Research Brief

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Location Matters:

GEOGRAPHIC VARIATION IN TEEN CHILDBEARING WITHIN WASHINGTON, D.C.

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OVERVIEW

Teen childbearing remains a reality for hundreds of thousands of teenage girls in the United States, despite recent declines in the overall teen birth rate. Nationwide, there are also disparities in the rate of teen births. Hispanic, black, and Native American/Alaska Native teen girls, for example, are far more likely to give birth than are white or Asian/Pacific Islander teens.[i] Birth rates vary by location, with teens in rural areas more likely to have a birth than teens in cities, and teens in the southern and southwestern United States more likely than those in the Northeast to give birth.[i] Even within concentrated geographic areas, there are neighborhoods and communities with especially high teen birth rates, highlighting that location matters for teen pregnancy prevention. Targeted prevention efforts in those communities can help reductions in teen births continue.

For this brief, we set out to determine how birth rates vary within a city, specifically the nation's capital, and to analyze how addressing the issue of teen pregnancy among the populations most at-risk could reduce teen childbearing for the city overall. This brief describes research findings on teen childbearing in Washington, D.C. in recent years. Specifically, we analyzed teen birth and population data from 2010 to 2012 to estimate the percentage of female teens currently living in the District who will have a birth before age 20. We studied teen childbearing by ward (an administrative jurisdiction within the city), with an emphasis on Wards 7 and 8, which have disproportionately high levels of teen births compared to other wards. We compare the District to demographically-similar cities, states that are geographically close, and the United States as a whole. We also describe ward-level characteristics that may provide context for high teen births in Wards 7 and 8.

KEY FINDINGS

- An estimated 17 percent of girls in the District of Columbia will become teen mothers. This is higher than the estimated percentage for the United States as a whole (13 percent), but slightly lower than that of demographically-comparable cities (approximately 20 percent).
- There is significant variation in teen birth rates across the city's eight geographic wards. Approximately one-third of teen girls in Ward 7 (33 percent) and almost four in ten in Ward 8 (39 percent) are estimated to become teen mothers, as compared to 11 percent in the other wards combined.

- Geographic variation in teen births cannot be attributed solely to neighborhood racial-ethnic composition. Previous research has linked community disadvantage to higher teen birth rates, and an analysis of the wards across a number of indicators illustrates that Wards 7 and 8 are the most disadvantaged in the city.
- Studying teen birth rates by race/ethnicity within ward reveals that black teens in Ward 6 and Hispanic teens in Wards 1 and 4 are also particularly at risk for teen motherhood, and represent populations in need of targeted pregnancy prevention services.
- In recent years, teen birth rates in Washington, D.C. have declined. This is true across the city's wards. Further declines in the teen birth rate could be achieved by focusing on teens in Wards 7 and 8, and at-risk populations in Wards 1, 4, and 6.

DATA AND METHODS

Child Trends obtained birth and population data from a range of sources for these analyses. To ensure large enough sample sizes for each ward, we combined birth and population data from three years: 2010, 2011, and 2012. Using these data, we calculated overall estimated percentages of 15- to 19-year-olds with a first birth and with a repeat birth for each ward, for Washington, D.C. as a whole, and for comparison groups. We assessed differences by ward, year (when the sample size allowed), and race/ethnicity. Unless otherwise noted, the term "black" is used throughout the memo to represent non-Hispanic blacks. For more-detailed information on data sources and methods, see "Data Sources and Methods" at the end of this brief.

BACKGROUND

The U.S. teen birth rate decreased by more than half between 1991 and 2013, to a record low.[iii] Still, though, the United States has the highest teen pregnancy rate among industrialized countries.[iv] In 2013, almost 275,000 babies were born to U.S. teen girls ages 15 to 19; that is an average of 752 births per day.[iii] Many of these girls have already had children: in 2013, 17 percent of births to teens (15 to 19) were repeat births.[iii]

