

Indicator:	Previous Preterm Birth (D1a)
Domain:	Reproductive Health and Family Planning
Sub-domain	Previous Preterm Birth
Demographic group:	Women having a live birth.
Data resource:	LAMB http://www.lalamb.org/
Data availability:	2005, 2007, 2010
Numerator:	Women who delivered a live birth in a given year in Los Angeles County and reported having a previous live birth more than three weeks before the due date.
Denominator:	All women who delivered a live birth in a given year in Los Angeles County and reported having or not having a previous live birth more than three weeks before the due date (excluding those with missing data).
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	Prior to the pregnancy that resulted in the most recent live birth.
Significance:	In addition to a greater risk of premature birth among women who previously delivered prematurely, women with recurrent preterm births are at higher risk for birth complications and subsequent poor birth outcomes compared with healthy women. ¹⁻¹¹ Interconception behavioral risk factors associated with recurrent preterm birth include narrow birth spacing, weight loss, and smoking during pregnancy. ^{8, 12-14} In order to focus interconception care programs, states must examine characteristics, risk factors, and behaviors among women who experience recurrent poor outcomes, including premature birth. Assessment of previous premature birth is recommended by the Select Panel on Preconception Care workgroup in order to determine intervention and treatment prior to subsequent pregnancy. ¹⁵
Limitations of indicator:	This measure assesses the occurrence of any previous preterm birth. Therefore, it is not possible to determine whether the

previous preterm birth occurred in the pregnancy just prior to the current live birth or in any other previous live birth.

Related Healthy People

2010 Objective(s): 16-11. Reduce preterm births. Targets: 7.6% for all preterm births; 6.4% for births at 32 to 36 weeks gestation; 1.1% for births at less than 32 weeks gestation.

2020 Objective(s): MCH-9 Reduce proportion of preterm births in live birth
Targets: 11.4% for all preterm births; 8.1% for births at 32 to 36 weeks gestation; 1.8% for births at less than 32 weeks gestation.

References:

1. Mercer B, Goldenberg R, Das A, et al. The Preterm Prediction Study: A clinical risk assessment system. *Am J Obstet Gynecol* 1996; 174(6): 1885-1893.
2. Meis P, Goldenberg R, Mercer B, et al. The Preterm Prediction Study: Risk factors for indicated preterm births. *Am J Obstet Gynecol* 1998; 178(3): 562-567.
3. Ananth C, Getahun D, Peltier M, Salihu H, Vintzileos A. Recurrence of spontaneous versus medically indicated preterm birth. *Am J Obstet Gynecol* 2006; 195(3): 643-650.
4. McManemy J, Cooke E, Amon E, Leet T. Recurrence risk for preterm delivery. *Am J Obstet Gynecol* 2007; 196: 576.e571-576.e577.
5. Mercer B, Goldenberg R, Moawad A, et al. The Preterm Prediction Study: Effect of gestational age and cause of preterm birth on subsequent obstetric outcome. *Am J Obstet Gynecol*. 1999; 181: 1216-1221.
6. Mazaki-Tovi S, Romero R, Kusanovic J, et al. Recurrent preterm birth. *Semin Perinatol* 2007; 31: 142-158.
7. Bakketeig L, Hoffman H, Harley E. The tendency to repeat gestational age and birth weight in successive births. *Am J Obstet Gynecol* 1979; 135: 1086-1103.
8. Cnattingius S, Granath F, Petersson G, Harlow B. The influence of gestational age and smoking habits on the risk of subsequent preterm deliveries. *N Engl J Med* 2008; 341: 943-948.
9. Odibo A, Talucci M, Berghella V. Prediction of preterm premature rupture of membranes by transvaginal ultrasound features and risk factors in a high-risk population. *Ultrasound Obstet Gynecol* 2002; 20(3): 245-251.
10. Adams M, Elam-Evans L, Wilson H, Gilbertz D. Rates of and factors associated with recurrence of preterm delivery. *JAMA* 2000; 283: 1591-1596.
11. Bloom S, Yost N, McIntire D, Leveno K. Recurrence of preterm birth in singleton and twin pregnancies. *Obstet Gynecol* 2001; 98: 379-385.
12. DeFranco E, Stamilio D, Boslaugh S, Gross G, Muglia L. A short interpregnancy interval is a risk factor for preterm birth and its recurrence. *Am J Obstet Gynecol* 2007; 197: 264.e261-264.e266.
13. Merlino A, Laffineuse L, Collin M, Mercer B. Impact of weight loss between pregnancies on recurrent preterm birth. *Obstet Gynecol* 2006; 195: 818-821.

