Unintended Pregnancy

Summary

In 2010, there were an estimated 52,500 unintended pregnancies in Washington. From 1994 to 2010, the unintended pregnancy rate showed improvement, declining from 55% (±3%) to 49% (±3%).

In Washington as elsewhere rates of unintended pregnancy are highest among women under age 20, women with low education and income, and women of color.

Washington's Pregnancy Risk Assessment and Monitoring System (PRAMS) data show that mothers who give birth as a result of unintended pregnancies receive less preconception and prenatal care; experience more domestic violence during pregnancy; and are less likely to breastfeed compared to mothers with intended pregnancies. The children from unintended pregnancies are more likely to have poor physical health, poor mental health, a less close mother-child relationship, and poorer educational outcomes.

The cost of Medicaid-financed prenatal care and deliveries for births from unintended pregnancies in 2010 was \$220 million in Washington. In contrast, the annual cost for contraceptive care to prevent these pregnancies would have been about \$7 million, about \$335 per person.

Access to affordable, effective contraceptive methods is critical to preventing unintended pregnancies. Male and female sterilization and long-acting, reversible contraceptives (LARC)—intrauterine devices and hormonal implants—are the most effective methods. The American Congress of Obstetricians and Gynecologists (ACOG) recommends LARC

Definition: Pregnancy intention is a difficult concept to measure. In this report, unintended pregnancies include all abortions and the subset of births that were unintended at the time of conception, i.e., were conceived at a time when the woman wanted no (more) children or the pregnancy occurred earlier than wanted. Miscarriages and stillbirths are excluded. Abortions are identified through the Agency's Abortion Reporting System. Births are identified through the Agency's Birth Certificate System. Births that were unintended at conception are estimated using data from the Pregnancy Risk Assessment Monitoring System (PRAMS), which administers a survey to a sample of mothers 2 to 6 months after they give birth. In this report, unless otherwise stated, the unintended pregnancy rate refers to the percentage of pregnancies (excluding miscarriages and stillbirths) that were unintended.

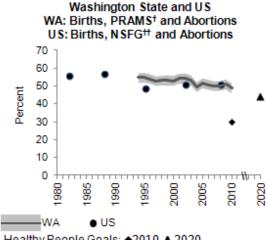
for women of all ages who wish to prevent pregnancy.

Interventions focused on reducing teen pregnancies, increasing access to LARC, and eliminating barriers to contraception, including emergency contraception, show promise for reducing unintended pregnancy.

Time Trends

Of the 52,500 unintended pregnancies that occurred in Washington State in 2010, 31,500 ended in a live birth, and 21,000 ended in abortion. The unintended pregnancy rate in 2010 was 49% (±3%), a modest decline since 1994—the first full year of data available—when the rate was 55% (±3%). Comparable national data show a similar pattern over a longer time period. In 1982, the national unintended pregnancy rate was 56%; in 2008 it was 51%. 1,2

Unintended Pregnancy



Healthy People Goals: ◆2010 ▲ 2020

†Pregnancy Risk Assessment Monitoring System

†National Survey for Family Growth

This modest change masks substantial declines for some age groups, which are discussed in the Age section of this report, as well as a strong decline in abortions.

2010 and 2020 Goals

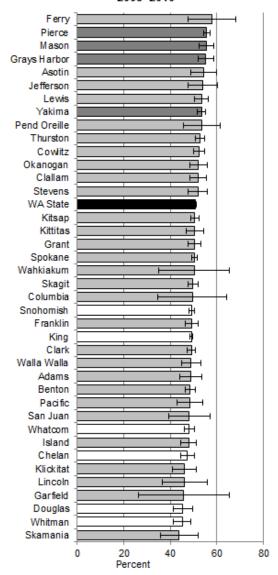
Reducing the proportion of pregnancies that are unintended has been one of the objectives of the *Healthy People* national health initiative since its beginning in 1980. The *Healthy People 2010* target was to reduce unintended pregnancies to 30%. This target was not met by Washington or the nation as a whole. For 2020, *Healthy People* modified the target for unintended pregnancy to 44%.

Washington's data on unintended pregnancy are not directly comparable to national data and *Healthy People* targets because Washington does not have data on intended and unintended pregnancies ending in miscarriage. But if current trends continue, Washington's unintended pregnancy rate, when adjusted to include estimated miscarriages, ³ is likely to meet the *Healthy People 2020* target.

