

# Massachusetts' Parental Consent Law and Procedural Timing Among Adolescents Undergoing Abortion

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**OBJECTIVE:** To describe individual-level delay in obtaining abortion associated with use of the Massachusetts judicial bypass system, which legal minors (aged 17 years or younger) use to obtain abortion without consent of a parent or legal guardian in the setting of Massachusetts' parental consent law for abortion.

**METHODS:** We conducted a retrospective cohort study of 2,026 abortions among minors at a large, statewide network of abortion clinics between 2010 and 2016. Delay was defined as the number of calendar days between the minor's first call to the clinic to schedule an abortion, and the day the abortion was received.

**RESULTS:** In the study population, 1,559 (77%) abortions were obtained with parental consent and 467 (23%) using judicial bypass. Abortions after judicial bypass were more common among minors identifying as Hispanic, non-Hispanic black, or other race, those of low socio-

economic status (as indicated by having Medicaid insurance) and those with a prior birth or prior abortion (all  $P < .05$ ). Minors with parental consent received their abortion a mean of 8.6 days after initial contact, compared with 14.8 days for minors with judicial bypass, for an unadjusted difference of 6.1 days. In multivariable linear regression modeling adjusting for demographic differences between groups, this difference persisted: minors who obtained abortions after judicial bypass had a significantly greater delay compared with those with parental consent (adjusted mean difference = 5.2 days; 95% CI 4.3 to 6.2). Using multivariable logistic regression modeling, minors with judicial bypass also had higher odds of becoming ineligible for medication abortion between the day of first call and the day of procedure (adjusted odds ratio 1.57; 95% CI 1.09 to 2.26).

**CONCLUSION:** Massachusetts' parental consent law for abortion is associated with delay among minors and thereby may constrain the clinical options available to them.

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Thirty-seven states currently mandate parental consent or notification before provision of abortion care to minors.<sup>1</sup> Among the oldest of these laws is Massachusetts' parental consent law, the subject of the 1979 Supreme Court case *Bellotti v Baird*, which found parental involvement laws are permissible under the U.S. Constitution so long as parental involvement can be bypassed through some mechanism, for example, a petition to a judge ("judicial bypass").<sup>2</sup> Though a significant majority of minors prefer to inform their parents about their abortions, and do so even in the absence of a legal mandate, some do not involve parents owing to poor relationship quality, family stressors, fear of abuse, or are unable to involve parents owing to logistical barriers.<sup>3–6</sup> Currently, these minors may use judicial bypass hearings to circumvent the parental involvement requirement in 36 states.<sup>1</sup>

The 2018 National Academies of Sciences, Engineering and Medicine report, “The Safety and Quality of Abortion Care in the United States,” named timeliness as one of six key components of quality abortion care.<sup>7</sup> The effects of parental involvement laws, and in particular the effect of the judicial bypass process on timeliness of abortion, are unclear. Parental involvement laws do not appear to reduce minors’ overall pregnancy rates or birth rates but may lead to delay in accessing abortion.<sup>8–13</sup> Several ecologic studies found an increase in second trimester abortion rates after the implementation of parental involvement laws; however, owing to lack of individual-level data, it is not clear whether this delay is associated specifically with judicial bypass utilization.<sup>11,13</sup> The few studies on parental involvement laws that use individual-level data are primarily limited to vital statistics records with few demographic variables collected, leaving potential for unmeasured confounding.<sup>14,15</sup> Therefore, any delay in obtaining abortion owing to use of the judicial bypass process remains poorly described in the literature.

We set out to fill this gap through a retrospective cohort study documenting individual-level abortion delay associated with using Massachusetts’ judicial bypass system for minors receiving abortion care without parental consent.