Both having a baby as a teenager or being the baby of a teenager can be difficult. For various reasons, teen girls who have babies are less likely than other teens to finish high school and to be poor as adults. They are also more likely to rely on public assistance as compared to older mothers.[ii] As compared to children born to older women, children of teen moms generally fare worse over their lifetimes on measures of educational attainment, behavior, and health.[ii] A recent study found that the combination of delaying childbearing and increasing educational attainment of mothers in one generation is linked to increases in financial well-being of the next generation.[v]

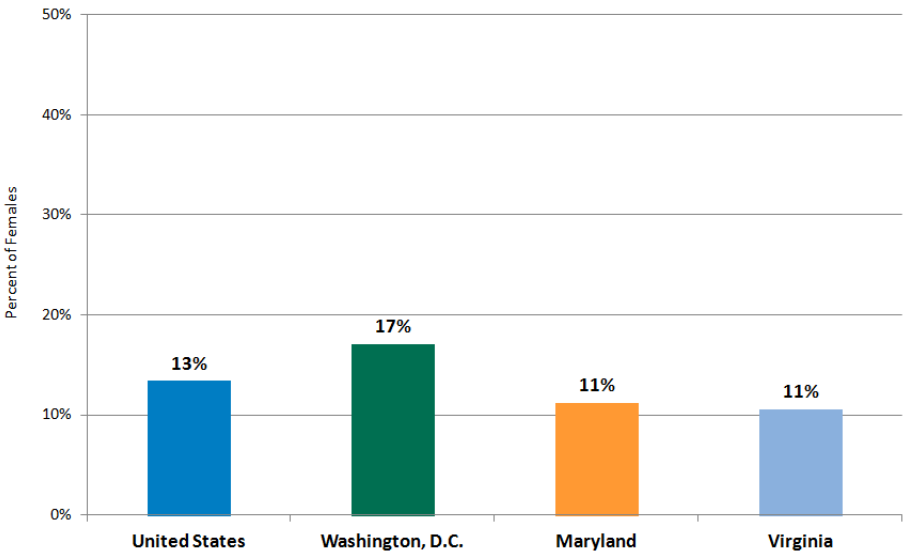
Recent declines in teen births are attributable to the choice by many teens to delay sex, combined with higher rates of contraceptive use by sexually-active teens.[vi,vii] Both of these behavioral changes can be shaped by effective teen pregnancy prevention programs. But first, we must identify the teens most in need of intervention, and factors that might be contributing to their higher birth rates.

FINDINGS

The percentage of girls estimated to become teen mothers is higher in Washington, D.C., compared to the United States as a whole and nearby states.

In Washington, D.C., an estimated 17 percent of teen girls will have a birth before age 20, based on birth rates from 2010 to 2012 (see Figure 1). This is higher than the 13 percent of girls predicted to become teen mothers nationwide. Additionally, the estimated percentage of females who will have a birth before age 20 in Maryland and Virginia (11 percent) is more than one-third lower than in D.C. It should be noted that while geographic proximity to D.C. makes Maryland and Virginia appropriate comparison states, the demographics of their teen populations are very different from the District's.

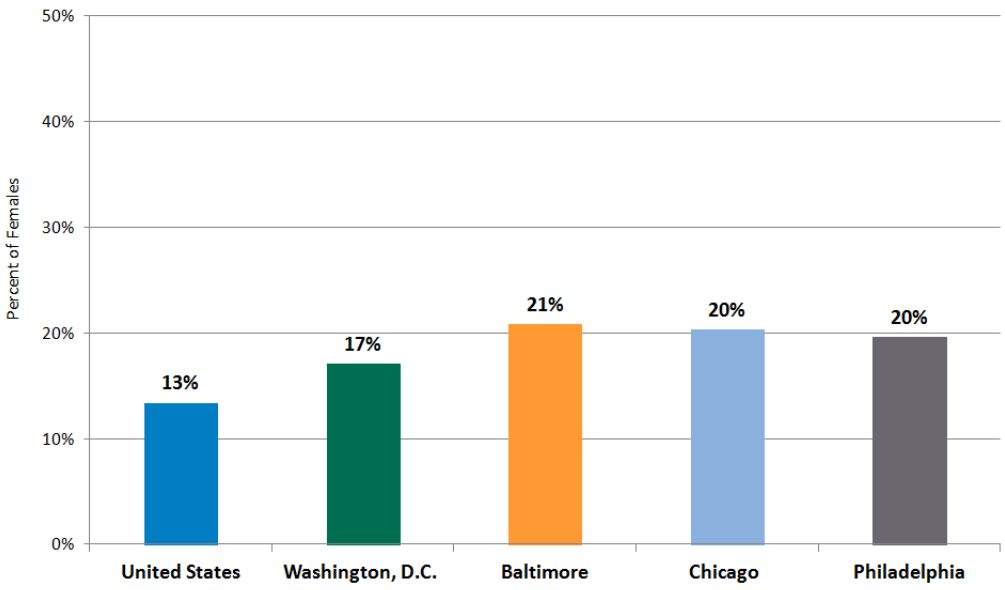
FIGURE 1. ESTIMATED PERCENTAGE OF FEMALES WHO HAVE A BIRTH BY AGE 20, WASHINGTON, D.C., MARYLAND, VIRGINIA, AND UNITED STATES, 2010-2012



