Disparities in postpartum contraceptive use among immigrant women with restricted Medicaid benefits

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BACKGROUND: The Emergency Medicaid program offers restricted Medicaid benefits for people who meet the same financial eligibility criteria as Traditional Medicaid recipients but do not meet the citizenship requirements for enrollment in Traditional Medicaid. By federal law, Emergency Medicaid covers care for life-threatening emergencies or a hospital admission for childbirth. No prenatal or postpartum care is covered. Most of the women enrolled in Emergency Medicaid are Latina.

OBJECTIVE: We assessed postpartum visits and receipt of postpartum contraception and compared the outcomes for Emergency (restricted benefit) Medicaid recipients with those of Traditional (full-benefit) Medicaid recipients in Oregon and South Carolina, 2 states with similar-sized immigrant populations.

STUDY DESIGN: We conducted a retrospective cohort study using linked Medicaid claims and birth certificate data of live births covered by Medicaid (Traditional and Emergency) between January 1, 2010 and September 30, 2017, in Oregon and South Carolina. Our analysis was at the individual level. Primary outcomes were postpartum visit attendance and receipt of postpartum contraception within 2 months. We examined differences in demographic and delivery characteristics by Medicaid type. If women received postpartum contraception, we compared the timing of receipt (immediate postpartum, ≤1 month, 1–2 months, and 2–6 months after delivery) by the type of Medicaid. Among women using contraception, we described the type of contraceptive received at each time point, stratified by Medicaid type. Associations between Medicaid type (Traditional vs Emergency) and postpartum visit attendance and contraception use were assessed using adjusted absolute predicted probabilities from logistic regression models. We ran models for the entire cohort and conducted a subanalysis restricted to only Latina women.

RESULTS: Our study included 375,544 live births to 288,234 women, with 12.7% of births among Emergency Medicaid recipients. Women enrolled in Emergency Medicaid tended to be older (age >35 years; 18.1% vs 7.2%; P<.001) and were more likely to be multiparous (76.8% vs 60.8%; P<.001) and Latina (80.3% vs 9.5%; P<.001) than their Traditional Medicaid peers. Among women enrolled in Emergency Medicaid, the probability of having a postpartum visit was 6.1% (95% confidence interval, 5.9–6.4) compared with 58.8% (95% confidence interval, 58.6–58.9) for women covered by Traditional Medicaid. After 6 months following delivery, 97.6% of Emergency Medicaid recipients had no evidence of contraceptive use compared with 55.6% of Traditional Medicaid enrollees (P<.001). In our adjusted model, Emergency Medicaid recipients were also significantly less likely to receive postpartum contraception than Traditional Medicaid enrollees (1.9% vs 35.5%; 95% confidence interval, [1.8–2.1] vs [35.4–35.7]). We examined the role that race may play in postpartum contraceptive use by conducting a subanalysis restricted to Latina women only. Latinas with births covered by Emergency Medicaid had a 1.9% (95% confidence interval, 1.8–2.0) adjusted probability of postpartum contraception use within 2 months compared with 39.8% (95% confidence interval, 38.7–39.9) among Latinas enrolled in Traditional Medicaid.

CONCLUSION: Women enrolled in Emergency Medicaid experience large disparities in postpartum care and contraceptive use. Policies that restrict Medicaid coverage following delivery exacerbate inequities in postpartum care, potentially leading to worse health outcomes for low-income immigrants and their children.

Key words: Postpartum, immigrants, contraception, Emergency Medicaid

Introduction
The postpartum period is critical for both maternal and newborn health. The weeks following birth are a time of rapid physiological change for mother and infant, setting the stage for long-term health. Comprehensive postpartum care includes a full assessment of the woman’s physical, social, and...
Why was this study conducted? This study aimed to understand how differences in the type of Medicaid (Traditional vs Emergency) are associated with postpartum care attendance and contraceptive use.

Key findings Emergency Medicaid recipients were significantly less likely to both attend a postpartum visit (6.1% vs 58.8%) and receive postpartum contraception (1.9% vs 35.5%) than Traditional Medicaid enrollees.

What does this add to what is known? Disparities in postpartum contraception use for women with births covered by Emergency Medicaid are explained by the restricted healthcare benefits and not by racial or ethnic differences; Latinas enrolled in Traditional Medicaid are nearly 20-fold more likely to receive an effective form of postpartum contraception than their Latina Emergency Medicaid peers.

psycological well-being, including, ide- ally, a discussion of birth spacing recom- mendations and opportunities to provide contraceptive information and services. However, many women do not receive postpartum care, which may be because of loss of health insurance coverage postpartum.

