

# Abortion Trends in Georgia Following Enactment of the 22-Week Gestational Age Limit, 2007–2017


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**Objectives.** To measure trends before, during, and after implementation of Georgia House Bill 954, a limit on abortion at 22 or more weeks of gestation passed in 2012, in total abortions and abortions by gestational age and state residence.

**Methods.** We analyzed aggregate year-level induced termination of pregnancy data from the Georgia Department of Public Health from 2007 to 2017. We used linear regression to describe annual trends in the number of abortions and  $\chi^2$  analyses to describe changes in proportions of abortions by gestational age (<20 weeks, 20–21 weeks, and >21 weeks) across policy implementation periods (before, partial, and full implementation) for Georgia residents and nonresidents.

**Results.** Although the total number of abortions and abortions at 21 weeks or less remained stable from 2007 to 2017, the number of abortions at more than 21 weeks declined ( $P = .02$ ). The decline in number of abortions at more than 21 weeks was steeper for nonresidents (31/year;  $B = -31.3$ ;  $P = .02$ ) compared with Georgia residents (14/year;  $B = -13.9$ ;  $P = .06$ ).

**Conclusions.** Findings suggest that implementation of Georgia's 22-week gestational age limit has effectively limited access to needed abortion services in Georgia and beyond. (*Am J Public Health.* 2020;110:1034–1038. doi:10.2105/AJPH.2020.305653)

 See also Darney and Reid, p. 935.

Access to abortion is declining in the United States, whereas trends in implementation of policies restricting delivery of abortion services have risen sharply over the past decade.<sup>1–7</sup> State-level regulations that limit abortion after specific gestational ages have been among the common types of legislation passed.<sup>8</sup> In 2012, the Georgia Assembly passed House Bill 954 (HB954), which prohibits abortions at 22 weeks or more from last menstrual period (LMP), or 20 weeks or more postfertilization. The bill includes exceptions for abortions provided for medically futile pregnancies, to “avert the death . . . or serious risk of substantial and irreversible physical impairment of the pregnant woman,” or to “preserve the life of an unborn child.”<sup>9</sup> The bill was incrementally implemented, with partial implementation on January 1, 2013, following a temporary injunction that effectively changed the gestational age limit to 24 weeks from LMP, and

full implementation in October 2015 that reduced the limit to 22 weeks from LMP.

Prior to this policy change, abortion was legal in Georgia up to 26 weeks from LMP, representing the highest gestational limit of abortion services in the Southeast,<sup>10</sup> and positioning Georgia as a unique point of access to abortion services for people in the region.<sup>10</sup> In 2009, 8 Southeastern states provided data on abortions at later gestational ages, (i.e., Alabama, Arkansas, Georgia, Kentucky, Louisiana, South Carolina, Virginia, and West Virginia); 81% of abortions

after 21 weeks of gestation from this region occurred in Georgia.<sup>11</sup> Roberts et al.'s initial evaluation of HB954 during the injunction period revealed that half of the people receiving abortions 20 weeks or more from LMP in Georgia came from other states.<sup>10</sup> The Turnaway Study, which surveyed and interviewed patients denied an abortion because of a 20-week gestational limit and compared them with “near-limit” patients who received abortions just under 20 weeks of gestation, found that patients seeking abortion after 20 weeks are more likely to be younger and unemployed.<sup>12</sup> Moreover, the Turnaway Study demonstrated that most patients seeking abortion after 20 weeks have faced numerous obstacles to earlier abortion care, including travel and procedure costs, conflict with male partners, and raising children without sufficient child care support. Such obstacles are intensified as pregnancy continues given the lack of abortion providers offering services at later gestations, increasing travel distances, and higher cost. Another group of patients who seek abortion after 20 weeks are those diagnosed with severe fetal anomalies, most of whom choose to terminate their pregnancies; denying abortion services for those patients carries important and harmful implications for maternal–infant morbidity and mortality.<sup>13</sup> In contexts in which laws do not protect and even restrict access to safe abortion, people are forced to terminate their pregnancies with unsafe, clandestine,<sup>14</sup> or self-induction<sup>15</sup> methods or

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carry unplanned pregnancies to term. Unsafe abortion increases the likelihood of complications such as maternal morbidity and mortality—risks that are greatest for medically complicated pregnancies at later gestational ages.<sup>14</sup>