## METHODS

We conducted a retrospective observational cohort study of abortions among minors 17 years or younger at three Planned Parenthood League of Massachusetts clinics in the Eastern, Central, and Western regions of the state, between September 2010 and June 2016. Massachusetts law requires the consent of one parent or legal guardian for all never-married legal minors before obtaining abortion. No other adults are permitted to provide consent. The statute itself does not elucidate how consent may be given.<sup>16</sup> The standard procedure at Planned Parenthood League of Massachusetts clinics in this study is for the minor patient and the accompanying parent to each sign a form signifying informed consent (for the parent) or assent (for the minor) in person on the day of the abortion procedure. The state of Massachusetts does not have any other major abortion restrictions, including no mandatory waiting period before abortion. MassHealth, the state Medicaid program, routinely reimburses abortion care.

In addition to being Massachusetts’ largest abortion provider, Planned Parenthood League of Massachusetts hosts a statewide care navigation program that connects minors seeking judicial bypass with

pro bono legal counsel.<sup>17–22</sup> This program is available free of charge to minors seeking abortion at any provider anywhere in the state, and serves all minors who use judicial bypass for abortion at Planned Parenthood League of Massachusetts. Care navigators based at Planned Parenthood League of Massachusetts maintain standardized intake records that query minors on their pregnancy and abortion plans and document the location of the court to which the minor plans to travel for the bypass hearing. Within one business day, the care navigators obtain all necessary information and assign legal counsel. The state of Massachusetts does not provide consent for minors in its custody (such as incarcerated individuals or those in the foster care system), and never-married legally emancipated minors may not consent for themselves under the parental involvement statute.<sup>16</sup> Therefore, the following groups must use judicial bypass: 1) never-married minors not involving their parents or guardians in the abortion decision or whose parents or guardians refuse to provide consent, 2) never-married minors whose parents or guardians support the abortion but are unable to provide documented consent for logistical reasons, 3) never-married minors who are in foster care or incarcerated, and 4) never-married emancipated minors with no legal guardian.

Using scheduling and billing data, as well as a database maintained by the care navigation program, we identified 2,073 instances of minors seeking abortion at Planned Parenthood League of Massachusetts over the study period, of whom four were excluded because they were married minors not subject to the parental consent law. For the remaining 2,069, we were able to track outcomes both for individuals who received abortions at Planned Parenthood League of Massachusetts, which had an institutional gestational age limit of 18 weeks 6 days for abortions during the study period, and for those who were referred from Planned Parenthood League of Massachusetts to outside providers owing to a gestational age of 19 weeks or later. Data on minors who required an external referral were abstracted both from the Planned Parenthood League of Massachusetts medical record and from a patient referral database maintained by care-navigation staff. From the initial cohort, we excluded 33 records from the analysis either because the minor continued the pregnancy after initially requesting abortion ( $n=22$ , 1.1%), or because they were lost to follow up after initially requesting an abortion ( $n=11$ , 0.5%). Additionally, we excluded 10 records (0.5%) with missing values for key variables. This resulted in a final

sample size of 2,026 abortions corresponding to 1,909 minors as some minors had multiple abortion procedures in the study period. We obtained public records from the Massachusetts Department of Public Health Registry of Vital Records and Statistics, including total abortions provided by patient age, for the study period. Based on these records, we calculate the Planned Parenthood League of Massachusetts cohort examined here includes 60% of all abortions provided to minors in Massachusetts over the study period.<sup>17–22</sup>

All data were dual-entered. Data from the electronic medical record (EMR) were exported by a computer programmer using a SQL query from the NextGen EMR that was in use at Planned Parenthood League of Massachusetts from September 2010 through June 2016. Every variable was also manually abstracted by a research assistant, and the manually entered dataset was compared with the SQL-exported dataset to check for discrepancies using a merging function in a REDCap (Research Electronic Data Capture) database hosted by Partners Healthcare.<sup>23</sup> Additionally, all variables from the judicial bypass care navigation team's paper records and electronic referral database were manually abstracted and dual-entered independently by two research assistants and merged in REDCap to check for discrepancies. All discrepancies were reviewed by investigators and reconciled through manual record review. All study procedures were approved by the Partners Human Research Committee (institutional review board).