Estimates for Washington, D.C. are slightly lower than those for comparison cities.

To understand how Washington, D.C. compares to similar cities, we generated estimates for Baltimore, Chicago, and Philadelphia using data from the same period of time (2010 to 2012). These three cities were chosen as comparisons because of their similar demographics. Using the average of all three years, Baltimore (21 percent), Chicago (20 percent), and Philadelphia (20 percent) had slightly higher estimated percentages of girls expected to have a teen birth, compared to Washington, D.C. (17 percent) (see Figure 2).

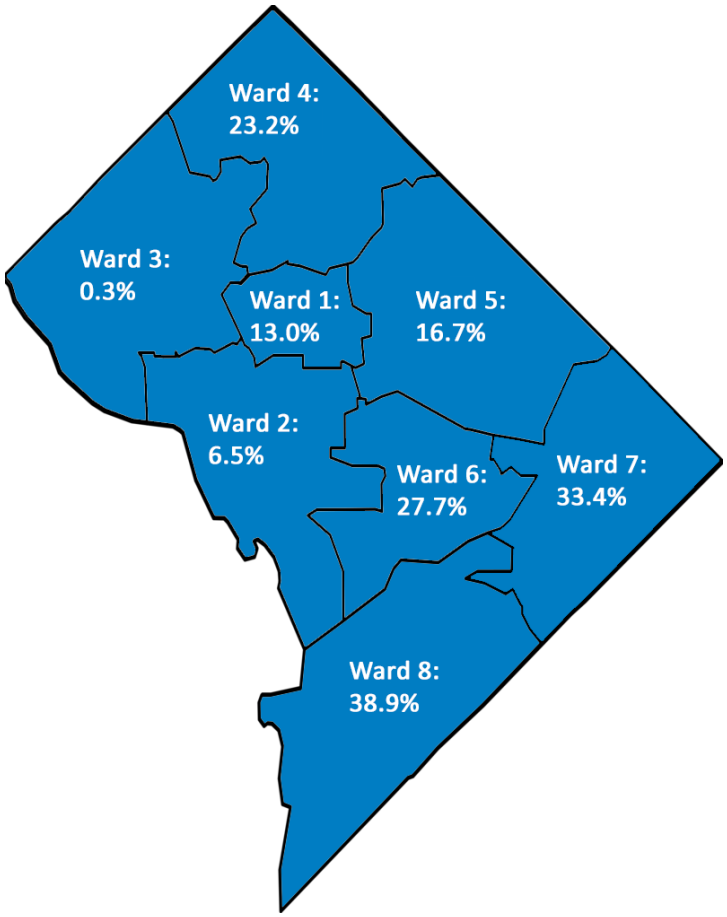
FIGURE 2. ESTIMATED PERCENTAGE OF FEMALES WHO HAVE A BIRTH BY AGE 20, WASHINGTON, D.C., BALTIMORE, CHICAGO, PHILADELPHIA, AND UNITED STATES, 2010-2012



Teen birth estimates vary dramatically by ward in Washington, D.C.