Given the persistently high rates of unintended pregnancy<sup>16</sup> and maternal mortality<sup>17</sup> across the Southeast, Georgia's gestational age limit has important implications for increasing unintended births and adverse maternal–infant outcomes and negatively affecting the long-term health and social well-being of people in Georgia and beyond. The consequences of reduced access to needed abortion services may be especially dire for socially disadvantaged people, as those receiving abortions at 20 weeks or more from LMP are often low income, less educated, of minority status, and single.<sup>10</sup> Restrictive policies that increase barriers to abortion care—including time away from work, child care arrangements, transportation and accommodations, and cost of meals<sup>18–21</sup>—disproportionately affect socially disadvantaged people, potentially exacerbating economic disadvantage and poor health status. For instance, in the Turnaway Study, women forced to carry unwanted pregnancies had 4 times greater odds of living below the federal poverty level.<sup>22</sup> Additionally, women denied abortions in the Turnaway Study experienced health consequences, including elevated levels of short-term anxiety, compared with women receiving a wanted abortion.<sup>23</sup>

Although the broad, negative implications of policies that restrict access to abortion services may be clear, gestational age limit laws have not been well studied to date. We sought to describe trends in abortion by gestational age and state of residence before, during, and after implementation of HB954.

## METHODS

Our descriptive study employed  $\chi^2$  and linear regression to estimate differences in number and proportion of annual abortions provided in Georgia from 2007 to 2017, overall and stratified by gestational age, state of residence, and policy exposure period.

## Data

We obtained annual, cross-sectional data on abortions provided in Georgia from 2007 to 2017 from the Georgia Department of Public Health's (GDPH's) state-mandated reporting of Induced Termination of Pregnancy (ITOP) certificates.<sup>24</sup> According to the GDPH guidelines, each ITOP—the “purposeful interruption of pregnancy with the intention other than to produce a live-born infant or to remove a dead fetus and which does not result in a live birth”<sup>25</sup>—must be reported to the Georgia Office of Vital Statistics by the institution or clinic within 10 days.<sup>26</sup> We aggregated data by year and stratified by gestational age at abortion (by LMP) and state residence status.

## Measures

Our outcome measure was the annual number of abortions provided in Georgia. Additional stratification measures included gestational age at abortion, year of abortion (as a proxy for exposure to HB954), and residence status. We categorized gestational age at abortion as less than 20 weeks from LMP, 20 to 21 weeks from LMP, and more than 21 weeks from LMP. We used 3 categories to define exposure to HB954: whether the abortion occurred prior to implementation of HB954 (2007–2012), during partial implementation (2013–2015), or during full implementation (2016 and 2017). State residence status was a dichotomous indicator of whether the patient was a resident of Georgia or another state (i.e., nonresident).

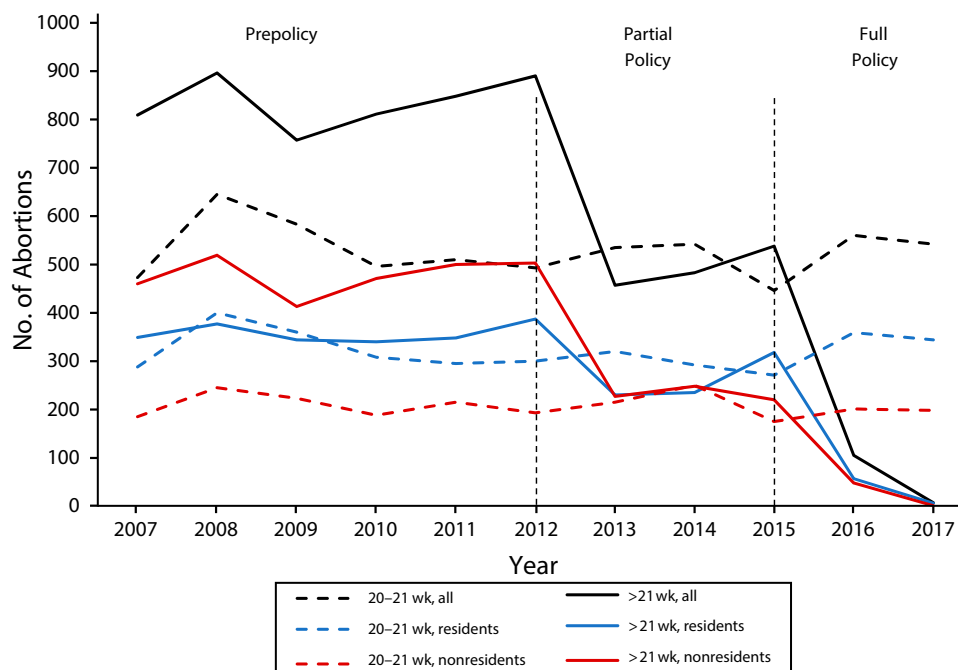
## Analyses

We modeled separate linear regressions to estimate annual trends in the number of abortions from 2007 to 2017 provided at different gestational ages—less than 20 weeks from LMP, 20 to 21 weeks from LMP, and more than 21 weeks from LMP—overall and among Georgia residents and nonresidents. Additionally, we used  $\chi^2$  analyses to compare the proportion of abortions occurring at less than 20 weeks from LMP, 20 to 21 weeks from LMP, and more than 21 weeks from LMP during the 3 policy exposure periods, overall and among residents and nonresidents. We calculated proportions for each group by dividing the number of abortions in each

