]. Our finding, that people giving birth at a Catholic sole community hospital, were significantly less likely to return for a postpartum visit (9.3 percentage points) than peers delivering at a non-Catholic sole community hospital is concerning given the implications for longer term health consequences. Research is needed to understand why this difference exists. Our study consisted of only Medicaid beneficiaries living predominantly in non-metropolitan areas; it is thus unlikely that baseline differences in socioeconomic status or

transportation barriers between counties explains our findings. Previous studies have indicated that perceived discrimination during intrapartum care, trouble understanding the health care provider, and dissatisfaction with the provider or care are associated with lower postpartum visit attendance [30]. Future studies should investigate whether perceived discrimination or provider satisfaction vary based on a hospital's religious affiliation.

Our study of ten states demonstrates how the steady growth of the Catholic health system, particularly when they are a sole community hospital, may affect the reproductive health of Medicaid recipients and may increase state Medicaid expenditures [10, 31-33]. Women living in rural areas have restricted choices for their obstetric care. They may not be aware that their hospital is Catholic or understand how this may affect their receipt of postpartum permanent contraception [34]. A 2013 survey illustrated that the majority of women expected they would be able to access family planning services at a Catholic hospital [35]. In reality, evidence demonstrates marked restrictions in obtaining access to postpartum permanent contraception at Catholic affiliated hospitals [10]. Over half of Catholic hospitals did not provide any permanent contraception, and others provided permanent contraception only in selective cases [36-38]. These restrictions may explain why a recent study found that women delivering at Catholic hospitals were 12% more likely to have a rapid, repeat pregnancy within 18 months of giving birth compared to women who delivered at a Non-Catholic hospital [39].

Our study should be interpreted with the following limitation in mind. We did not have information on patient fertility preferences or religious beliefs in claims data. Therefore, we used an analytic framework where the choice of hospital was restricted by geography with each county only having a single hospital, and was more than 35 miles away. We were unable to determine the hospital in which the woman gave birth using TAF data. Instead, we identified

whether or not the woman's county of residence contained only a Catholic-affiliated sole community hospital. By definition sole community hospitals are geographically isolated from other hospitals, and thus are the primary provider of services in their service area and act as a good approximation of the care that is available. Our study focuses on Medicaid recipients living in rural areas with a sole community hospital, which is only 1.2% of all Medicaid births that year; our findings may not be generalizable to areas where a choice of hospitals is available. For example, the rate of postpartum tubal ligation that we observed in non-Catholic sole community hospital is well above what has been described among individuals who are publicly insured in other national studies (74.1 tubal ligations per 1000 births) [40]. This finding may reflect the decreased access to other forms of contraception that people living in rural areas experience.

Finally, we were underpowered to look at differences by race or ethnicity, biasing our results toward the null.

Access to contraception is a core component of quality family planning services, and increasing postpartum contraception is a US public health priority [41]. sole community hospitals are recognized and financially incentivized by CMS for the role they play in delivering timely, evidence-based health care to underserved populations [13]. Contraception is fundamental to optimizing postpartum health; all people giving birth should have equal access to the method of their choice [6]. Our study demonstrates that religiously affiliated sole community hospitals were associated with lower rates of the most effective forms of contraception postpartum among Medicaid recipients. Additional efforts are needed to ensure that individuals delivering at Catholic hospitals, are aware of the restrictions to their care, and can receive their desired method of postpartum contraception.

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**Author Contributions**

Dr. McConnell had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

*Concept and design:* Rodriguez, McConnell

*Acquisition, analysis or interpretation of data:* All authors

*Drafting of the manuscript:* Rodriguez, Daly

*Critical revision of the manuscript for important intellectual content:* All authors

*Statistical analysis:* McConnell, Meath

*Obtained funding:* Rodriguez

*Administrative, technical, or material support:*

*Supervision:* Rodriguez

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**Figure 1 Study Cohort Creation**