There are dramatic differences in the likelihood of teen motherhood across Washington D.C.'s eight geographic wards (see Figure 3). Based on age-specific teen birth rates, a striking proportion of young women in Wards 7 and 8 are estimated to have a birth before they turn 20, including approximately one-third of teen girls in Ward 7 (33 percent) and almost four in ten in Ward 8 (39 percent). In contrast, less than seven percent of girls in Ward 2 and less than one percent of girls in Ward 3 will have a teen birth, based on these estimates. The other wards (Wards 1, 4, 5, and 6) fall between these two extremes, ranging from 13 percent in Ward 1 to 28 percent in Ward 6. Thus, the estimated percentage of females who will have a teen birth in Wards 7 and 8 is between three and four times the estimate of the other wards combined (11 percent), and almost three times the estimate for the United States as a whole. Wards 7 and 8 each represent approximately 15 percent of the D.C. female teen population, but account for 24 and 32 percent of all D.C. births to females ages 15 and 19, respectively – more than half of all teen births in D.C.

FIGURE 3. ESTIMATED PERCENTAGE OF FEMALES IN WASHINGTON, D.C. WHO WILL HAVE A BIRTH BY AGE 20, BY WARD, 2010-2012



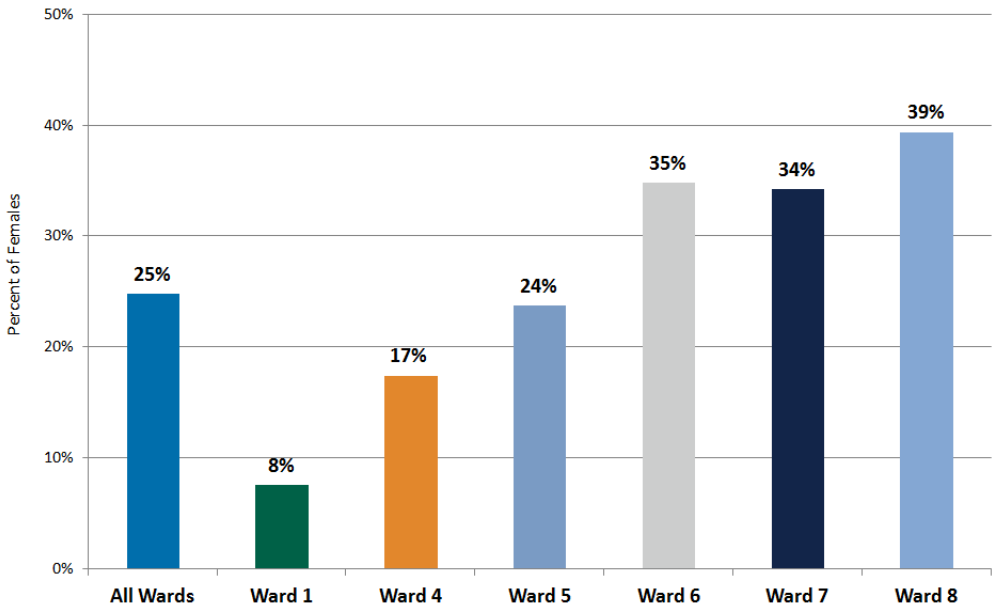
Repeat teen births differ by ward.

In addition to calculating the percentage of girls that would have any teen birth, we also calculated the percentage that would have two or more teen births, based on age-specific teen birth rates. Again, Wards 7 and 8 were much higher than the comparison groups. For instance, an estimated seven percent of girls in Ward 7 and nine percent in Ward 8 will have two or more births by the age of 20, compared with approximately three percent in both Washington, D.C. as a whole and the United States (results not shown).

For black females, ward differences remain.