Geographic Variation

To estimate county rates of unintended pregnancy, we used county-level data on abortions and modeled estimates of unintended births (see <u>Technical Notes</u>). Washington data for 2008–2010 show rates of unintended pregnancy in Pierce, Mason, Grays Harbor and Yakima counties higher than the state rate; rates in Snohomish, King, Whatcom, Douglas and Whitman counties are lower. These differences reflect the age, income, education and race/ethnicity profile of women residing in these areas as well as access to contraceptive services and supplies.

Unintended Pregnancy County Data Births, PRAMS† and Abortions 2008–2010



† Pregnancy Risk Assessment Monitoring System

Washington State

Value lower than WA State

Value same as WA State

Value higher than WA State

Age

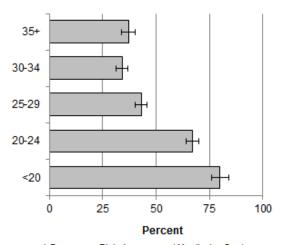
Washington data show that unintended pregnancy occurs among women of all ages in the childbearing years. From 2008–2010, women under age 20 had

the highest percentage of unintended pregnancies, 80% (±4%). The proportion of unintended pregnancies decreased with increasing age up through age 34. This is similar to national data.⁴

While teens are most likely to report that a pregnancy is unintended, only 10% of pregnancies are among teens. Nearly 75% of pregnancies occur among women ages 20–34. In 2008–2010, there were nearly 40,600 unintended pregnancies among women in this age group compared to 8,600 for women under age 20.

From 1994 to 2010 the percentage of unintended pregnancies declined by 1%–2% per year for women ages 25 or older. Among women under age 25, there was no change in the percentage of unintended pregnancies, but the number and rate of total pregnancies (births and abortions) per 1,000 women declined dramatically. Trends in teen pregnancy are further discussed in the *Health of Washington State* chapter on Teen Pregnancy and Childbearing.

Unintended Pregnancy Age of Mother Births, PRAMS† and Abortions 2008–2010



† Pregnancy Risk Assessment Monitoring System

Income and Education

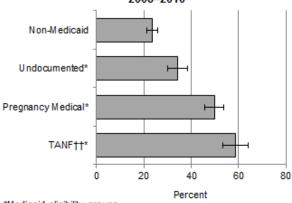
Washington State has income and education data for women whose unintended pregnancies resulted in birth but not for those resulting in abortion.

Women with less income or education are much more likely to experience births from unintended

pregnancies compared with higher-income, college-educated women.^{2,4}

In Washington, the receipt of Medicaid-paid health services is one measure of low income. From 2008–2010, mothers receiving Medicaid-paid prenatal or delivery services had much higher rates of birth from unintended pregnancy (51% ±3%) than mothers not receiving Medicaid (24% ±2%). This has been true since monitoring began in 1994. Trend data for 1994 through 2010 show that births from unintended pregnancies declined for both groups but declined more among the Medicaid group.

Births from Unintended Pregnancy Medicaid Status Births, PRAMS[†] & First Steps Database 2008–2010



*Medicaid eligibility groups

† Pregnancy Risk Assessment Monitoring Program †† Temporary Assistance for Needy Families

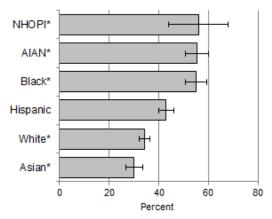
Data for 2008–2010 show that low-income mothers in the Temporary Assistance for Needy Families (TANF) Program had the highest percentage of unintended pregnancies. These mothers generally had family incomes less than 50% of the federal poverty level. Women enrolled in Medicaid's Pregnancy Medical Program had the next highest rates. These women had higher family incomes than those receiving TANF, up to 185% of the federal poverty level. Undocumented women generally have the lowest incomes of all women with Medicaid-paid deliveries, but their percentage of unintended pregnancy was lower than those for mothers on TANF and Pregnancy Medical. This pattern is similar to that seen for other indicators of maternal and child health, such as infant mortality. 5 Undocumented women who had Medicaid-paid deliveries in Washington are predominantly of Hispanic ethnicity and their most frequent country of origin is Mexico.

Among women 20 years of age or older, unintended pregnancies accounted for 30% (±2%) of births to women with at least one year of school beyond high school compared to 47% (±3%) of births among those with no schooling beyond high school. Income and education are correlated with each other, and with other known risk factors for unintended pregnancy such as marital status.

Race and Hispanic Origin

Race and ethnicity are strong and persistent factors in unintended pregnancy. 2.4 From 2008—2010 black, American Indian and Alaska Native, and Native Hawaiian and other Pacific Islander women in Washington reported the highest percentages of births from unintended pregnancy. Asian and white women reported the lowest percentages of births from unintended pregnancy. There is a correlation between race, ethnicity and other risk factors for unintended pregnancy, such as income.