One population that may be at partic- ular risk for suboptimal postpartum care is low-income immigrant women. These women are often covered by a program known as “Emergency Medicaid.” Emergency Medicaid recipients meet the same financial eligibility criteria as full-benefit or Traditional Medic- aid recipients but do not meet the citizenship requirements for enrollment in Traditional Medicaid. Under federal law, recent (<5 years) and unauthorized immigrants are only eligible for Emer- gency Medicaid. Emergency Medicaid is a restricted benefit package that includes coverage for life-threatening illnesses and hospitalization for child- birth, but no prenatal or postpartum care, including contraception. In con- trast, Traditional Medicaid covers pre- natal, intrapartum, and postpartum care, including full coverage for all approved contraceptive methods.

Most Emergency Medicaid recipients are Latina and female, and more than 80% of Emergency Medicaid spending is for obstetrical care. Latinas also experience significant disparities in contraceptive use. We hypothe- sized that Emergency Medicaid may exacerbate known disparities in con-traceptive use. We ed the following 4 categories: immedi- ate postpartum contraception (within 4 days), within 1 month, >1 month to 2 months, or >2 to 6 months postpartum. Among women with multiple claims for revers- ible contraception, we used the first claim to determine the timing of receipt of postpartum contraception. Women

Data were obtained under data use agreements with the South Carolina Revenue and Fiscal Affairs Office, the Oregon Health Authority, and the vital records departments in both states. The study was approved by the institutional review board at the Oregon Health & Science University. We followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guidelines.

Variables Our outcomes were the presence of any postpartum visit and the receipt of post- partum contraception within 60 days. We calculated the timing of the postpar- tum visit as the difference in days between the date of the first postpartum visit claim and the date of delivery. Birth and date of delivery were identified using a previously published algo- rithm. We categorized visit timing as occurring within 1 month, >1 month to 2 months, or >2 months to 6 months postpartum. Women with outpatient claims, including diagnosis codes indicative of postpartum care or preventative gynecologic care, were classified as hav- ing a postpartum visit (Table A.1).

We classified postpartum contraception methods as sterilization, long-acting reversible contraception (LARC) (intrauterine devices [IUDs] and implants), and short-acting hormonal methods (progestin injectables, oral contraception, patch, and ring). Sterili- zation, LARC, and injectable progestin were identified through inpatient or outpatient Medicaid procedure claims. Other short-acting methods were iden- tified through Medicaid pharmacy claims for oral contraception, patch, or ring.

We calculated the timing of receipt of contraception as the number of days between the date of the contraception claim and the date of delivery. We created the following 4 categories: immedi- ate postpartum contraception (IPP) (within 4 days), within 1 month, >1 month to 2 months, or >2 to 6 months postpartum. Among women with multiple claims for revers- ible contraception, we used the first claim to determine the timing of receipt of postpartum contraception. Women
without evidence of postpartum contraceptives were classified into 1 of the following 2 categories: women who had a postpartum visit but did not receive contraception and women with no evidence of any visit in the 6 months following delivery.

Our independent variables included Medicaid eligibility type (Emergency or Traditional), maternal age (<20 years, 20–34 years, 35 or older), parity before delivery, race or ethnicity, county of residence (metropolitan, nonmetropolitan, missing), and state. Maternal race and ethnicity were self-reported on the infant’s birth certificate. Latina race or ethnicity was defined as individuals who self-identified as Latina for race and/or Hispanic for ethnicity. We included clinical variables that may impact postpartum care attendance or contraceptive use. These included the number of prenatal visits, mode of delivery, weeks of gestation, and pregnancy complications. We defined adequate prenatal care as having 7 or more prenatal visits. Preterm birth was defined as birth before 37 weeks’ gestation. We created a single binary indicator variable for pregnancy complications, defined as the presence of any of the following: preexisting diabetes, preexisting hypertension, gestational diabetes, and gestational hypertensive disorders, collapsed into a binary indicator.

**Statistical analysis**

We conducted our analysis at the individual level. We compared the differences in demographic and delivery characteristics among women with Traditional vs Emergency Medicaid using chi-square tests. We examined the sociodemographic differences between those with complete and missing data (Table A.2). Next, we determined the presence of any postpartum visits and postpartum contraceptive use among women with Traditional Medicaid and those with Emergency Medicaid. If women received postpartum contraception, we compared the timing of receipt (IPP, ≤1 month, 1–2 months, and 2–6 months) by type of Medicaid. Among
the women using contraception, we
described the type of contraceptive
received at each time point, stratified
by Medicaid type.