The race/ethnic composition of the D.C. population (and of teen births) differs by ward. For example, almost all residents in Wards 7 and 8 are African American (94 to 95 percent), while the majority of residents in Wards 2 and 3 are white (see ward characteristics in Appendix A). In order to control for race/ethnic differences across wards (and for higher teen birth rates among blacks), we examined the percentage of black girls projected to have a teen birth for D.C. as a whole, and by ward. As shown in Figure 4, an estimated 25 percent of black teens in D.C. will have a teen birth. However, there remain dramatic differences across the wards, ranging from only eight percent of black females in Ward 1, to 34 to 35 percent of those in Wards 6 and 7, and 40 percent in Ward 8. This pattern suggests that differences in teen births across wards are not due solely to the racial/ethnic composition of the wards and may instead reflect other environmental factors, particularly community poverty and disadvantage (as shown in Table 1).

FIGURE 4. ESTIMATED PERCENTAGE OF BLACK*FEMALES IN WASHINGTON, D.C. WHO HAVE A BIRTH BY AGE 20, BY WARD, 2010-2012**

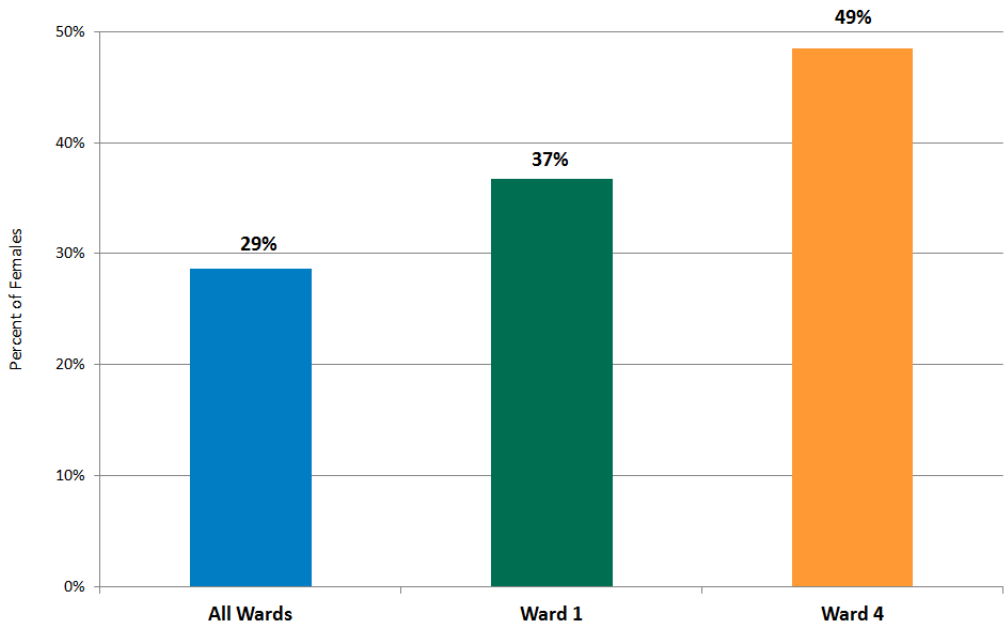


* "Black" refers to both Hispanic and non-Hispanic blacks.
**Includes all wards that had at least 1,000 black female teens in 2010.

Hispanic teens are also at high risk of teen childbearing.

We also examined ward-level estimates for Hispanic teens. Teens of Hispanic origin are concentrated in a small part of Washington, D.C., so reliable estimates of Hispanic teen births were only available for Wards 1 and 4, which each had at least 400 Hispanic teen girls in 2010. Based on 2010-2012 birth and population data, approximately one in three Hispanic girls (29 percent) will become a teen mother in the District overall, and an estimated 49 percent of Hispanic girls in Ward 4 and 37 percent of Hispanic girls in Ward 1 will have a teen birth (see Figure 5). The very high percentages of Hispanic women in Wards 1 and 4 projected to have a teen birth highlights an at-risk population outside of Wards 7 and 8 that would benefit from ongoing teen pregnancy prevention programs. Future work (and conversations with programs serving youth in these wards) could provide more detail behind these high estimates, including the age, generation, school status, and location of these teen mothers.

FIGURE 5. ESTIMATED PERCENTAGE OF HISPANIC FEMALES IN WASHINGTON, D.C. WHO HAVE A BIRTH BY AGE 20, BY WARD, 2010-2012**



**Includes all wards that had at least 400 Hispanic female teens in 2010.

High teen birth rates often reflect community disadvantage.