The primary outcome of this analysis was mean delay in time to abortion defined as the number of days from the date of first telephone contact by the minor to Planned Parenthood League of Massachusetts requesting to schedule an abortion, and the date abortion care was ultimately received. For minors who initiated cervical dilation the day before uterine evacuation (eg, through the placement of osmotic dilators), the date of cervical dilation was considered the date of abortion procedure. The secondary outcomes were the odds of passing specific gestational age thresholds during the delay period; that is, of being eligible for a particular abortion procedure on the date of first contact but becoming ineligible by gestational age before actually receiving care. We examined individual odds of passing three clinically significant gestational thresholds corresponding to changes in clinical care: 1) becoming ineligible for medication abortion per institutional protocol at 64 days (9 weeks) of gestation or more (before April 1, 2015) or 71 days (10 weeks) of

gestation or more (on or after April 1, 2015, in accordance with a change in clinical protocol by Planned Parenthood League of Massachusetts); 2) having routine same-day cervical ripening recommended, prolonging the procedure day at 85 days (12 weeks) of gestation or more; or 3) having cervical ripening required, which, for a majority of minors, required a 2-day procedure at 99 days (14 weeks) of gestation or more. To create these variables, we first calculated gestational age at first contact as gestational age using ultrasound scan on the day of procedure minus the number of days since first contact. Abortions were coded as passing through a threshold if gestational age at first contact was less than the threshold and the gestational age at procedure was greater than the threshold.

The exposure of interest was consent type coded as parental or guardian consent (hereafter, "parental consent") or judicial bypass. Based on prior literature documenting demographic factors associated with later presentation to abortion care among adult or mixed-age populations, we considered the following patient characteristics as potential confounding variables for the relationship between the exposure and the primary and secondary outcomes: age, Hispanic ethnicity and race category, being Medicaid insured (as a proxy for socioeconomic status), residential distance to clinic, parity (none vs any prior births), prior abortion (none vs any), and patient-reported gestational age at first call to Planned Parenthood League of Massachusetts, which is recorded by appointment schedulers as part of standard preprocedure phone screening.<sup>24–27</sup> In Massachusetts, Medicaid routinely reimburses abortions and many patients use this coverage. However, because we considered Medicaid a proxy for socioeconomic status, we coded any patient recorded as having Medicaid insurance anywhere within the EMR within 60 days of the abortion procedure as Medicaid-insured, irrespective of abortion payment type. We computed the distance to clinic as the mileage from the centroid of residential ZIP code to the exact address of the Planned Parenthood League of Massachusetts clinic where the patient sought care using the geodist package in Stata. For the patient-reported gestational age at first phone call variable, there were missing values for 379 (19%) abortions. We imputed based on the mean value from abortions in the same gestational age at procedure category (at or before 9 0/7 weeks, 9 1/7–12 0/7 weeks, 12 1/7–13 6/7 weeks, 14 0/7–15 6/7 weeks, 16 0/7–18 6/7 weeks, 19 0/7 weeks or more). We investigated differences in demographic and clinical characteristics by consent type using  $\chi^2$  tests for

**Table 1. Characteristics of the Study Population by Consent Type (N=2,026)**

Characteristic	Parental Consent (n=1,559)	Judicial Bypass (n=467)	P
Age (y)			
14 or younger	124 (8)	13 (3)	<b>&lt;.001</b>
15	217 (14)	48 (10)	
16	444 (28)	148 (32)	
17	774 (50)	258 (55)	
Hispanic ethnicity and race			
Non-Hispanic white	611 (39)	74 (16)	
Non-Hispanic black	164 (11)	87 (19)	<b>&lt;.001</b>
Non-Hispanic other	190 (12)	87 (19)	
Hispanic	309 (20)	150 (32)	
Unknown or refused	285 (18)	69 (15)	
Insurance type			
Medicaid	925 (59)	348 (75)	<b>&lt;.001</b>
Not Medicaid	634 (41)	119 (25)	
Distance from residential ZIP code to clinic (miles)			
5 or less	260 (17)	76 (16)	
5.1–15.0	550 (35)	215 (46)	<b>&lt;.001</b>
15.1–30.0	338 (22)	62 (13)	
More than 30.0	411 (26)	114 (24)	
Parity			
0	1,462 (94)	421 (90)	<b>.010</b>
1 or more	97 (6)	46 (10)	
Prior abortion			
0	1,423 (91)	411 (88)	<b>.034</b>
1 or more	136 (9)	56 (12)	
Patient-reported gestational age at 1st contact (wk)*	9.2±3.0	9.8±3.1	<b>.001</b>
Delay in time to abortion (d) [min, max]	8.6 (8.4) [0–85]	14.8 (12.2) [0–86]	<b>&lt;.001</b>
Delay in time to abortion (d)			
0–6	732 (47)	37 (8)	
7–13	551 (35)	255 (55)	<b>&lt;.001</b>
14–20	171 (11)	87 (18)	
21 or more	105 (7)	88 (19)	