Births from Unintended Pregnancy Race and Hispanic Origin PRAMS[†], 2008–2010



- † Pregnancy Risk Assessment Monitoring Program
- * Non-Hispanic

AIAN: American Indian/Alaska Native NHOPI: Native Hawaiian/Other Pacific Islander

Other Measures of Impact and Burden

Abortion. Nationally, about half of all unintended pregnancies end in abortion. Thus abortion is one of the primary consequences of unintended pregnancy and has a substantial impact on the overall unintended pregnancy rate. Since peaking in 1989–1990, abortion rates have declined both nationally and in Washington. From 1994 to 2010, the abortion

rate in Washington dropped from 17 (\pm <1) to 12 (\pm <1) per 1,000 women ages 15–44.

Health effects of unintended pregnancy. Births that were mistimed or unwanted at the time of conception are associated with less preconception care; delayed prenatal care; smoking during pregnancy; domestic instability, stress and violence during pregnancy; less likelihood of breastfeeding; less close mother-child relationships; and poorer educational and behavioral outcomes for the children. Studies show that the consequences of these adverse effects may continue into adulthood.⁹

Washington data on unintended childbearing for 2008–2010 showed that compared to mothers with an intended pregnancy, mothers with an unintended pregnancy were:

- Less likely to report taking folic acid or a multiple vitamin in the month before pregnancy [29% (±3%) compared to 58% (±2%)].
- More likely to delay prenatal care until after the first trimester [24% (±3%) compared to 11% (±1%)].
- More likely to smoke [16% (±2%) compared to 6% (±1%).
- More likely to report being physically abused by their husband or partner during their pregnancy [4% (±1%) compared to 1% (±1%)].
- Less likely to initiate [92% (±2%) compared to 95% (±1%)] and continue [65% (±3%) compared to 77% (±2%)] breastfeeding after eight weeks.

Cost to taxpayers. The average cost for Medicaidfinanced prenatal care and delivery in Washington was \$10,124 per birth in 2010. 10 Fifty percent of all births in that year were to women on Medicaid, and 51% of these births resulted from unintended pregnancies. Using these figures, the estimated federal and state government cost for Washington births from unintended pregnancies paid by Medicaid in 2010 was \$220 million. This estimate includes only the costs for prenatal, delivery and postpartum services. It does not include costs such as children's health coverage and economic support. In contrast, the annual cost for contraceptive care in Washington to prevent these pregnancies would have been about \$335 per person or a total cost of about \$7 million. 11

Risk and Protective Factors

Women at risk for an unintended pregnancy are those who are sexually active and do not want to become pregnant, but could become pregnant if they and their partners fail to use a contraceptive. It is estimated that in 2010 there were nearly 853,000 females ages 13–44 in Washington who were at risk of unintended pregnancy and in need of contraceptive services and supplies. ¹²

Use of contraception. Washington Behavioral Risk Factor Surveillance System (BRFSS) data for 2009 show that 85% (±3%) of women ages 18-44 who were at risk for unintended pregnancy reported using birth control at last intercourse, and 78% (±4%) reported they always were protected when having sex during the last 12 months. Because of the small number of women at risk for unintended pregnancy in the Washington BRFSS sample, the characteristics of those who used (or did not use) contraception are not reported. National data indicate that 89% (±1%) of women at risk for unintended pregnancy use contraception. The proportion is lower for several groups including: 15-19 year olds (81% ±4%); black non-Hispanic women (84% ±4%): never-married women who are not living with their partner (82% ±3%); and women who intend to have (more) children in the future (85% ±3%). 13

A woman's decision to use or not use contraception may be influenced by numerous factors including gaps in reproductive knowledge and information; lack of high-quality instruction on sexuality and contraception; and personal feelings, cultural values and attitudes regarding sexuality and childbearing. Other factors include the expense of, and lack of access to, birth control; difficulty and inconvenience of using some methods; side effects (either experienced or anticipated); low motivation to prevent pregnancy; administrative barriers (e.g. long wait times for appointments); and public policies and institutional practices governing insurance coverage. ¹⁴

