

## Maternal Age at Delivery

A woman's age may have a significant impact on perinatal morbidity and mortality. In Maryland, mothers under 20 years of age accounted for 9% of births 2004-2008 and mothers aged 40 or older accounted for 4% of births (Figure 1). The age of mothers who were surveyed spanned from 11 years to 53 years. Adolescents 17 years of age or younger made up 30% of the <20 age group (data not shown).

Figure 1. Births by Maternal Age, Maryland, 2004-2008

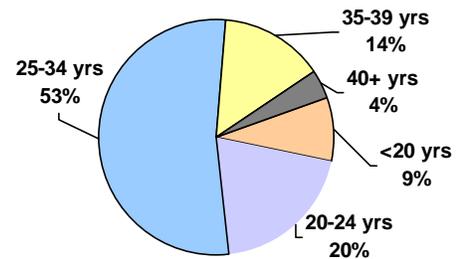


Table I. Maternal Characteristics by Age, Maryland, 2004-2008

Maternal Characteristic	Maternal Age, years Percentage of mothers				
	<20	20-24	25-34	35-39	≥40
<b>Race / Hispanic ethnicity</b>					
White, non-Hispanic	27	42	55	59	55
Black, non-Hispanic	55	40	25	24	29
Asian	1	2	7	8	6
Hispanic	16	17	12	8	9
Other	1	0	1	0	0
<b>Education, highest level</b>					
Some high school	46	21	8	6	5
High school graduate	45	44	23	18	22
Some college	9	23	19	16	17
College graduate	0	12	49	60	57
<b>Marital status</b>					
Married	8	29	74	84	79
<b>Medicaid at Delivery</b>					
Yes	57	57	25	13	17

The majority of mothers <20 years of age were unmarried (92%), used Medicaid for delivery (57%) and Black (55%). The majority of mothers aged 40 years or older were married (79%),

college graduates (57%), and White (55%) (Table I). Seventeen percent of Black women and 12% of Hispanic women were <20 years of age at delivery (not shown).



## Maternal Age and Factors Before, During and After Pregnancy

Table 2. Maternal Age and Perinatal Factors, Maryland, 2004-2008

Perinatal Factor	Maternal Age, years Percent of mothers				
	<20	20-24	25-34	35-39	≥40
<b>Before pregnancy</b>					
Daily multivitamin use (with folic acid)	17	15	35	43	44
Body mass index (BMI)					
Underweight (<18.5)	11	5	4	3	1
Normal weight (18.5-24.9)	56	53	52	52	49
Overweight (25.0-29.9)	23	23	25	26	29
Obese (≥30)	9	18	19	19	20
Medical Disorders					
Asthma	11	10	7	6	7
Anemia	25	21	10	9	9
Hypertension	3	2	2	5	8
Diabetes	2	1	1	3	3
Unintended pregnancy	74	60	34	26	29
Assisted reproductive technology (ART) use	<1	<1	7	13	16
Cigarette smoking	20	27	16	12	10
Stressors, year before delivery					
Separation or divorce	12	13	7	5	4
Homeless	11	5	3	2	3
Partner did not want pregnancy	16	14	7	7	6
Partner in jail	9	8	2	1	1
Alcohol/drug problem, (someone close)	18	16	9	7	8
<b>During Pregnancy</b>					
Initiation of prenatal care					
1st trimester	59	66	81	85	83
3rd trimester or no care	5	4	2	1	1
Cigarette smoking	13	16	8	7	6
Alcohol consumption	3	5	8	13	12
Physical abuse, current/former partner	10	8	3	1	2
Medical Disorders					
Severe nausea	44	37	29	23	20
Urinary tract or kidney infection (UTI)	26	26	14	12	14
Pre-term labor	27	23	19	16	15
Hypertension	14	11	10	13	17
Diabetes	7	6	9	13	15
<b>After pregnancy</b>					
Cigarette smoking	19	23	11	9	8
Breastfeeding					
Initiated	63	70	83	85	86
8 weeks or longer	31	44	65	70	70
Infant sleep position, back	56	59	71	75	72
Maternal depression	22	17	13	10	15

## Maternal Age and Factors Before, During and After Pregnancy (continued)

### Mothers < 20 years had highest rates of:

- Underweight BMI (11%)
- Pre-pregnancy asthma (11%)
- Pre-pregnancy anemia (25%)
- Unintended pregnancy (74%)
- Late or no prenatal care (5%)
- Psycho-social stressors (various)
- Nausea during pregnancy (44%)
- UTI during pregnancy (26%)
- Preterm labor (27%)
- Partner abuse during pregnancy (10%)
- Postpartum depression (22%)

### Mothers 40+ years had highest rates of:

- Daily folic acid intake (44%)
- Obese BMI (20%)
- Pre-pregnancy hypertension (8%)
- Pre-pregnancy diabetes (3%)
- ART use for infertility (16%)
- Hypertension during pregnancy (17%)
- Diabetes during pregnancy (15%)
- Alcohol use during pregnancy (12%)
- Breastfeeding initiation (86%) and continuation for  $\geq 8$  weeks (70%)