Data are n (%), mean±SD, or range [min–max] unless otherwise specified.

Two-sample *t*-test used for continuous variables and  $\chi^2$  test used for categorical variables with adjustment for multiple abortions per minor. Bold indicates significant *P* values at the .05 significance level.

\* Three hundred seventy-nine (19%) missing values were imputed, as detailed in main text (17% in judicial bypass, 19% in parental consent).

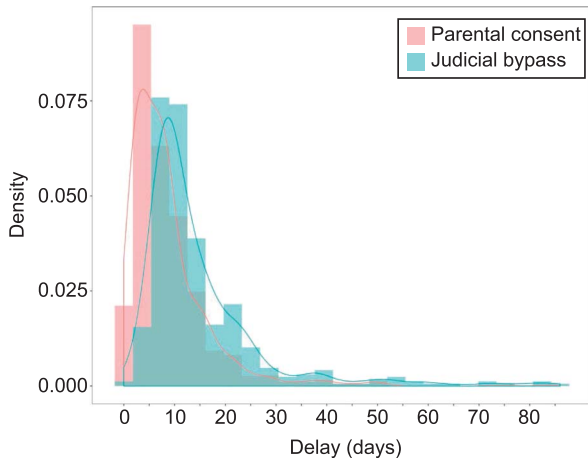
categorical variables and two-sample *t*-tests for continuous variables.

For the primary analysis, we built a multivariable linear regression model to compare the mean delay in abortion care by consent type adjusting for multiple confounders. For the secondary analysis, we built three multivariable logistic regression models for each gestational age threshold to compare the odds of passing a gestational age threshold during the delay period by consent type. For each model, only abortions at risk of passing the threshold were included; that is, gestational age at first contact was less than the outcome threshold being assessed. For all analyses, we accounted for multiple abortions per minor by use of generalized estimating equations—a common technique to estimate the parameters from the regression mean model while adjusting

the variance for clustering.<sup>28–30</sup> Before building the logistic regression models, we confirmed there were at least five events for each categorical variable included in the analysis for all three cutpoints.<sup>31</sup> The abortion was the unit of analysis in all presented analyses. All statistical analyses were performed in Stata 15.

## RESULTS

During the study period, there were 2,026 abortions provided to minors. Of these, 1,559 (77%) abortions were provided with parental consent and 467 (23%) abortions followed judicial bypass. Further, 97% (n=1,964) of abortions occurred at Planned Parenthood League of Massachusetts and 3% (n=62) were referred to other providers. We found significant differences ( $P<.05$ ) by consent type for all demographic



**Fig. 1.** Distribution of delay in time to abortion by consent type (N=2,026).

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and social characteristics (Table 1). The distributions of race and ethnicity categories and of age categories were significantly different between the judicial bypass and parental consent groups ( $P<.001$ ). Additionally, Medicaid insurance was more prevalent among abortions after judicial bypass (75%, 348/467) than among those with parental consent (59%, 925/1,559) ( $P<.001$ ). Ten percent (46/467) of the judicial bypass group reported a prior birth, compared with 6% (97/1,559) of the parental consent group ( $P=.010$ ). Twelve percent (56/467) of the judicial bypass group reported a prior abortion, compared with 9% (136/1,559) of the parental consent group ( $P=.034$ ).