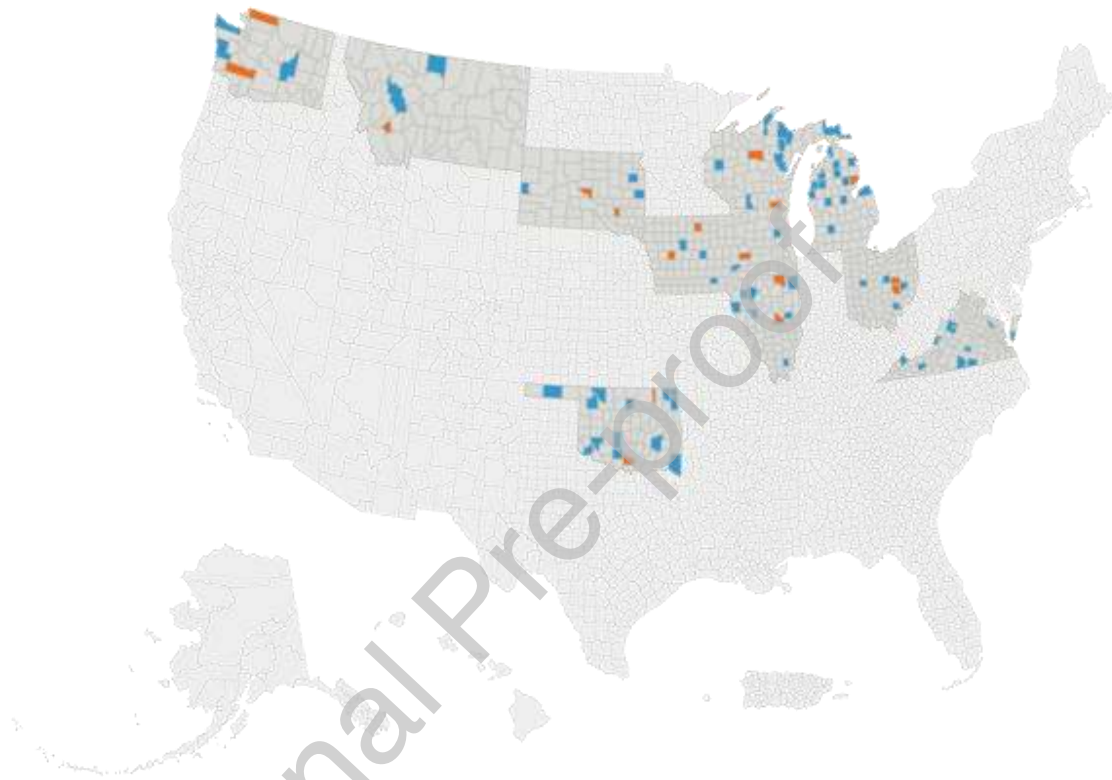
<i>Cohort selection</i>		
Description	Change	Individuals
2016 TAF RIF enrollment records for individuals living in counties with only a Sole Community Hospital		1,018,541
Restrict to women	-458,558	559,983
Restrict to ages 15 to 44	-317,459	242,524
Drop unstable records	-2	242,522
Restrict to those who gave birth in 2016	-221,536	20,986
Exclude non-live deliveries	-386	20,600
Exclude deliveries in the last two months of the year	-3,454	17,146
Exclude those with Emergency Medicaid coverage only	-341	16,805

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**Figure 2 Map of states with counties that contain a Catholic and Non Catholic Sole Community Hospital**

Counties with only Sole Community Hospital(s)

Catholic hospital county  Catholic SCH  Non-Catholic SCH  NA



**Table 1 Demographics of Medicaid recipients giving birth in 2016 at sole community hospitals in the United States, by Catholic affiliation (n= 14,545)**

Characteristic	Catholic, N = 3,828 <sup>1</sup>	non-Catholic, N = 10,717 <sup>1</sup>	Overall, N = 14,545 <sup>1</sup>
Age (years)	27.7 +/- 4.9	27.5 +/- 4.8	27.5 +/- 4.8
Number of claims (in year)	55.7 +/- 40.3	53.7 +/- 37.9	54.2 +/- 38.6
Race and ethnicity			
American Indian and Alaska Native (AIAN), non-Hispanic	7.1% (257)	6.0% (613)	6.2% (870)
Asian, non-Hispanic	2.4% (86)	2.3% (234)	2.3% (320)
Black, non-Hispanic	4.7% (171)	7.4% (758)	6.7% (929)
Hawaiian/Pacific Islander, non-Hispanic	0.5% (17)	0.3% (36)	0.4% (53)
Hispanic, all races	20.0% (728)	14.7% (1,512)	16.1% (2,240)
White, non-Hispanic	65.4% (2,382)	69.4% (7,147)	68.4% (9,529)
Missing (includes Multiracial, non-Hispanic)	187	417	604
County rurality			
Metropolitan	29.6% (1,132)	13.5% (1,448)	17.7% (2,580)
Nonmetropolitan	70.4% (2,696)	86.5% (9,269)	82.3% (11,965)