Washington's PRAMS data for 2008–2010 show that 43% (±3%) of births from unintended pregnancies were to women who were not using any form of contraception at the time they became pregnant. Groups at highest risk for not using contraception included women under age 20, non-white, very low income (i.e., women receiving assistance from TANF), unmarried, or age 20 or older with a high school education or

less. When asked why they were not using birth control, 41% ($\pm 5\%$) said they or their partner did not mind if they got pregnant; 28% ($\pm 4\%$) did not believe they could get pregnant at that time; 23% (± 4) said their husband or partner did not want them to use any contraception; 13% ($\pm 3\%$) were concerned about side effects from their birth control method; 10% ($\pm 3\%$) believed that they or their partner was sterile; and 8% ($\pm 2\%$) said they had problems getting birth control when they needed it. These findings are consistent with other published research. ¹⁵

Effective contraceptive methods. National data show that sterilization and long-acting, reversible contraceptives (LARC)—intrauterine devices and hormonal implants—are the most effective methods for preventing unintended pregnancy. Less than 1% of women using these methods become pregnant. Other common methods, such as birth-control pills, are effective when used consistently and correctly, but typical use, including inconsistent and incorrect use, substantially reduces effectiveness. The control pills are effectiveness.

Access to contraception. It is estimated that nearly half of Washington women who require contraceptive services and supplies need help from publicly funded family planning clinics, including those funded by Title X of the Public Health Services Act. These clinics primarily, but not exclusively, serve low-income women. Services are provided at no charge or for a reduced fee depending on income. Publicly funded clinics are struggling because federal and state funding have decreased and no longer cover the cost of providing care. 18,19

The remaining half of women in need of contraceptive services and supplies rely on private healthcare providers and a complex network of private and public health insurance. While comprehensive health insurance plans in Washington must cover prescription contraceptives, ²⁰ prior to implementation of the Affordable Care Act, they often charged co-pays, which could amount to half of the cost of monthly contraceptive supplies. ²¹ More limited plans, such as catastrophic health insurance, were not required to cover contraception.

The cost of care is an important component of access, and plays a key role in contraceptive behavior. Women concerned about cost are likely to rely on less effective, low- or no-cost methods, like condoms, withdrawal or periodic abstinence, and to experience gaps in use when their supplies run out. ²²

Intervention Strategies

Reduce risk factors among teens. Three types of programs to help teens make healthy choices regarding sexual activity and contraception and reduce risk for unintended pregnancy have been evaluated and found effective: Programs that provide sexuality and family-life education: programs developed to improve adolescents' use of and access to family planning services; and programs designed to enhance adolescents' life options and expand their worldview. 23,24 Research shows that effective teen pregnancy prevention programs implemented through the public sector can save taxpayer money and improve public health. 25 Several teen pregnancy prevention programs in Washington use these methods. (See Health of Washington State chapter on Teen Pregnancy and Childbearing.)

Increase the use of long-acting reversible contraceptives (LARC). The American Congress of Obstetricians and Gynecologists (ACOG) recommends that women of all ages who want to avoid pregnancy be encouraged to consider LARC methods. 26,27 Use of LARC eliminates the potential for incorrect and inconsistent use, thus nearly eliminating the risk of unintended pregnancy. Research shows that improving healthcare provider knowledge and skills about LARC, and patient awareness of LARC along with decreasing upfront costs, will improve patient choice. Once these barriers are removed, patients are likely to choose LARC. 28

Improve access to emergency contraception (EC). In the event of unprotected sex, contraceptive failure (condom breaks) or sexual assault, the ACOG and other national organizations recommend EC as a way to prevent unintended pregnancy. ^{29,30,31} EC is effective in preventing pregnancy within 120 hours after unprotected intercourse but is most effective if used within 24 hours. ^{32,33}

In 2006 the U.S. Food and Drug Administration (FDA) approved EC for over-the-counter availability for women 18 years and older, but women younger than 18 needed a prescription. The current trend, supported by federal court decisions in 2013, is toward removing age restrictions and increasing over-the-counter access. But there continue to be barriers to access such as cost; lack of knowledge about EC among women, healthcare providers and pharmacists; misconceptions that EC terminates an established pregnancy, promotes risky sexual behavior and is not safe for repeat use;

lack of nearby pharmacy and healthcare facilities in rural and medically underserved areas; refusal of healthcare providers to prescribe EC; and refusal of pharmacists to dispense EC. ACOG has published recommendations related to EC which include several promising policy, education and practice strategies that target barriers.²⁹

Fully implement contraceptive coverage requirements of the Affordable Care Act (ACA).

When fully implemented, the ACA will make preventive care, including contraceptive services, more accessible and affordable to millions of Americans. An amendment passed in August 2012 requires all new private insurance plans to cover a wide range of preventive services, including contraceptives, without co-payments or other costsharing requirements.³⁴ The law includes the full range of FDA-approved contraceptives so that women will have access to the most effective methods.