The mean delay in time to abortion was 6.1 days longer for minors using judicial bypass (8.6 vs 14.8 days,  $P<.001$ , Table 1). This finding is corroborated in Figure 1, where the mean of the distribution of delay in time to abortion with parental consent is closer to no delay compared with the mean of the distribution among the judicial bypass group. The overall greater amount of delay in the judicial bypass group is also evident when examined categorically: whereas 47% (732/1,559) of minors obtaining abortion with parental consent accessed care within 6 days, only 8% (37/467) of those with judicial bypass did so; conversely, 7% (105/1,559) of the parental consent group was delayed 21 days or more, compared with 19% (88/467) of the bypass group ( $P<.001$ , Table 1). There was no significant difference in the proportions of abortion procedures requiring two visits to achieve adequate cervical dilation ("2-day procedures") between the judicial bypass

and parental consent groups. In the parental consent group, 93% (1,450/1,559) of procedures were 1-day and 7% (109/1,559) were 2-day, compared with 90.8% (424/467) 1-day and 9.2% (42/467) 2-day in the bypass group ( $P=.11$ ).

A significant difference in mean delay persisted when adjusting for demographic factors (adjusted mean difference 5.2 days; 95% CI 4.29 to 6.20,  $P<.001$ , Table 2). In the multivariable linear regression model, we also found that minors with a prior birth (adjusted mean difference=2.3; 95% CI 0.79 to 3.89) and prior abortion (adjusted mean difference=1.9; 95% CI 0.51 to 3.20) experienced a statistically significantly longer delay in time to abortion (Table 2). Minors with higher self-reported gestational age (weeks) at first contact also had a significantly longer delay (adjusted mean difference=0.9; 95% CI 0.79 to 1.05). There were no significant differences in delay in time to abortion by age category, Hispanic ethnicity and race category, Medicaid insurance (as a proxy for socioeconomic status), or residential distance from the clinic.

For the secondary analysis, the unadjusted odds of reaching or passing the medication abortion, 84-day, or 98-day thresholds were greater among judicial bypass abortions compared with parental consent abortions (Table 3). Among minors with parental consent, 15% ( $n=164$ ) first called the clinic before the medication abortion threshold but ultimately presented to care when they were too advanced in gestation for that method compared to 28% ( $n=96$ ) among minors who used judicial bypass. Figure 2 provides an additional illustration for this finding as the proportion of judicial bypass abortions, 33% (141/428), passing any of the three thresholds is significantly larger than that among parental consent abortions, 19% (268/1,441) ( $P<.001$ ). In the adjusted analysis (Table 4), the odds of becoming ineligible for medication abortion were significantly greater among judicial bypass abortions compared with parental consent abortions (adjusted odds ratio [aOR] 1.57; 95% CI 1.09 to 2.26). However, the associations between consent type and passing gestational age thresholds were not significant for the 84-day (aOR 1.34; 95% CI 0.83 to 2.16) and 98-day (aOR 1.43; 95% CI 0.76 to 2.69) multivariable logistic regression models.

## DISCUSSION

Within this large retrospective cohort, we found judicial bypass of Massachusetts' parental consent law disproportionately involves minors who identify as racial or ethnic minorities, and who are of low

**Table 2. Univariable and Multivariable Linear Model Results: Mean Delay in Time to Abortion (Days) by Consent Type, Demographic, and Medical Variables Among Minors Undergoing Abortion in Massachusetts (N=2,026)**