14. Klerman L, Cliver S, Goldenberg R. The impact of short interpregnancy intervals on pregnancy outcomes in a low-income population. *Am J Public Health*. 1998; 88: 1182-1185.
15. Jack B, Atrash H, Coonrod D, Moos M, O'Donnell J, Johnson K. The clinical content of preconception care: An overview and preparation of this supplement. *Am J Obstet Gynecol* 2008; 199(6 Suppl B): S266-S279.

Indicator:	Previous Preterm Birth (D1b)
Domain:	Reproductive Health and Family Planning
Sub-domain	Previous Preterm Birth
Demographic group:	Women having an infant or fetal death.
Data resource:	LA HOPE project http://publichealth.lacounty.gov/mch/LAHOPE/LAHOPE.html
Data availability:	2007- 2009
Numerator:	Women having a fetal/infant death in Los Angeles County within 2007-2009 who reported a previous live birth at less than 37 weeks of gestation.
Denominator:	All women having a fetal/infant death in Los Angeles County within 2007-2009 who reported having or not having a previous live birth at less than 37 weeks of gestation (excluding those with missing data).
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	Prior to last pregnancy.
Significance:	In addition to a greater risk of premature birth among women who previously delivered prematurely, women with recurrent preterm births are at higher risk for birth complications and subsequent poor birth outcomes compared with healthy women. ¹⁻¹¹ Interconception behavioral risk factors associated with recurrent preterm birth include narrow birth spacing, weight loss, and smoking during pregnancy. ^{8, 12-14} In order to focus interconception care programs, states must examine characteristics, risk factors, and behaviors among women who experience recurrent poor outcomes, including premature birth. Assessment of previous premature birth is recommended by the Select Panel on Preconception Care workgroup in order to determine intervention and treatment prior to subsequent pregnancy. ¹⁵

Limitations of indicator: This measure assesses the occurrence of any previous preterm birth. Therefore, it is not possible to determine whether the previous preterm birth occurred in the pregnancy just prior to the current live birth or in any other previous live birth.

Related Healthy People

2010 Objective(s): 16-11. Reduce preterm births. Targets: 7.6% for all preterm births; 6.4% for births at 32 to 36 weeks gestation; 1.1% for births at less than 32 weeks gestation.

2020 Objective(s): MCH-9 Reduce proportion of preterm births in live birth
Targets: 11.4% for all preterm births; 8.1% for births at 32 to 36 weeks gestation; 1.8% for births at less than 32 weeks gestation.

References:

1. Mercer B, Goldenberg R, Das A, et al. The Preterm Prediction Study: A clinical risk assessment system. *Am J Obstet Gynecol* 1996; 174(6): 1885-1893.
2. Meis P, Goldenberg R, Mercer B, et al. The Preterm Prediction Study: Risk factors for indicated preterm births. *Am J Obstet Gynecol* 1998; 178(3): 562-567.
3. Ananth C, Getahun D, Peltier M, Salihu H, Vintzileos A. Recurrence of spontaneous versus medically indicated preterm birth. *Am J Obstet Gynecol* 2006; 195(3): 643-650.
4. McManemy J, Cooke E, Amon E, Leet T. Recurrence risk for preterm delivery. *Am J Obstet Gynecol* 2007; 196: 576.e571-576.e577.
5. Mercer B, Goldenberg R, Moawad A, et al. The Preterm Prediction Study: Effect of gestational age and cause of preterm birth on subsequent obstetric outcome. *Am J Obstet Gynecol*. 1999; 181: 1216-1221.
6. Mazaki-Tovi S, Romero R, Kusanovic J, et al. Recurrent preterm birth. *Semin Perinatol* 2007; 31: 142-158.
7. Bakketeig L, Hoffman H, Harley E. The tendency to repeat gestational age and birth weight in successive births. *Am J Obstet Gynecol* 1979; 135: 1086-1103.
8. Cnattingius S, Granath F, Petersson G, Harlow B. The influence of gestational age and smoking habits on the risk of subsequent preterm deliveries. *N Engl J Med* 2008; 341: 943-948.
9. Odibo A, Talucci M, Berghella V. Prediction of preterm premature rupture of membranes by transvaginal ultrasound features and risk factors in a high-risk population. *Ultrasound Obstet Gynecol* 2002; 20(3): 245-251.
10. Adams M, Elam-Evans L, Wilson H, Gilbertz D. Rates of and factors associated with recurrence of preterm delivery. *JAMA* 2000; 283: 1591-1596.
11. Bloom S, Yost N, McIntire D, Leveno K. Recurrence of preterm birth in singleton and twin pregnancies. *Obstet Gynecol* 2001; 98: 379-385.
12. DeFranco E, Stamilio D, Boslaugh S, Gross G, Muglia L. A short interpregnancy interval is a risk factor for preterm birth and its recurrence. *Am J Obstet Gynecol* 2007; 197: 264.e261-264.e266.
13. Merlino A, Laffineuse L, Collin M, Mercer B. Impact of weight loss between pregnancies on recurrent preterm birth. *Obstet Gynecol* 2006; 195: 818-821.

14. Klerman L, Cliver S, Goldenberg R. The impact of short interpregnancy intervals on pregnancy outcomes in a low-income population. *Am J Public Health*. 1998; 88: 1182-1185.
15. Jack B, Atrash H, Coonrod D, Moos M, O'Donnell J, Johnson K. The clinical content of preconception care: An overview and preparation of this supplement. *Am J Obstet Gynecol* 2008; 199(6 Suppl B): S266-S279.

Indicator:	Previous Fetal Death, Miscarriage, or Stillbirth (D3a)
Domain:	Reproductive Health and Family Planning
Sub-domain:	Previous Fetal Death, Miscarriage, or Stillbirth
Demographic group:	Women having a live birth.
Data resource:	LAMB http://www.lalamb.org/
Data availability:	2005, 2007, 2010
Numerator:	Women who delivered a live birth in a given year in Los Angeles County and reported having a fetal death, miscarriage or stillbirth prior to getting pregnant with their most recent live birth.
Denominator:	All women who delivered a live birth in a given year in Los Angeles County and reported having or not having a fetal death, miscarriage or stillbirth prior to getting pregnant with their most recent live birth (excluding those with missing data).
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	Prior to the pregnancy that resulted in the most recent live birth.
Significance:	The greatest predictor of a recurrent miscarriage, fetal death, or still birth is a previous pregnancy loss. ¹⁻⁵ Women who experience an intrauterine death in a previous pregnancy are also more likely to experience a subsequent premature birth and low birth weight delivery. ⁶ Additionally, these women are more likely to experience pre-eclampsia or placental abruption, and require labor induction or cesarean section. Other risk factors for recurrence of these poor outcomes include older maternal age, conceiving in longer time intervals, and smoking. ⁵ In order to focus interconception care programs, states must examine characteristics, risk factors, and behaviors of women who experience recurrent poor outcomes, including miscarriage, fetal death, and stillbirth. The Clinical Work Group of the Select Panel on Preconception Care recommends that the gestational age of the

fetus be assessed at fetal death or stillbirth to reduce risks in subsequent pregnancies.