However, the law has exemptions and special conditions that affect who will be covered and when coverage will start. ³⁵ A small segment of religious employers, such as churches, are exempt from the contraceptive coverage requirement. Also, the provisions apply only to new private insurance plans. Insurance plans that existed before the healthcare reform law do not have to follow the new contraceptive services cost-sharing rules until they make significant changes to the terms and conditions of the plan. A recent survey found that 90% of all large U.S. companies expect that their health plans will need to cover contraceptive services as stipulated in the ACA by 2014. ³⁶

According to the National Business Group on Health, a nonprofit organization representing employers' perspectives on national health policy issues, the cost of adding contraceptive coverage to a health plan is more than made up for in expected cost savings.³⁷

Washington's Health Care Authority is an important partner in the implementation of healthcare reform. Effective January 1, 2014, the national Medicaid program will expand eligibility to include people with incomes up to 133% of the federal poverty level; this will substantially increase the number of women with contraceptive coverage. Previous Medicaid family planning expansions have been linked to lower unintended birth rates in Washington and elsewhere.

Maintain publicly funded family planning services. Extensive scientific literature shows the cost-effectiveness of family planning services, and in

particular publicly funded services. ⁴² National estimates suggest that publicly funded family planning services yield a net saving of \$5.68 for every \$1 invested. ¹² An estimated 288 unintended pregnancies are prevented per 1,000 users of publicly funded contraceptive services. ¹¹ In 2011, contraceptive services provided through state and Title X funded family planning clinics in Washington prevented an estimated 28,800 unintended pregnancies, resulting in 12,700 fewer unintended births,12,100 fewer abortions and 4,000 fewer miscarriages.

The need for publicly funded family planning clinics is not likely to diminish under the new healthcare law in the foreseeable future. Publicly funded family planning clinics are community safety net providers. Women know they can go to these clinics for contraceptive services and supplies. Nationally, more than six in 10 women who obtained care at a family planning clinic in 2006 considered the clinic their usual source of medical care. About threequarters of poor women, women who are uninsured, African-American and Hispanic women, and those born outside the United States who obtain care from a family planning clinic consider the clinic to be their usual source of medical care. 43

Clinic closures force women to find a new provider in their community who is willing and able to accept new patients. This can be a difficult or impossible task, especially for women on Medicaid. There are numerous healthcare provider shortage areas throughout our state, 44 and many providers are unwilling to take new Medicaid patients or serve Medicaid patients at all because of perceived inadequate reimbursement and excessive red tape. 45

See Related Chapters: <u>Teen Pregnancy and Childbearing</u>, <u>Access to Prenatal and Preconception Care</u>, and <u>Sexual Health</u>.

Data Sources (For additional detail, see Appendix B.)

Washington State Birth Certificate Data: Washington State Department of Health, Center for Health Statistics, Vital Registration System Annual Statistical Files, Births 1994–2010.

Washington State Department of Health, Office of Healthy Communities, Pregnancy Risk Assessment Monitoring System (PRAMS) 1994–2010.

Washington State Abortion Data: Washington State Department of Health, Center for Health Statistics, Vital

Registration System Annual Statistical Files, Abortions 1994–2010.

Washington State Department of Social and Health Services, Research and Data Analysis Division, First Steps Database, 1994-2010.

Washington State Behavioral Risk Factor Surveillance System (BRFSS) 2009, Washington State Department of Health, collected under federal cooperative agreement number U58/DP001996.

For More Information

Washington State Department of Health, Office of Healthy Communities, Surveillance and Evaluation Section (360) 236-3559 and Family Planning and Reproductive Health, (360) 236-3471.

Technical Notes

Pregnancy intention. Unintended pregnancy is an ambiguous concept that is imperfectly measured. ⁴⁶ Pregnancy intention can vary depending on when the information is requested. For example, a woman may respond differently depending on whether she has just learned of the pregnancy or just delivered a live born infant. The concept of intending or planning pregnancies may also be influenced by socioeconomic and cultural values about sexuality, relationships, and access to and use of birth control. It is important to note that an unintended pregnancy may result in a wanted birth.

Much of the data and discussion are about unintended pregnancies that resulted in births because the amount of detail on abortions is limited, and for some analyses such as health effects and cost, we are primarily concerned with unintended childbearing.

For this report, all abortions are classified as unintended pregnancies, though a small percentage were intended and the woman's health or circumstances changed or the fetus was found to be impaired. Miscarriages and stillbirths are excluded, as are ectopic and molar pregnancies.