Variable	Univariable Model				Multivariable Model			
	Estimate	SE	95% CI	P	Estimate	SE	95% CI	P
Consent type								
Parental consent	Ref				Ref			
Judicial bypass	6.12	0.50	5.14 to 7.10	<.001	5.24	0.49	4.29 to 6.20	<.001
Age (y)								
14 or younger	Ref				Ref			
15	2.13	1.02	0.14 to 4.13	.036	1.65	0.94	-0.18 to 3.49	.078
16	1.94	0.92	0.14 to 3.75	.035	1.20	0.85	-0.46 to 2.87	.157
17	1.68	0.88	-0.05 to 3.41	.058	0.72	0.82	-0.89 to 2.33	.378
Hispanic ethnicity and race								
Non-Hispanic white	Ref				Ref			
Non-Hispanic black	3.83	0.72	2.42 to 5.24	<.001	1.05	0.69	-0.30 to 2.40	.127
Non-Hispanic other	1.59	0.70	0.22 to 2.96	.023	0.09	0.64	-1.17 to 1.35	.890
Hispanic	2.06	0.59	0.91 to 3.22	<.001	0.13	0.57	-0.98 to 1.24	.821
Unknown or refused	1.25	0.64	-0.004 to 2.50	.051	0.31	0.59	-0.85 to 1.48	.597
Insurance type								
Medicaid	Ref				Ref			
Not Medicaid	1.85	0.45	0.97 to 2.73	<.001	0.62	0.43	-0.22 to 1.46	.150
Clinic distance (miles)								
5 or less	Ref				Ref			
5.1-15.0	0.76	0.64	-0.50 to 2.03	.235	0.27	0.58	-0.87 to 1.40	.645
15.1-30.0	-0.90	0.73	-2.32 to 0.53	.216	0.05	0.67	-1.27 to 1.37	.940
More than 30.0	-0.72	0.69	-2.06 to 0.63	.295	-0.78	0.63	-2.01 to 0.45	.215
Parity								
0	Ref				Ref			
1 or more	3.07	0.73	1.63 to 4.50	<.001	2.34	0.79	0.79 to 3.89	.003
No. of prior abortions								
0	Ref				Ref			
1 or more	3.21	0.85	1.54 to 4.88	<.001	1.85	0.69	0.51 to 3.20	.007
Patient-reported gestational age (wk) at 1st contact*								
	1.00	0.07	0.87 to 1.13	<.001	0.92	0.07	0.79 to 1.05	<.001

Model fit using generalized estimating equations with exchangeable working correlation structure.

Bold indicates significant P values at the .05 significance level.

\* Transformed to be centered at mean weeks.

socioeconomic status. Adolescents who sought judicial bypass were also more likely to have prior births and abortions. Some adolescents may choose judicial bypass because their familiarity with pregnancy imbues them with the confidence to make the abortion decision without the involvement of a parent; conversely, some may know from prior experience that parents will react poorly to the pregnancy. On average, the parental consent group experienced approximately a 9-day lapse from first scheduling call to abortion care, roughly comparable with the 10-day wait documented in a 2004 national survey of abortion patients.<sup>25</sup> By contrast, the judicial bypass group experienced a 15-day wait. We did not find any difference in delay related to residential distance to the clinic. All three Planned Parenthood League of Mas-

sachusetts clinics that provide abortion care are in major cities located near highways and accessible by bus and rail. Distance may affect time to abortion in larger states with less transit infrastructure.

In both raw and adjusted analyses, minors who sought judicial bypass experienced statistically and clinically significant delays. Although the risk of death from abortion is low in absolute terms (0.6/100,000 abortions), mortality increases exponentially by 38% with each week of additional gestation.<sup>32,33</sup> Additionally, procedures at later gestational ages require additional cervical priming, increasing time spent at the clinic, patient discomfort, and for some patients, financial burden. Because young age is an independent risk factor for difficult dilation and for cervical laceration, advancing gestational age increases the risk for

**Table 3. Prevalence of Passing a Gestational Age Threshold Between the Initial Scheduling Call and Procedure by Consent Type Among Minors Undergoing Abortion in Massachusetts**

Outcome Threshold	Sample Size*	Parental Consent	Judicial Bypass	Crude OR	95% CI	P†
70-d‡ ineligible for medication abortion	1,467	164 (15)	96 (28)	2.30	1.72 to 3.07	<.001
84-d cervical ripening recommended	1,751	84 (6)	49 (12)	2.08	1.43 to 3.01	<.001
98-d cervical ripening required, 2-day procedure standard	1,869	57 (4)	31 (7)	1.90	1.21 to 2.98	.005

OR, odds ratio.