gestational age category during each exposure period by the total number of abortions during each exposure period. For example, to calculate the proportion of abortions at more than 21 weeks from LMP in the pre-policy period among Georgia residents, we divided the number of abortions at more than 21 weeks from LMP among Georgia residents between 2007 and 2012 by the total number of abortions among Georgia residents between 2007 and 2012.

## RESULTS

In Georgia, there were 360 972 abortions from 2007 to 2017. The total number of abortions per year (2007 = 33 535; 2017 = 32 234;  $P = .08$ ), those provided at less than 20 weeks from LMP (2007 = 32 353; 2017 = 31 685;  $P = .21$ ), and those provided at 20 to 21 weeks from LMP (2007 = 473; 2017 = 542;  $P = .54$ ) remained relatively stable over the study period (data not shown). However, the number of abortions provided at more than 21 weeks from LMP declined sharply from 2007 to 2017 (2007 = 809; 2017 = 7;  $P = .02$ ), with the largest declines observed between 2012 and 2013 (from 890 to 457), when the policy was partially implemented, and between 2015 and 2016 (from 538 to 105), when the policy went into full effect (Figure 1). Additionally, nonresidents had more abortions at more than 21 weeks from LMP prior to HB954 and subsequently experienced larger declines in abortions at more than 21 weeks over the study period. From 2007 to 2017, the number of abortions provided at more than 21 weeks from LMP to nonresidents declined by approximately 31 abortions per year ( $B = -31.3$ ;  $P = .02$ ), whereas the number provided to Georgia residents declined by approximately 14 abortions per year ( $B = -13.9$ ;  $P = .06$ ; Figure 1). For both residents and nonresidents, the number of abortions provided at 20 to 21 weeks from LMP remained relatively stable. Trends were similar when we examined changes in the percentages of abortions provided at 20 to 21 weeks from LMP or more than 21 weeks from LMP: whereas the proportion of abortions provided at 20 to 21 weeks remained relatively stable over time among both groups, the proportion of abortions provided at more than 21 weeks



**FIGURE 1—Number of Abortions at 20 Weeks or More Provided in Georgia, by Gestational Age and Residence: 2007–2017**

declined most discernibly among nonresidents over the study period (Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>).

In  $\chi^2$  analyses, the proportion of abortions provided at less than 20 weeks from LMP increased from 97.73% in the pre-policy period to 97.93% in the partial and 98.66% in the full implementation periods among Georgia residents, whereas the proportion of abortions provided at more than 21 weeks from LMP decreased from 1.19% in the pre-policy period to 0.97% in the partial and 0.11% in the full implementation periods (Table 1). Among nonresidents, the proportion of abortions provided at less than 20

weeks from LMP increased from 81.09% in the pre-policy period to 88.49% in the partial and 95.20% in the full implementation periods. The proportion of abortions at more than 21 weeks from LMP declined from 13.17% in the pre-policy period to 5.99% in the partial and 0.53% in the full implementation periods for nonresidents (Table 1).

### DISCUSSION

We found that Georgia’s 22-week gestational age limit appears to have had the intended effect of decreasing abortions at later gestational ages in Georgia after

implementation of the policy. The number of abortions at less than 21 weeks from LMP remained stable, and there was a marked decrease in abortions in Georgia at more than 21 weeks from LMP following both the partial and full implementations of HB954. General declining trends in abortion in the United States during this study period and beyond have been recently reported elsewhere.<sup>27</sup> Related to Georgia’s specific policy environment, although the impact of gestational age restriction policies has been underresearched, our findings are consistent with and serve to advance Roberts and colleagues’ early evaluation of HB954<sup>10</sup> showing a decline in abortions after 20 weeks in

**TABLE 1—Number and Percentage of Abortions Provided in Georgia, Stratified by Gestational Age, Policy Period, and State Residence Status: 2007–2017**