Throughout this brief, we have placed particular emphasis on Wards 7 and 8 due to their disproportionately high number and percentage of teen births. Research has found that a number of community characteristics are linked to high teen birth rates, including poverty, high unemployment, violent crime, and having a large percentage of high school dropouts. Table 1 ranks each ward across a range of indicators, from most advantaged (ranking 1) to most disadvantaged (ranking 8). For example, the ward with the highest poverty rate receives a ranking of 8, as does the ward with the lowest income. For specific data on each characteristic, see Appendix A.

When we compared Wards 7 and 8 to other wards, we found that Wards 7 and 8 consistently ranked lowest.

TABLE 1. RANKINGS OF WASHINGTON, D.C. WARD CHARACTERISTICS: 2007-2013

Ranked from most advantaged (1) to most disadvantaged (8) for each characteristic	Ward							
Ward characteristics	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Percent living in poverty	4a	4a	1	2	6	5	7	8
Percent of children in poverty	4	2	1	3	5	6	7	8
Percent without a HS diploma	4	2	1	5	7	3	6	8
Average family income (in 2010 dollars)	5	2	1	4	6	3	7	8
Percent female-headed families with children	4	2a	2a	3	6	5	8a	8a
Percent unemployed	3	2	1	5	6	4	7	8
Violent crime rate (per 1,000 pop)	6	3	1	2	5	4	7	8
Percent receiving food stamps	3	2	1	5	6	4	7	8
Percent receiving TANF	3	2	1	5	6	4	7	8
Percent with a teen birth[1]	3	2	1	5	4	6	7	8

Rankings: 1=Highest; 8 = Poorest

Source (except where noted): Neighborhood Info D.C. website (accessed 5/8/2014): http://www.neighborhoodinfodc.org/wards/wards.html.

1 Source: Child Trends' analysis of Washington, D.C. 2010-2012 birth and population data.

a Wards with the same percentages or rates

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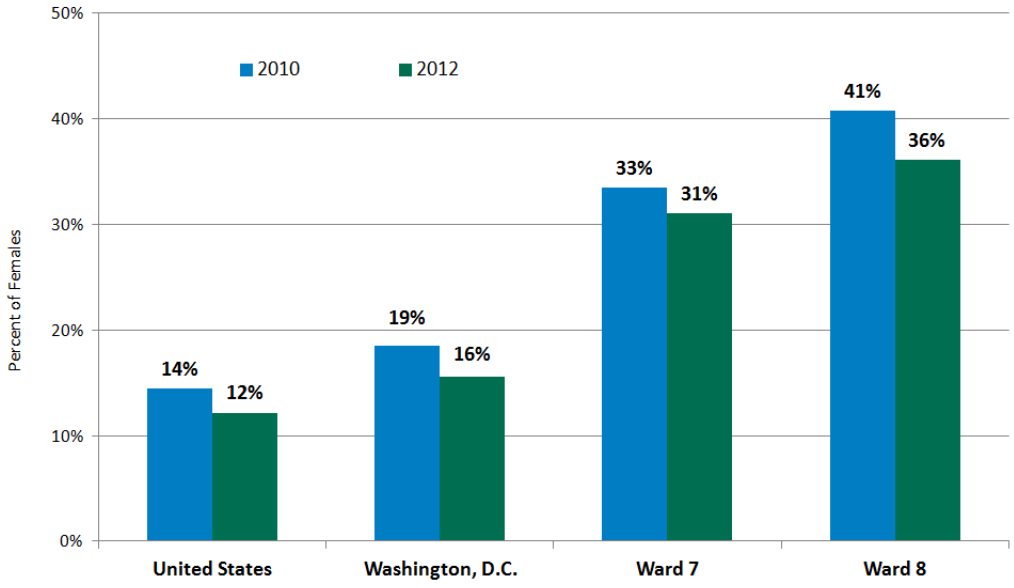
Characteristic	Definition
Percent living in poverty	Percent of persons living in families with incomes below the federal poverty threshold (2007-2011 data).
Percent of children in poverty	Percent of children (0-17 years old) living in families with incomes below the federal poverty threshold (2007-2011 data).
Percent without a HS diploma	Percent of persons 25 years and older who have not earned a high school diploma or GED certificate (2007-2011 data).
Average family income	Total cash income from all sources for all family members in 2010 dollars (2007-2011 data).
Percent female-headed families with children	Percent of female-headed families and subfamilies with own children, out of all families and subfamilies with own children. Subfamilies include persons with their own children who are not the head of household. For example, a woman with her own child who lives with her mother (the child's grandmother) would be counted as a separate subfamily if the grandmother is the head of household (2007-2011 data).
Percent unemployed	Percent of persons 16 years and older who were not employed at the time of the 2010 census and have looked for work during the previous four weeks, or those who have been given temporary layoffs and are available to work even if they are not seeking work (2007-2011 data).
Violent crime rate	Serious crimes that local law enforcement must report to the FBI; violent crimes, specifically, include murder, rape, aggravated assault, and robbery per 1,000 of the population (2011 data).
Percent receiving food stamps or TANF	Averages of two monthly snapshots of program enrollment for January and July. Those included are people who have applied and have been deemed eligible by DHS for food stamps or TANF (2013 data).
Percent foreign-born	Percent of persons not born in the U.S. or U.S. territories; includes both naturalized citizens and residents (2013 data).
Percent with a teen birth	Estimated percent of females aged 15-19 who will have a birth by the age of 20. (2010-2012 data)