State-level information about birth intention comes from Washington's Pregnancy Risk Assessment Monitoring System (PRAMS), an annual survey of mothers conducted two to six months after delivery. Births classified as unintended are those that the mother said were conceived when she wanted no (more) children ever or the pregnancy occurred earlier than wanted.

National data on pregnancy intention come from the National Survey of Family Growth (NSFG). This survey asks a random sample of all women ages 15–44 about pregnancies within the previous five years, whether they were intended, and the outcome of the pregnancy (live birth, miscarriage, or abortion). Data presented in this report are for pregnancies resulting in live births and abortions. Miscarriages are not included due to the lack of comparable data at the state level. National data indicates that fetal losses account for nearly 14% of unintended

pregnancies and 20% of intended pregnancies.³ Applying these estimates to Washington data reduces the state's unintended pregnancy rate by 1.3 percentage points, assuming our state's fetal loss experience is similar to the nation as a whole.

Federal Poverty Level. The federal poverty level is published each year by the Department of Health and Human Services. It is the estimated minimum income a family needs in order to provide for basic needs. It is used as the basis for eligibility for federal and state assistance programs. In 2010, the federal poverty level was \$17,374 for a family of 3.

County-level data. We used PRAMS, birth, and abortion data to estimate the proportion of pregnancies in each county that were unintended. The PRAMS questionnaire provides information on whether the pregnancy was intended or not; however, there were not enough PRAMS respondents from each county to form reliable county estimates for the proportion of births which resulted from unintended pregnancies. Therefore we linked the PRAMS data to the birth data for 2008-2010 and used multiple imputations^{47,48} to compute estimates of the number of births in each county that resulted from unintended pregnancies. The imputation model used the following birth certificate items as predictors of pregnancy intention: race and ethnicity; mother's marital status; age and education of both parents: mother's height, weight, number of prior pregnancies and number of previous live births; birth weight; WIC use; and the source of payment for the delivery. Then we combined these estimates with the number of abortions in each county during 2008-2010. All abortions were treated as unintended pregnancies.

Title X. The Title X Family Planning Program, enacted in 1970 as Title X of the Public Health Service Act, is a federal grant program dedicated solely to providing individuals with comprehensive family planning and related preventive health services. The program provides access to contraceptive services, supplies and information to all who want and need them. By law, priority is given to persons from low-income families.

Acknowledgments

Unless otherwise noted, authors and reviewers are with the Washington State Department of Health.

Author:

Mary LeMier, MPH

Reviewers:

Cathy Wasserman, PhD Cynthia Harris, MPH

Stanley Henshaw, PhD Guttmacher Institute

Laurie Cawthon, MD, MPH Washington State Department of Social and Health Services

Endnotes

¹ Ventura SJ, Curtin SC, Abma JC, Henshaw SK. Estimated pregnancy rates and rates of pregnancy outcomes for the United States, 1990–2008. *Natl Vital Stat Rep.* 2012;60(7):9.

² Mosher WS, Jones J, Abma JC. Intended and unintended births in the United States: 1982–2010. *Natl Vital Stat Rep.* 2012;55:27.

³ Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Reprod Health*. 2006,38(2):90-96.

⁴ Finer LB, Zolna MR. Unintended pregnancy in the United States: incidence and disparities, 2006. *Contraception*. 2011;85(5):478-485.

Washington State Department of Health. Infant Mortality. Health of Washington State. Olympia, WA: Washington State Department of Health: 2013.

⁶ Cawthon L. Live births to Washington State resident women born in the US, Mexico or other foreign country by Medicaid status, 2007– 2011. First Steps Database. Olympia, WA: Washington State Department of Social and Health Services, Research and Data Analysis, 2013.

⁷ Henshaw SK. Unintended pregnancy in the United States. *Fam Plann Perspect.* 1998;30:24-29, 46.

⁸ Henshaw SK, Kost K, *Trends in the Characteristics of Women Obtaining Abortions*, 1974 to 2004. New York, NY: Guttmacher Institute; 2008.

⁹ Logan C, Holcombe E, Manlove J, Ryan S. *The Consequences of Unintended Childbearing: A White Paper*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy; 2007.

¹⁰ Cawthon L. Washington women with Medicaid paid births in 2010. First Steps Database. Olympia, WA: Washington State Department of Social and Health Services, Research and Data Analysis; 2012.

¹¹ Frost JJ, Frohwirth L, Zolna MR, Audam. *Contraceptive Needs and Services, 2010: Methodological Appendix.* New York, NY: Guttmacher Institute; 2013.