<sup>1</sup>Mean +/- standard deviation; % (n)

`Multiracial, non-Hispanic` censored due to small sample size (less than 10)

**Table 2 Postpartum care and contraceptive outcomes among Medicaid recipients giving birth at sole community hospitals in the US by Catholic Affiliation 2016 (N = 14,545)**

Outcome	Sole community hospital affiliation		Outcome	Rate difference
	Catholic, N = 3,828 <sup>1</sup>	non-Catholic, N = 10,717 <sup>1</sup>		Catholic, N = 3,828 <sup>1</sup>
3-day postpartum tubal ligation	7.7% (293)	11.3% (1,213)	-3.7%	-3.92% ( -6.01, -1.83)
60-day postpartum tubal ligation	9.1% (348)	13.5% (1,449)	-4.4%	-4.24% ( -6.29, -2.18)
60-day postpartum LARC	11.3% (434)	10.9% (1,171)	0.4%	-1.80% ( -4.84, 1.25)
60-day postpartum tubal ligation or LARC	20.4% (780)	24.4% (2,619)	-4.1%	-6.06% ( -9.63, -2.49)
8 to 60-day postpartum follow-up visit	35.4% (1,357)	45.4% (4,866)	-10.0%	-9.29% (-16.71, -1.86)

<sup>1</sup> % (n)

95% CI = 95% Confidence Interval

LARC = Long acting, reversible contraception consists of the intrauterine device and implant

Models adjust for 5-year age groups, county urban-rural classification, and state fixed effects

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**Table 3 Adjusted rate differences in postpartum care and contraceptive outcomes among Medicaid recipients giving birth at Catholic versus non- Catholic sole community hospitals in the US, stratified by race and ethnicity, 2016 (N = 14,545)**

	3-day postpartum tubal ligation	60-day postpartum tubal ligation	60-day postpartum LARC	60-day postpartum tubal ligation or LARC	8 to 60-day postpartum follow-up visit
	Rate differences (95% confidence intervals)				
American Indian & Alaska Native (AIAN), non- Hispanic	-3.02% ( -7.52, 1.49)	-3.09% ( -9.20, 3.02)	2.13% ( -1.76, 6.01)	-1.35% ( -7.43, 4.74)	-4.35% (-15.69, 7.00)
Asian, non- Hispanic (N = 320)	-2.90% ( -9.12, 3.31)	-0.29% ( -8.75, 8.16)	-3.79% (-11.24, 3.67)	-4.03% (-17.41, 9.35)	-11.11% (-26.38, 4.16)
Black, non- Hispanic (N = 929)	-4.57% (-10.59, 1.46)	-3.76% (-10.53, 3.02)	-2.23% ( -6.48, 2.03)	-5.96% (-13.37, 1.44)	-1.20% (-10.66, 8.25)
Hawaiian/Pacific Islander, non- Hispanic (N = 53)	-7.66% (-19.91, 4.59)	-12.56% (-26.92, 1.79)	-15.02% (-22.96, - 7.07)	-27.56% (-41.66, - 13.46)	-29.44% (-46.88, - 11.99)

**Table 3 Adjusted rate differences in postpartum care and contraceptive outcomes among Medicaid recipients giving birth at Catholic versus non-Catholic sole community hospitals in the US, stratified by race and ethnicity, 2016 (N = 14,545)**

	3-day postpartum tubal ligation	60-day postpartum tubal ligation	60-day postpartum LARC	60-day postpartum tubal ligation or LARC	8 to 60-day postpartum follow-up visit
Rate differences (95% confidence intervals)					
Hispanic, all races (N = 2,240)	-4.89% (-8.44, -1.34)	-5.05% (-8.98, -1.11)	-2.03% (-8.19, 4.13)	-7.04% (-15.51, 1.42)	-11.56% (-28.00, 4.87)
White, non- Hispanic (N = 9,529)	-3.50% (-6.06, -0.95)	-4.20% (-6.68, -1.71)	-1.52% (-3.96, 0.92)	-5.73% (-8.96, -2.50)	-8.75% (-14.91, -2.59)

Models adjust for 5-year age groups, county urban-rural classification, and state fixed effects  
 `Multiracial, non-Hispanic` results not presented due to small sample size (<10)

LARC = Long acting, reversible contraception, consists of the intrauterine device and implant