Teen births, while high, have declined from 2010 to 2012.

Between 2010 and 2012, the estimated percentage of females who will experience a teen birth declined in D.C. and across most wards. This pattern corresponds with recent national declines in teen birth rates. In Washington, D.C., the estimated percentage of young women who will have a teen birth declined from 19 percent in 2010 to 16 percent in 2012 (see Figure 6). The percentage of females projected to become teen mothers dropped by two and five percentage points in Wards 7 and 8, respectively. The comparison states (Maryland and Virginia) and cities (Baltimore, Chicago, and Philadelphia) experienced similar declines in the percentage of teens expected to have a birth before age 20 (analyses not shown here). Additionally, although the analyses for Hispanics and blacks in individual wards were based on a relatively small number of births in each year, birth rates do appear to be trending down across race/ethnic groups and wards. Future research using additional years of data will be able to confirm these declines.

Due to the large proportion of teen births in Wards 7 and 8, we conducted an additional analysis to determine the impact on D.C. teen births if the birth rates in Wards 7 and 8 were decreased while other wards' birth rates remained the same. Our results suggest that the D.C. teen birth rate would decline from 17.1% to 11.6% – a 32 percent decrease – if teen births in Wards 7 and 8 were cut in half (results not shown).

FIGURE 6. ESTIMATED PERCENTAGE OF FEMALES WHO HAVE A BIRTH BY AGE 20, UNITED STATES, WASHINGTON, D.C., AND SELECTED WARDS, 2010 AND 2012



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IMPLICATIONS

This research briefs uses age-specific teen birth rates to calculate the estimated percentage of girls who will have a teen birth. Our findings illustrate dramatic differences across D.C. wards in the likelihood of a teen birth. Our findings suggest that targeted teen pregnancy prevention efforts are needed for the highest-risk geographic areas in the city, specifically neighborhoods "east of the river" in Wards 7 and 8. Other target populations include African-American youth in Ward 6 and Hispanic youth in Wards 1 and 4.

Identifying and serving geographic pockets of youth at high risk for teen pregnancy aligns with the mission of the federal government's teen pregnancy prevention initiative, including program approaches targeted by the Office of Adolescent Health, the Centers for Disease Control and Prevention, and the Family & Youth Services Bureau. Conducting similar studies in other cities and areas of the country could lead to more effective development and targeting of teen pregnancy prevention programs.

Data Sources and Methods

Child Trends obtained birth and population data from a range of sources for this analysis.