 $[\]label{lem:http://www.guttmacher.org/pubs/win/winmethods 2010.pdf. Accessed January 15, 2014.$

¹² Frost JJ, Zolna MR, Frohwirth L. *Contraceptive Need and Services, 2010.* New York, NY: Guttmacher Institute; 2013.

http://www.guttmacher.org/pubs/win/contraceptive-needs-2010.pdf. Accessed January 15, 2014.

¹³ Mosher WD, Jones J. Use of contraception in the United States 1982-2008. *Vital Health Stat 23.*

http://www.cdc.gov/NCHS/data/series/sr_23/sr23_029.pdf. Accessed January 3, 2013.

¹⁴ Institute of Medicine. The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families. Washington, DC: National Academy Press; 1995.

¹⁵ Nettleman MD, Hwan C, Brewer J, Ayoola A, Reed PL. Reasons for unprotected intercourse: analysis of the PRAMS survey. *Contraception*. 2007;75:361-366.

¹⁶ Trussell J. Contraceptive failure in the United States. *Contraception*. 2011;83:395-404.

¹⁷ Kost K, Singh S, Vaughan B, Trussell J, Bankole A. Estimates of contraceptive failure from the 2002 National Survey of Family Growth. *Contraception*. 2008;77(1):10-21.

¹⁸ Gold RB. Recession Taking Its Toll: Family Planning Safety Net Stretched Thin as Service Demand Increases. New York, NY: Guttmacher Policy Review, Winter 2010;13(1). http://www.guttmacher.org/pubs/gpr/13/1/gpr130810.html. Accessed May 2, 2013.

¹⁹ Gold RB. Going the Extra Mile: The Difference Title X Makes. New York, NY: Guttmacher Policy Review, Spring 2012;15(2). http://www.guttmacher.org/pubs/gpr/15/2/gpr150213.html. Accessed May 2, 2013.

²⁰ Washington Administrative Code 284-43-822. *Unfair practice relating to health coverage*. Olympia, WA: Washington State Legislature; effective October 6, 2001.

http://apps.leg.wa.gov/wac/default.aspx?cite=284-43-822.

²¹ Liang SY, Grossman D, Phillips KA. Women's out-of-pocket expenditures and dispensing patterns for oral contraceptive pills between 1996 and 2006. *Contraception*. 2011;83(6):528-536.

Frost JJ, Darroch JE. Factors associated with contraceptive choice and inconsistent method use, United States, 2004. Perspect Sex Reprod Health. 2008;40(2):42-51.

²³ The National Campaign to Prevent Teen and Unplanned Pregnancy. *A summary of effective interventions*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy; 2011.

http://www.thenationalcampaign.org/resources/pdf/Briefly_Effective_Interventions.pdf. Accessed January 10, 2013.

²⁴ The American College of Obstetricians and Gynecologists, Women's Health Care Physicians. *Strategies for Adolescent Pregnancy Prevention*. Washington, DC: The American College of Obstetricians and Gynecologists; 2007.

http://www.acog.org/~/media/Departments/Adolescent%20Health %20Care/StrategiesForAdolescentPregnancyPrevention.pdf. Accessed January 10, 2013.

²⁵ Thomas A. *Policy solutions for preventing unplanned pregnancy*. CCF Brief # 47. Washington, DC: Brookings Institute, Center for Children and Families; 2012. http://www.brookings.edu/research/reports/2012/03/unplanned-

nttp://www.brookings.edu/research/reports/2012/03/unplannedpregnancy-thomas. Accessed January 10, 2013.

²⁶ Committee on Adolescent Health Care Long-Acting Reversible Contraception Working Group. *Adolescents and long-acting reversible contraception: implants and intrauterine devices.* ACOG Committee Opinion No. 539. Washington, DC: The American College of Obstetricians and Gynecologists (ACOG); 2012.

²⁷ Committee on Gynecologic Practice Long-Acting Reversible Contraception Working Group. *Increasing use of contraceptive implants and intrauterine devices to reduce unintended pregnancy.* ACOG Committee Opinion No. 450. Washington, DC: The American College of Obstetricians and Gynecologists (ACOG); 2009.

²⁸ Secure GM, Allsworth JE, Madden T, Mullersman J, Peipert J.The contraceptive CHOICE project: Reducing barriers to long-acting reversible contraception. *Am J Obstet Gynecol.* 2010; 203(2):115.e1-115.e7.

²⁹ Committee on Health Care for Underserved Women. Access to emergency contraception. ACOG Committee Opinion No. 542. Washington, DC: The American College of Obstetricians and Gynecologists (ACOG); 2012.

³⁰ American Medical Association. *Access to Emergency Contraception*. CMS Report 1 – I-00. Chicago, IL: American Medical Association, Council on Medical Services; 2000.