Gestational Age at Termination	Residents (n = 318 277)			$\chi^2$ ; P	Nonresidents (n = 42 695)			$\chi^2$ ; P
	Pre-policy (n = 180 720), No. (%)	Partial Policy (n = 80 553), No. (%)	Full Policy (n = 57 004), No. (%)		Pre-policy (n = 21 765), No. (%)	Partial Policy (n = 11 602), No. (%)	Full Policy (n = 9328), No. (%)	
< 20 wk	176 624 (97.73)	78 887 (97.93)	56 238 (98.66)		17 650 (81.09)	10 267 (88.49)	8 880 (95.20)	
20–21 wk	1 951 (1.08)	883 (1.10)	703 (1.23)	548.7; <.001	1 249 (5.74)	640 (5.52)	399 (4.28)	1 536.1; <.001
> 21 wk	2 145 (1.19)	783 (0.97)	63 (0.11)		2 866 (13.17)	695 (5.99)	49 (0.53)	

Georgia in the first 2 years of the policy's partial implementation (i.e., 2012–2013). Our study builds upon this prior work by extending the policy observation period to include the injunction period (January 2013 to October 2015), which effectively changed the gestational age limit to 24 weeks from LMP, and the period thereafter, when the 22-week gestational age limit was instated, to estimate a fuller effect of the law. Stable trends in abortions between 20 and 21 weeks potentially suggest that the nonmedical language of the bill—that “20 weeks’ post-fertilization” as utilized in practice equates to 22 weeks from LMP—may not have affected service delivery. However, these data only include patients who received abortions and do not capture those who were not referred, possibly because of a misunderstanding of the policy.

The broader abortion literature has documented numerous barriers to accessing care prior to gestational age limits, including financial constraints; logistical issues such as transportation, lodging, and child care; and not learning about the pregnancy sooner.<sup>28,29</sup> Given that patients seeking abortions after 20 weeks are younger and more likely to be unemployed, this policy has the potential to exacerbate health disparities in the region.<sup>12</sup> Furthermore, this policy has significant implications for people facing pregnancy-related complications (e.g., severe fetal anomalies) who are denied abortion services.<sup>13</sup> By restricting access to wanted and needed abortions in the region, Georgia's gestational age limit will have a negative impact on the health and economic security of people in the state and region.<sup>23</sup> Although these data do not permit investigation of whether residents or nonresidents obtained abortions elsewhere during the study period, it may be unlikely given that until implementation of this policy, Georgia was a critical point of access for people in the Southeast seeking abortions at later gestational ages.<sup>10</sup> Indeed, we found that non-Georgia residents experienced the steepest declines in abortion procedures, suggesting that fewer people are traveling to the state to obtain abortions.

## Limitations

Our descriptive findings should be considered in the context of several limitations of the ITOP data set. First, because of how the

data are structured, we were not able to examine how access to care differed among people of different racial and ethnic groups or socioeconomic backgrounds. Second, Georgia ITOP data do not permit examination of whether people affected by this policy seek and obtain abortion services in other surrounding states; thus, conclusions from our analysis pertain only to how this policy affected abortion care in Georgia. Third, we were not able to adjust for factors beyond the gestational age limit known to influence access to abortion care, such as provider availability or distance from the nearest abortion provider.

## Public Health Implications

Nevertheless, our study indicates that Georgia's 22-week gestational age limit may be adversely affecting access to necessary and desired abortion services for pregnant people across the state and region. Given that economically vulnerable and young people are more likely to need later gestational age services, and that racial and ethnic minority groups are more likely to experience economic vulnerability because of racism, the policy has strong potential to worsen the already-existing reproductive health disparities by income, age, and race/ethnicity in the Southeastern region.<sup>30</sup> **AJPH**

## CONTRIBUTORS

Each author made substantial contributions to all phases of article development and revision; contributed to study, analysis, and article plans; interpreted data; and approved the final version prior to submission and resubmission. K. S. Hall, E. Berry, E. Lathrop, L. B. Haddad, and C. Cwiak conceptualized the project. S. Redd conducted main analyses. K. S. Hall, S. Redd, S. Narasimhan, E.A. Mosley, and S. A. Hartwig drafted original and revised versions of the article. C. Cwiak and L. B. Haddad provided substantial revisions and feedback. K. S. Hall confirms full access to all aspects of the research and writing process and takes final responsibility for the article.

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## CONFLICTS OF INTEREST

We have no relevant disclosures or conflicts of interest to report.

## HUMAN PARTICIPANT PROTECTION

Emory University's institutional review board reviewed and approved this study; the Georgia Department of

Public Health determined that this study was exempt from the requirement for their institutional review board review and approval.

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