We used logistic regression to assess
the association of Medicaid type (Emer-
gency or Traditional) with the following
2 binary outcomes: (1) attending a post-
partum visit within 60 days of delivery
and (2) receipt of contraception within
60 days of delivery. We chose 60 days
because Traditional Medicaid coverage
ends 60 days after delivery and because
60 days aligns with the standard post-
partum schedule of a 6-week visit. We
adjusted for the following covariates in
both of our models: maternal age, par-
ity, race, ethnicity, county of residence,
state, adequate prenatal care, pregnancy
complications, preterm birth, and mode
of delivery. We calculated predicted
probabilities from our logistic regres-
sion models to improve interpretabil-
ity. Standard errors were clustered at
the individual level to account for mul-
tiple births by the same woman (23.2%
of the sample had more than 1 birth in
the dataset). We also conducted a sensi-
tivity analysis by stratifying our models
by repeat birth status, namely women
with 1 birth in the dataset and women
with multiple births. The results were
unchanged, and only the main model is
presented.

Nationally, most of the Emergency
Medicaid recipients are Latina and
female. Latinas also experience signifi-
cant disparities in contraceptive use. We
therefore, conducted 1 set of subanalyses that restricted the study
collected all data on Latina women. All
hypothesis tests were 2-sided, and we
considered a P value of <.05 to be statis-
tically significant. We used R version
3.6.2 (R Project for Statistical Compu-
ting, R Core Group, Vienna, Austria) for
all analyses.

Results
Our study sample included 375,544 live
births among 288,234 women (Table 1).
Most of the births in our sample were
covered by Traditional Medicaid
(87.3%, n=333,153 individuals) when
compared with Emergency Medicaid
(12.7%, n=42,391 individuals). A larger
proportion of Emergency Medicaid
births occurred in South Carolina
than in Oregon (61.0% vs 39.0%;
P<.001). Most of the births occurred
with adequate prenatal care (88.5%),
were delivered vaginally (70.4%), and
did not have pregnancy complications
(85.7%).

Most women who delivered under
Emergency Medicaid were Latina
women (80.3% vs 9.5% Latina in Tradi-
tional Medicaid; P<.001). Women cov-
ered by Emergency Medicaid were more
likely to be ≥35 years (18.1% vs
7.2% in Traditional Medicaid; P<.001)
and to be multiparous (76.8% vs 60.8% in
Traditional Medicaid; P<.001). Women
covered by Emergency Medicaid were
more likely to have inadequate prenatal
care (14.7% vs 11.1% in Traditional
Medicaid; P<.001) and pregnancy com-
lications (16.0% vs 14.1% Traditional
Medicaid; P<.001).

Women in Emergency Medicaid were
significantly and substantially less likely
to have any postpartum care. Among
births to women receiving Emergency
Medicaid, only 5.6% had any postpar-
tum visit compared with 63.0% of
women in Traditional Medicaid
(P<.001) (Table 2). This disparity per-
sisted when we examined contraceptive
use. Women with restricted benefits in
Emergency Medicaid were significantly
and markedly less likely to receive post-
partum contraception. Six months fol-
lowing delivery, 97.6% of Emergency
Medicaid recipients had no evidence of
contraceptive use compared with 55.6%
of Traditional Medicaid enrollees
(P<.001) Table 3.

After adjusting for relevant demo-
graphic and delivery characteristics,
women covered by Emergency Medic-
aid had a 6.1% (95% confidence interval
[CI], 5.9–6.4) adjusted probability of a
postpartum visit compared with an
adjusted probability of 58.8% (95% CI,
58.6–58.9) among women covered by
Traditional Medicaid (Table 4). Women
with Emergency Medicaid had a 1.9%
(95% CI, 1.8–2.1) adjusted probability
of receiving postpartum contraception
by 2 months compared with an adjusted
probability of 35.5% (95% CI, 35.4–35.7)
among women with Traditional
Medicaid (Table A.3 provides the full
models).

We then examined the role of race in
postpartum care and contraceptive use
in a subanalysis that focused exclusively
on Latina women (Table A.4 displays
the sociodemographics of the Latina
subgroup). Latinas with births covered
by Emergency Medicaid had a 4.2%
(95% CI, 4.0–4.4) adjusted probability
of attending a postpartum visit com-
pared with 47.6% (95% CI, 47.0–48.2)
for Latinas enrolled in Traditional Med-
icaid. The same disparity persisted
when we examined postpartum con-
traceptive use. Latinas with births cov-
ered by Emergency Medicaid had a
1.9% (95% CI, 1.8–2.0) adjusted proba-
bility of postpartum contraception use
within 2 months of birth compared with
39.8% (95% CI, 38.7–39.9) among
Latinas enrolled in Traditional Medic-
icaid (Table A.3 provides the full
models).