Data are n or n (%) unless otherwise specified.

Bold indicates significant P values at the .05 significance level.

\* Abortions at a gestational age past the relevant threshold were removed from the analysis.

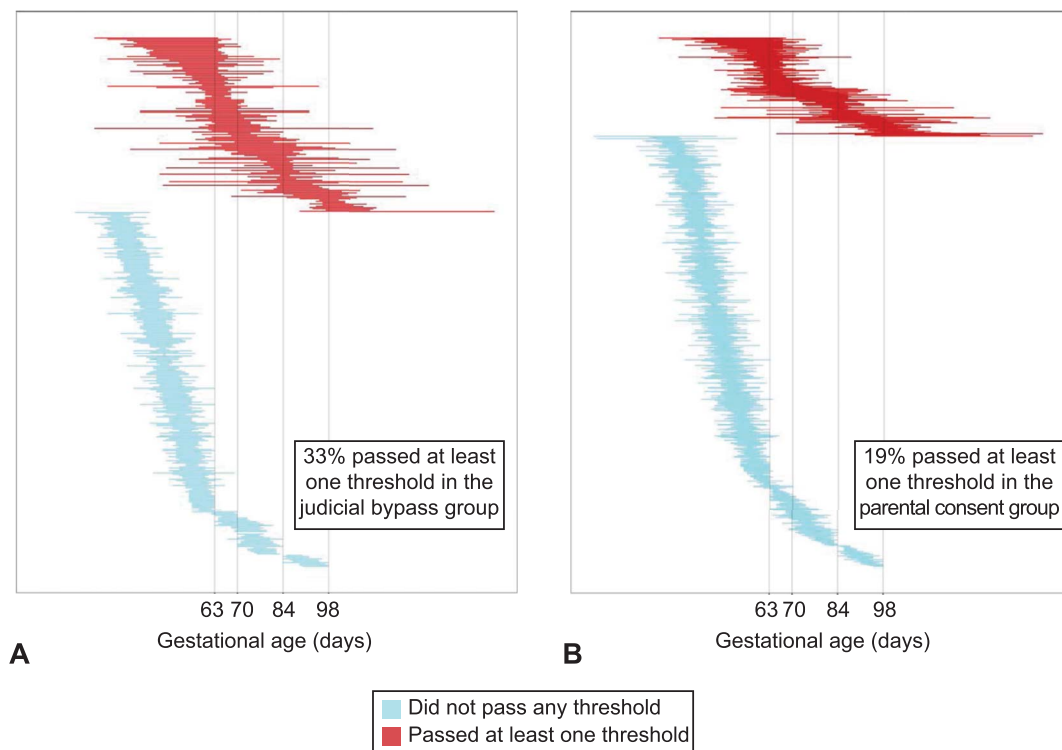
† Chi-squared test for significance.

‡ For minors receiving their procedure before April 1, 2015, the threshold for medication abortion ineligibility was 63 days.

procedural complications among minors in particular.<sup>34</sup> Thus, the time required to comply with the judicial bypass process may increase the risks of medical complications for some minors in Massachusetts. Additionally, clinical management options change as gestational age at time of abortion advances. Within our cohort, minors who received judicial bypass were significantly more likely to lose the option of a medi-

cation abortion as they waited for their abortion care, compared with those with parental consent. Prior literature has demonstrated that some patients have strong preferences for medication abortion.<sup>35,36</sup>

These results have several limitations. First, the study cohort represents approximately two-thirds of minors who obtained abortions in Massachusetts over the study period. It is possible that the one third



**Fig. 2.** Passing a gestational age threshold between the initial scheduling call and procedure by consent type (n=1,869\*): (A) Judicial bypass (n=428) and (B) parental consent (n=1,441). Horizontal lines represent the gestational age at first contact to gestational age at procedure in days for each abortion by consent type. The length of each horizontal line can be interpreted as the delay in days from first contact to procedure. The vertical lines correspond to gestational age thresholds. \*Includes only pregnancies with gestational age at first contact before the 98-day threshold.