³¹ American Academy of Pediatrics. Policy Statement on Emergency Contraception. *Pediatrics*. 2005;116:1038-1047.

³² Gemzell-Danielsson K. Mechanism of action of emergency contraception. *Contraception*. 2010;82:404-409.

³³ Office of Population Research. Answers to Frequently Asked Questions About. . . Effectiveness. Princeton, NJ: Princeton University. http://ec.princeton.edu/questions/eceffect.html. Accessed January 11, 2013.

³⁴ Patient Protection and Affordable Care Act of 2010, Pub. L. No. 111-148, § 2713, 124 Stat. 119, 131 (2010) (to be codified at 42 U.S.C. § 300gg-13. Amended to include birth control services on August 1, 2012.)

³⁵ National Women's Law Center. *Contraceptive Coverage in the Health Care Law: Frequently Asked Questions*. Washington, DC: National Women's Law Center; 2013.

http://www.nwlc.org/resource/contraceptive-coverage-health-care-law-frequently-asked-questions. Access January 11, 2013.

³⁶ Miller S. Nine of 10 Big Companies Expect to Lose Grandfathered Status. Alexandria, VA: Society for Human Resources Management; 2010.

http://www.shrm.org/hrdisciplines/benefits/Articles/Pages/GrandfatherSt atus.aspx. Accessed January 11, 2013.

³⁷ Campbell KP. Contraceptive use evidence-statement: counseling and preventive intervention. In: Campbell KP, Lanza A, Dixon R, Chattopadhyay S, Molinari N, Finch RA, eds. *A Purchaser's Guide to Clinical Preventive Services: Moving Science into Coverage.* Washington, DC: National Business Group on Health; 2006.

³⁸ Washington State Health Care Authority. *Medicaid Expansion 2014*. Fact Sheet. Olympia, WA: Washington State Health Care Authority; 2012

http://www.hca.wa.gov/hcr/me/documents/me2014_changes_comparis on fact sheet.pdf. Accessed January 10, 2013.

³⁹ Cawthon L, Keenan-Wilkie T, Lyons D, Rust K. *TAKE CHARGE Final Evaluation First Five Years: July 2001 – June 2006.* Olympia, WA: Washington State Department of Social and Health Services, Research and Data Analysis Division; 2006.

http://www.dshs.wa.gov/pdf/ms/rda/research/9/83.pdf. Accessed April 26, 2013.

⁴⁰ Cawthon L, Rust K, Efaw BW. TAKE CHARGE Final Evaluation Three-Year Renewal: July 2006 – June 2009 A Study of Recently Pregnant Medicaid Women. Olympia, WA: Washington State Department of Social and Health Services, Research and Data Analysis Division; 2009.

http://www.dshs.wa.gov//pdf/ms/rda/research/9/92.pdf. Accessed April 26, 2013.

⁴¹ Lindrooth RC, McCullough JS. The effect of Medicaid family planning expansions on unplanned births. *Womens Health Issues*. 2007;17:66-

http://muafind.hrsa.gov/index.aspx. Accessed January 13, 2013.

⁴² National Campaign to Prevent Teen and Unplanned Pregnancy. The direct medical costs of unplanned pregnancy and cost effectiveness of prevention. . Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy; 2012. http://www.thenationalcampaign.org/resources/pdf/briefly-directmedical-costs-of-UP.pdf. Accessed January 13, 2013.

⁴³ Frost JJ. U.S. women's reliance on publicly funded family planning clinics as their usual source of medical care. Paper presented at the 2008 Research Conference on the National Survey of Family Growth, October 16–17, 2008. Hyattsville, MD.

⁴⁴ Health Resources Services Administration. *Medically* Underserved Areas/Populations. Washington, DC: U.S. Department of Health and Human Services.

⁴⁵ Sonfield A. *The Potential of Health Care Reform to Improve* Pregnancy-Related Services and Outcomes. New York, NY: Guttmacher Policy Review, Summer 2010;13(3). http://www/guttmacher.org/pubs/gpr/13/3/gpr130313.html. Accessed June 26, 2012.

⁴⁶ Santelli J, Rochat R, Hatfield-Timajchy K, et al. The measurement and meaning of unintended pregnancy. Perspect Sex Reprod Health. 2003;35:94-101.

⁴⁷ Schafer JL. Multiple imputation: a primer. *Stat Methods Med* Res. 1999;8(1):3-15.

⁴⁸ van Buuren S. Flexible Imputation of Missing Data. Boca Raton, FL: Chapman & Hall/CRC; 2012.