Comment
Principal findings
Women with restricted Medicaid bene-
fits (Emergency Medicaid) experience
stark disparities in receipt of basic post-
partum healthcare and contraception.
Most Emergency Medicaid recipients
are Latina when compared with Tradi-
tional Medicaid beneficiaries. Women
enrolled in Traditional Medicaid with
full benefits were almost 10-fold more
likely to receive postpartum care than
women receiving Emergency Medicaid.
This disparity persisted when we exam-
ined postpartum contraceptive use. This
disparity in receipt of postpartum con-
traception is explained by restricted
healthcare benefits and not by racial or
ethnic differences: Latinas enrolled in
Traditional Medicaid are nearly 20-fold
more likely to receive an effective form
of postpartum contraception than their
Emergency Medicaid peers. These find-
ings suggest lifelong, adverse conse-
quences for both women and infants
covered by Emergency Medicaid.1

Results in the context of what is
known
The literature is clear on the role that
contraception plays in both
reproductive justice and the promotion of maternal health. Contraception allows individuals to determine if and when they want to conceive; unintended pregnancies carry meaningful health risks and opportunity costs for both the woman and infant. Unintended pregnancy is associated with a significantly increased risk for preterm birth and low birthweight infants, which can have lifelong consequences for both the woman and child. Nationally, Latina women are less likely to use effective postpartum contraception and more likely to experience unintended pregnancy than White women.

Postpartum contraception is particularly important because it prevents unintended pregnancies and helps to achieve healthy interpregnancy intervals among women who desire a subsequent child. Postpartum care, including receipt of contraception, is even more essential for women with high-risk pregnancies, such as those complicated by hypertension, diabetes, or preterm birth. Failure to provide ongoing healthcare for these women likely contributes to increased maternal morbidity and mortality. Colorado significantly reduced the risk for preterm birth by expanding access to the most effective forms of reversible postpartum contraception, namely the IUD and implant. The odds of preterm birth for women living in counties with expanded access to contraception was significantly reduced.

Recognizing the association between LARC and improved maternal health, most of the states have now expanded access to IPP LARC. It is important to

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**TABLE 1**

| Characteristics                        | Traditional Medicaid<sup>a</sup>(n=333,153) | Emergency Medicaid<sup>b</sup>(n=42,391) | Overall births<sup>c</sup>(n=375,544) |
|----------------------------------------|--------------------------------------------|------------------------------------------|----------------------------------------|
| Number of women                        | 255,205                                    | 33,029                                   | 288,234                                |
| Maternal age at birth (y)<sup>b</sup>  |                                            |                                          |                                        |
| <20                                    | 43,338 (13.0)                              | 2341 (5.52)                              | 45,679 (12.2)                          |
| 20−34                                  | 266,003 (79.8)                             | 32,358 (76.3)                            | 298,361 (79.4)                         |
| ≥35                                    | 23,812 (7.2)                               | 7692 (18.1)                              | 31,504 (8.4)                           |
| Multiparous<sup>b</sup>                | 202,660 (60.8)                             | 32,549 (76.8)                            | 235,209 (62.6)                         |
| Race<sup>b</sup>                       |                                            |                                          |                                        |
| White                                  | 185,797 (55.8)                             | 1449 (3.42)                              | 187,246 (49.9)                         |
| Black                                  | 94,108 (28.2)                              | 585 (1.4)                                | 94,693 (25.2)                          |
| Latina                                 | 31,569 (9.5)                               | 34,045 (80.3)                            | 65,614 (17.5)                          |
| Asian<sup>c</sup>                      | 4103 (1.2)                                 | 922 (4.5)                                | 6025 (1.6)                             |
| American Indian or Alaska Native       | 3399 (1.0)                                 | 69 (0.2)                                 | 3468 (0.9)                             |
| Native Hawaiian or Pacific Islander<sup>d</sup> | 905 (0.3)                                 | 743 (1.8)                                | 1648 (0.4)                             |
| Other or unknown<sup>e</sup>           | 13,272 (4.0)                               | 3578 (8.4)                               | 16,850 (4.5)                           |
| County of residence<sup>b</sup>        |                                            |                                          |                                        |
| Metropolitan                           | 198,082 (59.5)                             | 31,666 (74.7)                            | 229,748 (61.2)                         |
| Non-metropolitan                       | 75,775 (22.7)                              | 7172 (16.9)                              | 82,947 (22.1)                          |
| Missing                                | 59,296 (17.8)                              | 3553 (8.4)                               | 62,849 (16.7)                          |
| State<sup>b</sup>                      |                                            |                                          |                                        |
| Oregon                                 | 135,013 (40.5)                             | 25,847 (61.0)                            | 160,860 (42.8)                         |
| South Carolina                         | 198,140 (59.5)                             | 16,544 (39.0)                            | 214,684 (57.2)                         |
| Adequate prenatal care<sup>b,f</sup>   | 293,252 (88.9)                             | 35,539 (85.3)                            | 328,791 (88.5)                         |
| Pregnancy complications<sup>b,g</sup>  | 46,985 (14.1)                              | 6793 (16.0)                              | 53,778 (14.3)                          |
| Preterm birth<sup>b,h</sup>            | 29,935 (9.0)                               | 3075 (7.3)                               | 33,010 (8.79)                          |
| Cesarean delivery<sup>b</sup>          | 99,880 (30.0)                              | 11,460 (27.0)                            | 111,340 (29.6)                         |

Data are presented as number (percentage).