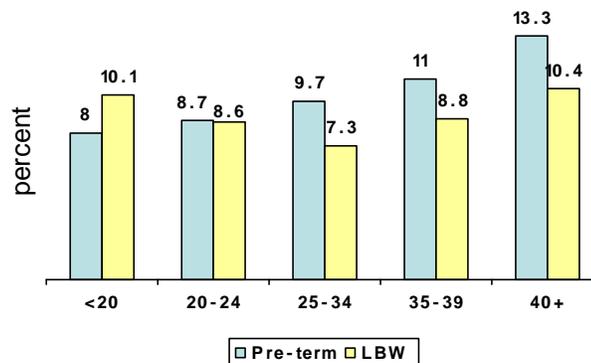
Also, smoking was most prevalent among 20-24 year olds before (27%), during (16%) and after (23%) pregnancy.

“There are too many young children having children. Too many people having babies and unable to care for them.”

## Birth Outcomes

Mothers <20 years of age had the lowest levels of preterm birth < 37 weeks (8%) but had high levels of infant low birth weight <2500 grams (10.1%). Mothers aged 40+ had the highest levels of both pre-term birth (13.1%) and infant low birth weight (10.4%) (Figure 2).

Figure 2. Infant Low Birth Weight and Preterm Birth by Maternal Age, Maryland 2004-2008



## Summary

Perinatal health, behaviors and birth outcomes differ with maternal age.

Mothers younger than 20 years are an especially vulnerable population as they experience the highest rates of unintended pregnancies, late initiation of prenatal care or none at all, and high levels of prenatal and pre-pregnancy stressors including homelessness, intimate partner violence, and partners not supporting the pregnancy. Furthermore, minorities are disproportionately represented in this young age group. Programs targeting smoking cessation, depression screening and treatment, pregnancy planning, healthy eating, and

social infrastructure support would greatly benefit this young population.

Mothers aged 40 years or older had high rates of sub-fertility, obesity, and medical disorders such as hypertension and diabetes. This group also had the highest preterm birth rate and infant low birth rate. As more women opt to delay childbearing, providers will be increasingly faced with these issues.

Both younger and older mothers have increased health risks that would benefit from support before, during and after pregnancy.

“Being over 35 years old and carrying twins put me into a high risk category. I am very thankful for the medical care I received.”

**PRAMS mothers**



## Production Team:

May Sudhinaraset<sup>1</sup>  
Diana Cheng, MD<sup>2</sup>

1. Department of Population, Family, and Reproductive Health, Johns Hopkins Bloomberg School of Public Health
2. Center for Maternal and Child Health, Maryland Department of Health and Mental Hygiene (DHMH)

For further information,  
please contact:

Diana Cheng, M.D.  
PRAMS Project Director  
Medical Director, Women's Health  
Center for Maternal and Child  
Health  
Maryland Department of Health  
and Mental Hygiene  
201 W. Preston Street  
Baltimore, MD 21201

Phone: (410) 767-6713  
Fax: (410) 333-5233

or visit:

[www.marylandprams.org](http://www.marylandprams.org)

## PRAMS Methodology

Data included in this report were collected through the Pregnancy Risk Assessment Monitoring System (PRAMS), a surveillance system established by the Centers for Disease Control and Prevention (CDC) to obtain information about maternal behaviors and experiences that may be associated with adverse pregnancy outcomes.

In Maryland, the collection of PRAMS data is a collaborative effort of the Department of Health and Mental Hygiene and the CDC. Each month, a sample of 200 Maryland women who have recently delivered live

born infants are surveyed by mail or by telephone, and responses are weighted to make the results representative of Maryland resident births who delivered in-state. Survey data are linked with birth certificate data to provide additional demographic and pregnancy information. Maternal age for this report was taken from birth certificate data.

The results in this report were based on the responses of 8,074 mothers who delivered in 2004-2008. The response rate for this study period was 71%. Stata v. 10 was used for the calculations in this report.

## Limitations of Report

The Maryland PRAMS report presents only basic associations between maternal risk factors, birth outcomes and maternal race or ethnicity. Unexamined interrelationships among variables are not described and could explain some of the findings described in this report.

PRAMS data is retrospective and therefore subject to recall bias. It is also based on the mother's perception of events and may not be completely accurate.

## Resources

The National Campaign to Prevent Teen and Unplanned Pregnancy, Washington, D.C.  
[www.thenationalcampaign.org](http://www.thenationalcampaign.org)  
202-478-8500

Maryland Department of Health and Mental Hygiene  
Center for Maternal and Child Health • Vital Statistics Administration

Martin O'Malley, Governor; Anthony G. Brown, Lieutenant Governor; John M. Colmers, Secretary



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