Birth Data. The Washington, D.C. Department of Health provided all Washington, D.C.-related birth data, including district-wide and ward-specific data, and some information on race/ethnicity, particularly information about black females. Birth data for Baltimore, Chicago, and Philadelphia were obtained as a result of Child Trends' special request to the National Center for Health Statistics (NCHS) at the Centers for Disease Control (CDC). All other birth data, including data from Maryland, Virginia, and the United States as a whole, and by race/ethnicity, were obtained by Child Trends using the NCHS Vital Stats online data system.

Population Data. Child Trends obtained all population data for Washington, D.C. -- including data specific to ward, each year of age (from 15-19), and race/ethnicity -- from the D.C. Office of Planning State Data Center, which used Census 2010 data. The 2011 and 2012 ward-level populations for each of these groups were estimated. The estimate used the 2010 ward-level data provided by the Office of Planning and the percent change in the total D.C. population (by age and race/ethnicity) using Census Bureau postcensal estimates between 2010 and the given year. Population data for Baltimore, Chicago, and Philadelphia, Maryland and Virginia for 2010 were calculated by Child Trends using 2010 Census data on the American FactFinder website (http://factfinder2.census.gov). Population data for 2011 and 2012 in Maryland and Virginia were obtained from the Census Bureau's 2012 postcensal estimates, while population data for Baltimore, Chicago, and Philadelphia were calculated from the American Community Survey PUMS microdata. Finally, the United States' populations (total for this age group and by race/ethnicity) were based on the Bridged-Race Population Estimates from the CDC WONDER website (http://wonder.cdc.gov/bridged-race-population.html).

Methods. To ensure large enough sample sizes for each ward, Child Trends combined birth and population data from three years: 2010, 2011, and 2012. Using these data, we estimated population sizes for 16- to 19-year-olds, excluding individuals who likely had a birth the prior year and would not be at risk of a first or repeat birth during the given year. We then calculated the estimated percentage of teens (by single year of age and by ward) with a first or repeat birth using the birth data and adjusted population numbers. Finally, using these age-specific percentages of teenagers with a birth, we calculated overall percentages of 15- to 19-year-olds with a first birth and with a repeat birth for each ward. Similar techniques were used for Washington, D.C. as a whole and for other comparison groups.

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Appendix A

WASHINGTON, D.C. WARD CHARACTERISTICS: 2007-2013								
	Ward							
Ward characteristics	1	2	3	4	5	6	7	8
Population	74,462	76,883	78,887	75,773	74,308	76,000	71,748	73,662
Percent living in poverty	15%	15%	8%	12%	20%	16%	26%	36%
Percent of children in poverty	22%	9%	2%	15%	26%	27%	41%	49%
Percent without a HS	16%	6%	3%	16%	18%	10%	17%	19%
Average family income (in 2010 dollars)	$99,428	$222,345	$240,044	$115,482	$79,153	$129,674	$57,387	$43,255
Percent female-headed families with children	42%	12%	12%	38%	56%	45%	74%	74%
Percent unemployed	7%	4%	4%	11%	15%	8%	19%	22%
Violent crime rate (per 1,000 pop.)	14.0	9.4	1.5	7.5	13.0	12.0	17.0	19.0
Percent receiving food stamps	16%	4%	1%	22%	29%	20%	44%	60%
Percent receiving TANF	4%	1%	0%	6%	9%	6%	16%	24%
Percent with a teen birth[1]	11%	2%	0%	21%	17%	27%	32%	38%
Percent foreign born	22%	20%	18%	20%	10%	9%	3%	3%
Race								
Non-Hispanic black	33%	10%	6%	59%	77%	43%	95%	94%
Non-Hispanic white	40%	70%	78%	20%	15%	47%	2%	3%
Hispanic	21%	10%	8%	19%	6%	5%	3%	2%
Non-Hispanic Asian/Pacific Islander	5%	10%	8%	2%	2%	5%	0%	1%

Source: Neighborhood Info D.C. website (accessed 5/8/2014): http://www.neighborhoodinfodc.org/wards/wards.html.

1 Source: Child Trends' analysis of Washington, D.C. 2010-2012 birth and population data.