<sup>a</sup> Individual variable denominators differ depending on missingness. Fewer than 2.1% of variables are missing; <sup>b</sup> Significant difference at P<.001 by Medicaid type; <sup>c</sup> This category includes the variable reported subgroups “Asian Indian,” “Chinese,” “Filipino,” “Japanese,” “Korean,” “Vietnamese,” and “Other Asian”; <sup>d</sup>This category includes the variable reported subgroups “Native Hawaiian,” “Gaumanaian or Chamorro,” “Samoan,” and “Other Pacific Islander”; <sup>e</sup> This category includes the variable reported subgroups “other” and “unknown”; <sup>f</sup> Adequate prenatal care defined as ≥7 visits; <sup>g</sup> Pregnancy complications included gestational and preexisting diabetes or hypertension; <sup>h</sup> Preterm births included all deliveries <37 weeks’ gestation.

Rodriguez. Disparities in postpartum care by Medicaid type. Am J Obstet Gynecol Glob Rep 2022.
note that IPP LARC is not a covered benefit for Emergency Medicaid recipients. Similarly, although IPP LARC and postpartum LARC have been shown to be safe, effective, and beneficial for preventing preterm birth, not all women will choose to use LARC. IPP LARC is not a solution to fix a fragmented healthcare system; it is 1 option that will benefit the women who freely elect to use it. A human rights–based approach to contraception requires that an individual have their choice of a range of methods and can discontinue them on demand.16 Ensuring that all low-income individuals, regardless of citizenship, have access to their choice of contraceptive methods postpartum may improve maternal health and reduce public costs.26,27

Clinical implications
Postpartum care is broader than contraceptive use; it is a comprehensive evaluation and management of all of a woman’s health needs.7 Recognizing the importance of postpartum care, the American Recovery Act allows states the option to extend Medicaid coverage postpartum from 60 days to 12 months.32 Although these are critical steps to strengthen maternal health, explicit attention to the health needs and restricted coverage that immigrant women experience postpartum is needed. An estimated 250,000 undocumented immigrant women gave birth in the United States in 2016. We found that 16% of all Emergency Medicaid parturients experienced a pregnancy complication including diabetes or hypertension. Both hypertensive disorders of pregnancy and diabetic complications are among the leading causes of maternal mortality in the United States and affect Latinas disproportionately more than White women.33 Restricting

### TABLE 2
Postpartum visit and timing of receipt of contraception by type of Medicaid, 2010 to 2017

| Postpartum visit (mo)a | Traditional Medicaid(n=333,153) | Emergency Medicaid(n=42,391) | Overall births(n=375,544) |
|------------------------|----------------------------------|-----------------------------|---------------------------|
| ≤1                     | 121,249 (36.4)                   | 1860 (4.4)                  | 123,109 (32.8)            |
| >1 to 2                | 74,909 (22.5)                    | 420 (1.0)                   | 75,329 (20.1)             |
| >2 to 6                | 13,591 (4.1)                     | 80 (0.2)                    | 13,671 (3.6)              |
| No postpartum visit within 6 | 202,660 (60.8)                  | 40,031 (94.4)               | 163,435 (43.5)            |

| Postpartum contraception timing (mo)a | Traditional Medicaid(n=333,153) | Emergency Medicaid(n=42,391) | Overall births(n=375,544) |
|--------------------------------------|----------------------------------|-----------------------------|---------------------------|
| Immediately postpartum               | 28,507 (8.6)                     | 407 (1.0)                   | 28,914 (7.7)              |
| ≤1                                   | 31,842 (9.6)                     | 319 (0.8)                   | 32,161 (8.6)              |
| >1 to 2                              | 58,789 (17.6)                    | 180 (0.4)                   | 58,969 (15.7)             |
| >2 to 6                              | 28,621 (8.6)                     | 96 (0.2)                    | 28,717 (7.6)              |
| No contraception within 6            | 185,394 (55.6)                   | 41,389 (97.6)               | 226,783 (60.4)            |

| Postpartum visit and contraception timinga | Traditional Medicaid(n=333,153) | Emergency Medicaid(n=42,391) | Overall births(n=375,544) |
|-------------------------------------------|----------------------------------|-----------------------------|---------------------------|
| Postpartum visit and contraceptive use    | 110,656 (33.2)                   | 334 (0.8)                   | 110,990 (29.6)            |
| Postpartum visit and no contraceptive use | 99,093 (29.8)                    | 2026 (4.8)                  | 101,119 (26.9)            |
| Contraceptive use and no postpartum visit | 37,103 (11.1)                    | 668 (1.6)                   | 37,771 (10.0)             |
| No contraceptive use or postpartum visit | 86,301 (25.9)                    | 39,363 (92.8)               | 125,664 (33.5)            |

Data are presented as number (percentage).