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**Table 4. Multivariable Logistic Model Results: Odds of Passing a Gestational Age Threshold Between the Initial Scheduling Call and Procedure by Consent Type Among Minors Undergoing Abortion in Massachusetts**

Outcome Threshold	Sample Size*	Adjusted OR <sup>†</sup>	95% CI	P
70-d <sup>†</sup> ineligible for medication abortion	1,467	1.57	1.09 to 2.26	<b>.014</b>
84-d required cervical ripening	1,751	1.34	0.83 to 2.16	.232
98-d ineligible for single-visit aspiration abortion	1,869	1.43	0.76 to 2.69	.268

OR, odds ratio.

Model fit using generalized estimating equations with logit link with exchangeable working correlation structure.

Bold indicates significant P values at the .05 significance level.

\* Pregnancies of a gestational age past the relevant threshold were removed from the analysis.

<sup>†</sup> For pregnancies before April 1, 2015, the threshold for medication abortion ineligibility was 63 days.

<sup>‡</sup> Adjusted for age, Hispanic ethnicity and race category, insurance type, distance to clinic, prior abortion, prior birth, and perceived gestational age at first contact.

of minors who did not seek abortion at Planned Parenthood League of Massachusetts differ from those who did, and in particular that they received abortion care at hospitals or private doctors' offices, which could be associated with greater disease burden or higher overall socioeconomic status. Because Planned Parenthood League of Massachusetts has clinics throughout the state, we do not suspect that area of residence systematically differs between minors who were or were not included. Additionally, we do not suspect that gestational age at abortion systematically differs between individuals in the cohort and those we did not capture, because the presence of a care-navigation program within Planned Parenthood League of Massachusetts enabled us to track outcomes for minors referred out of the source clinics at 19 weeks of gestation or greater. Additionally, our proxy variable for socioeconomic status is imperfect. Although we are certain that every person with Medicaid is low-income, it is also possible that some individuals who are uninsured or have private insurance are also low-income. Further, the race-ethnicity category was either unknown or refused to answer for 17% of abortions. Finally, by design, our clinic-based cohort study was not able to capture any minors who desired but ultimately chose not to attempt to receive abortion care owing to the parental consent law.

Our findings may not be generalizable to other states with parental consent laws, particularly those with additional legal barriers to obtaining abortion. Many states have additional abortion regulations that do not exist in Massachusetts, such as laws prohibiting Medicaid (in 33 states) or private (in 11 states) insurance from reimbursing abortion care,<sup>37</sup> mandated counseling and waiting periods (in 27 states),<sup>38</sup> or regulations on clinic infrastructure that have resulted in closures of freestanding abortion clinics (6% drop nationally from 2011 to 2014).<sup>39</sup> In states with additional legal restrictions, the

effect of obtaining judicial bypass on procedural timing may be amplified by the presence of additional barriers. Importantly, poor quality information provision<sup>40-42</sup> and a lack of robust infrastructure to connect minors with attorneys and courts for judicial bypass hearings—each of which have been documented in several states—could also introduce delays that do not exist in Massachusetts. At the bypass hearing, denials and the need for legal appeals could result in additional delay or ultimate denial of abortion care for some minors. Nationally representative data on the frequency of denials are currently lacking.

Massachusetts' parental involvement law for abortion is associated with significant delays, thereby potentially increasing medical risks and constraining the clinical options available to patients. Because racial and ethnic minority youth, as well as those of lower socioeconomic status, are overrepresented in the judicial bypass group, the law may accordingly worsen reproductive health inequities among these populations. The full effect of parental involvement requirements has not yet been documented in most U.S. states with such laws. Future research should describe both the population-level effects of these policies, as well as any disparate effect on subpopulations of vulnerable youth.

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