* Significant difference at *P* < .001 by Medicaid type.

Rodriguez. Disparities in postpartum care by Medicaid type. Am J Obstet Gynecol Glob Rep 2022.
access to postpartum care by citizenship status is a missed opportunity to prevent maternal morbidity and mortality among Medicaid recipients.

Our study demonstrates the role that Medicaid policy may play in perpetuating racial and ethnic disparities in contraceptive use and unintended pregnancy among Latina women. We found that Latinas enrolled in Traditional Medicaid were nearly 11-fold more likely to attend a postpartum visit and significantly more likely to use postpartum contraception than Latinas receiving Emergency Medicaid. This suggests that insurance benefits, not race or ethnic differences, drive disparities in the utilization of postpartum care and contraceptives. Although federal policy changes have allowed for the option to expand prenatal care to low-income immigrants using federal funds, states must cover the entirety of postpartum care for this population. Few states have chosen to cover postpartum care for undocumented or recent immigrants, thereby propagating the maternal health crisis and contributing to generational inequity.

**Research implications**

A few states have recently passed legislation to expand postpartum coverage and access to reproductive healthcare to all individuals who meet financial need, regardless of citizenship status. Oregon’s Reproductive Health Equity Act is one of these laws. Future research should examine the health impact and health system costs of expanding coverage.

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**TABLE 3**

Postpartum contraceptive method use by timing of contraception and type of Medicaid for births who received postpartum contraception, 2010 to 2017

| Contraception use | Traditional Medicaid<sup>a</sup><sup>b</sup> (n=147,759) | Emergency Medicaid<sup>a</sup><sup>b</sup> (n=1002) | Overall births<sup>a</sup><sup>b</sup> (n=148,761) |
|-------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Immediate postpartum<sup>b</sup> | | | |
| Sterilization | 24,347 (85.4) | 124 (30.5) | 24,471 (84.6) |
| Implant | 3324 (11.7) | 166 (40.8) | 3490 (12.1) |
| IUD | 836 (2.9) | 117 (28.7) | 953 (3.3) |
| Within 1 month<sup>b</sup> | | | |
| Sterilization | 1519 (4.8) | 2 (0.6) | 1521 (4.7) |
| Implant | 4222 (13.3) | 13 (4.1) | 4235 (13.2) |
| IUD | 3827 (12.0) | 3 (0.9) | 3830 (11.9) |
| Injectable | 1507 (4.7) | 20 (6.3) | 1527 (4.8) |
| Pill | 20,087 (63.1) | 273 (85.6) | 20,360 (63.3) |
| Patch or ring | 680 (2.1) | 8 (2.5) | 688 (2.1) |
| >1 to 2 mo<sup>c</sup> | | | |
| Sterilization | 3399 (5.8) | 0 (0.0) | 3399 (5.7) |
| Implant | 9259 (15.7) | 15 (8.4) | 9274 (15.7) |
| IUD | 23,101 (39.3) | 53 (29.4) | 23,154 (39.3) |
| Injectable | 3259 (5.5) | 28 (15.6) | 3287 (5.6) |
| Pill | 18,559 (31.6) | 80 (44.4) | 18,639 (31.6) |
| Patch or ring | 1212 (2.1) | 4 (2.2) | 1216 (2.1) |
| >2 to 6 mo<sup>c</sup> | | | |
| Sterilization | 2254 (7.9) | 0 (0.0) | 2254 (7.9) |
| Implant | 4556 (15.9) | 17 (17.7) | 4573 (15.9) |
| IUD | 9718 (34.0) | 35 (36.5) | 9753 (34.0) |
| Injectable | 1868 (6.5) | 14 (14.6) | 1882 (6.5) |
| Pill | 9442 (33.0) | 29 (30.2) | 9471 (33.0) |
| Patch or ring | 783 (2.7) | 1 (1.0) | 784 (2.7) |

Data are presented as number (percentage).

IUD, intrauterine device.

<sup>a</sup> Individual variable denominators are the number of births within each contraception timing category; <sup>b</sup> Significant difference at P<.001 by Medicaid type.

Rodriguez. Disparities in postpartum care by Medicaid type. Am J Obstet Gynecol Glob Rep 2022.
Strengths and limitations
Our study has limitations. Our results are from 2 states, namely Oregon and South Carolina, and may not be generalizable to other states. We included Oregon and South Carolina because both states have experienced similar growth in their immigrant population and have comparable immigrant populations residing in each state. Although Oregon differs from South Carolina and 17 other states, because it leverages the Children’s Health Insurance Program’s Unborn Child Clause to provide prenatal care for the Emergency Medicaid population. It is anticipated that during prenatal care, women would receive counseling on the importance of birth spacing and postpartum contraceptive use; this would bias our result toward the null. Our study population does not include individuals living in border states; it is possible that our findings would be attenuated in areas where women can access care in a different country.

We relied on administrative data for our analysis, which carries the possibility of errors in coding. However, problems with coding would typically bias results toward the null. Furthermore, we mitigated the risk of coding errors by using 2 distinct data sources (Medicaid claims and birth certificates) to identify and corroborate demographic information and utilization and health outcomes. Our study focused on the role of Medicaid coverage. We did not account for care received outside of Medicaid through charity programs, Title X clinics, or federally qualified health centers.

Conclusions
Women receiving Emergency Medicaid are significantly less likely to receive basic postpartum healthcare, potentially exacerbating health disparities. Medicaid coverage for all individuals meeting financial need requirements should parallel what is recommended for clinical care postpartum: an ongoing, continuous process tailored to the individual’s needs.

Supplementary materials
Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.xagr.2021.100030.

REFERENCES
1. American College of Obstetricians and Gynecologists. Committee Opinion No. 666 Summary: optimizing postpartum care. Obstet Gynecol 2016;127:1192–3.
2. Gemmill A, Lindberg LD. Short interpregnancy intervals in the United States. Obstet Gynecol 2013;122:64–71.
3. Ball SJ, Pereira G, Jacoby P, de Klerk N, Stanley FJ. Re-evaluation of link between interpregnancy interval and adverse birth outcomes: retrospective cohort study matching two intervals per mother. BMJ 2014;349:g4333.
4. Hanley GE, Hutcheon JA, Kinniburgh BA, Lee L. Interpregnancy interval and adverse pregnancy outcomes: an analysis of successive pregnancies. Obstet Gynecol 2017;129:408–15.
5. Clapp MA, Jones KE, Kaimal AJ, Daw JR. Preconception coverage before and after the Affordable Care Act Medicaid expansions. Obstet Gynecol 2018;132:1394–400.
6. Daw JR, Hatfield LA, Swartz K, Sommers BD. Women in the United States experience high rates of coverage ‘churn’ in months before and after childbirth. Health Aff (Millwood) 2017;36:598–608.
7. Ranji U, Gl SA. Expanding postpartum Medicaid coverage. Kaiser Family Foundation. 2019. Available at: https://www.kff.org/womens-health-policy/issue-brief/expanding-postpartum-medicaid-coverage/. Accessed June 16, 2021.
8. DuBard CA, Massing MW. Trends in emergency Medicaid expenditures for recent and undocumented immigrants. JAMA 2007;297:1085–92.
9. Swartz JJ, Hainmueller J, Lawrence D, Rodriguez MI. Expanding prenatal care to unauthorized immigrant women and the effects on infant health. Obstet Gynecol 2017;130:938–45.
10. Thiel de Bocanegra H, Bruahton M, Bradsberry M, Howell M, Logan J, Schwarz EB. Racial and ethnic disparities in postpartum care and contraception in California’s Medicaid program. Am J Obstet Gynecol 2017;217:47.e1–9.
11. Dehlendorf C, Park SY, Emeremni CA, Comer D, Vaccaro K, Borrero S. Racial/ethnic disparities in contraceptive use: variation by age and women’s reproductive experiences. Am J Obstet Gynecol 2014;210:526.e1–9.
12. Dehlendorf C, Foster DG, de Bocanegra HT, Broidis C, Bradsberry M, Race Damey P. Ethnicity and differences in contraception among low-income women: methods received by PACT California. California, 2001–2007. Perspect Sex Reprod Health 2011;43:181–7.
13. von Elm E, Altman DG, Egger M, et al. [The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies]. Rev Esp Salud Publica 2008;82:251–9.
14. World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience. 2016. Available at: https://www.who.int/mediacentre/factsheets/brochure/2000/04/92.pdf.
15. King G, Tomz M, Wittenberg J. Making the most of statistical analyses: improving interpretation and presentation. American Journal of Political Science 2000;44:341–55.
16. World Health Organization. Ensuring human rights in the provision of contraceptive information and services. 2014. Available at: https://www.who.int/reproductivehealth/publications/family_planning/human-rights-contraception/en/.

TABLE 4
Predicted probabilities of postpartum visit and contraception timing by type of Medicaid

| Predicted probabilities | % (95% CI) | Traditional Medicaid | Emergency Medicaid |
|-------------------------|-----------|---------------------|-------------------|
| Postpartum visit within 2 mo |           |                     |                   |
| Complete cohort         | 58.8 (58.6–58.9) | 6.1 (5.9–6.4)       |                   |
| Latina subgroup         | 47.6 (47.0–48.2) | 4.2 (4.0–4.4)       |                   |
| Postpartum contraception within 2 mo |         |                     |                   |
| Complete cohort         | 35.5 (35.4–35.7) | 1.9 (1.8–2.1)       |                   |
| Latina subgroup         | 39.3 (38.7–39.9) | 1.9 (1.8–2.0)       |                   |

CI, confidence interval.

Rodriguez. Disparities in postpartum care by Medicaid type. Am J Obstet Gynecol Glob Rep 2022.
18. Shah PS, Balkhair T, Ohlsson A, Beyene J, Scott F, Frick C. Intention to become pregnant and low birth weight and preterm birth: a systematic review. Matern Child Health J 2011;15:205–16.
19. Gipson JD, Koenig MA, Hindin MJ. The effects of unintended pregnancy on infant, child, and parental health: a review of the literature. Stud Fam Plann 2008;39:18–38.
20. Finer LB, Zolna MR. Declines in unintended pregnancy in the United States, 2008–2011. N Engl J Med 2016;374:843–52.
21. Borrero S, Moore CG, Qin L, et al. Unintended pregnancy influences racial disparity in tubal sterilization rates. J Gen Intern Med 2010;25:122–8.
22. Thiel de Bocanegra H, Chang R, Menz M, Howell M, Darney P. Postpartum contraception in publicly funded programs and interpregnancy intervals. Obstet Gynecol 2013;122:296–303.
23. Isquick S, Chang R, Thiel de Bocanegra H, Chabot M, Brindis CD. Postpartum contraception and interpregnancy intervals among adolescent mothers accessing public services in California. Matern Child Health J 2017;21:752–9.
24. Goldthwaite LM, Duca L, Johnson RK, Ostendorf D, Sheeder J. Adverse birth outcomes in Colorado: assessing the impact of a statewide initiative to prevent unintended pregnancy. Am J Public Health 2015;105:e60–6.
25. Associates HM. American College of Obstetricians and Gynecologists (2021). “Medicaid Reimbursement for Immediate Post-Partum LARC.” from https://www.acog.org/programs/long-acting-reversible-contraception-larc/activities-initiatives/medicaid-reimbursement-for-postpartum-larc. Accessed August 1, 2021
26. Rodriguez MI, Jensen JT, Darney PD, Little SE, Caughey AB. The financial effects of expanding postpartum contraception for new immigrants. Obstet Gynecol 2010;115:552–8.
27. Rodriguez MI, Caughey AB, Edelman A, Darney PD, Foster DG. Cost-benefit analysis of state- and hospital-funded postpartum intrauterine contraception at a university hospital for recent immigrants to the United States. Contraception 2010;81:304–8.
28. Office of Disease Prevention and Health Promotion. Healthy People 2020. MICH-16.6 Increase the proportion of women delivering a live birth who used a most effective or moderately effective contraception method postpartum. 2017. Available at: https://www.healthypeople.gov/2020/topics-objectives/topic/Maternal-Infant-and-Child-Health/objectives#4850. Accessed March 29, 2021.
29. Global Burden of Disease Study 2013 Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet 2015;386:743–800.
30. Hoyert DL, Minino AM. Maternal mortality in the United States: changes in coding, publication, and data release, 2018. Natl Vital Stat Rep 2020;69:1–18.
31. Hatcher RA. Contraceptive technology. 21st ed. New York, NY: Ardent Media; 2018.
32. Ranji U, SA Gl. Postpartum coverage extension in the American rescue plan act of 2021. 2021. Available at: https://www.kff.org/policy-watch/postpartum-coverage-extension-in-the-american-rescue-plan-act-of-2021/. Accessed March 29, 2021.
33. Petersen EE, Davis NL, Goodman D, et al. Racial/ethnic disparities in pregnancy-related deaths—United States, 2007–2016. MMWR Morb Mortal Wkly Rep 2019;68:762–5.
34. Brooks T, Roygardner L, Artiga S, et al. Medicaid and CHIP eligibility, enrollment, and cost sharing policies as of January 2020: findings from a 50-state survey. 2020. Available at: https://www.kff.org/report-section/medicaid-and-chip-eligibility-enrollment-and-cost-sharing-policies-as-of-january-2020-findings-from-a-50-state-survey-introduction/. Accessed June 20, 2021.
35. Oregon Health Authority. Reproductive health equity act. Available at: https://www.oregon.gov/oha/PH/HEALTHYPEOPLEFAMILIES/REPRODUCTIVESEXUALHEALTH/Pages/reproductive-health-equity-act.aspx. Accessed June 20, 2021.
36. Migration Policy Institute. U.S. Immigrant population by state and county. Available at: https://www.migrationpolicy.org/programs/data-hub/charts/us-immigrant-population-state-and-county. Accessed March 29, 2021.