Limitations of indicator: Data from the LAMB survey are self-report and are not confirmed by physician diagnosis. Additionally, LAMB does not capture behaviors associated with the previous miscarriage, fetal death, or stillbirth, only behaviors associated with the most recent delivery. Therefore, behaviors may not be examined longitudinally.

Related Healthy People

2010 Objective(s): None.

2020 Objective(s): MCIH-1. Reduce the rate of fetal and infant deaths.
Targets: MCIH-1.1 5.6 fetal deaths per 1,000 live births and fetal deaths for fetal deaths at 20 or more weeks of gestation. MCIH-1.2 5.9 perinatal deaths per 1,000 live births and fetal deaths for fetal and infant deaths during perinatal period (28 weeks of gestation to 7 days after birth).

References:

1. Oyen N, Skjaerven R, Irgens L. Population-based recurrence risk of sudden infant death syndrome compared with other infant and fetal deaths. *Am J Epidemiol* 1996;144(3): 300-305.
2. Hogberg L, Cnattinguis S. The influence of maternal smoking habits on the risk of subsequent stillbirth: Is there a causal relation? *BJOG* 2007; 114: 699-704.
3. Surkan P, Stephansson O, Dickman P, Cnattinguis S. Previous preterm and small-for-gestational-age births and the subsequent risk of stillbirth. *N Engl J Med* 2004; 350: 777-785.
4. Risch H, Weiss N, Clarke E, Miller A. Risk factors for spontaneous abortion and its recurrence. *Am J Epidemiol* 1988; 128: 420-430.
5. George L, Granath F, Johansson A, Olander B, Cnattinguis S. Risks of repeated miscarriage. *Paediatr Perinat Epidemiol* 2006; 20: 199-126.
6. Black M, Shetty A, Bhattacharya S. Obstetric outcomes subsequent to intrauterine death in the first pregnancy. *BJOG* 2008; 115(2): 269-274.
7. Stubbefield P, Coonrod D, Reddy U, et al. The clinical content of preconception care: Reproductive history. *Am J Obstet Gynecol* 2008; 199(6 Suppl 2): S373-S383.

Indicator:	Previous Fetal Death, Miscarriage, or Stillbirth (D3b)
Domain:	Reproductive Health and Family Planning
Sub-domain:	Previous Fetal Death, Miscarriage, or Stillbirth
Demographic group:	Women having an infant or fetal death.
Data resource:	LA HOPE project http://publichealth.lacounty.gov/mch/LAHOPE/LAHOPE.html
Data availability:	2007- 2009
Numerator:	Women having a fetal/infant death in Los Angeles County within 2007-2009 who reported a fetal death, miscarriage or stillbirth prior to their most recent pregnancy.
Denominator:	All women having an infant or fetal death in Los Angeles County within 2007-2009 who reported or did not reported a fetal death, miscarriage or stillbirth prior to their most recent pregnancy (excluding those with missing data).
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	Prior to last pregnancy.
Significance:	The greatest predictor of a recurrent miscarriage, fetal death, or still birth is a previous pregnancy loss. ¹⁻⁵ Women who experience an intrauterine death in a previous pregnancy are also more likely to experience a subsequent premature birth and low birth weight delivery. ⁶ Additionally, these women are more likely to experience pre-eclampsia or placental abruption, and require labor induction or cesarean section. Other risk factors for recurrence of these poor outcomes include older maternal age, conceiving in longer time intervals, and smoking. ⁵ In order to focus interconception care programs, states must examine characteristics, risk factors, and behaviors of women who experience recurrent poor outcomes, including miscarriage, fetal death, and stillbirth. The Clinical Work Group of the Select Panel on Preconception Care recommends that the gestational age of the

fetus be assessed at fetal death or still birth to reduce risks in subsequent pregnancies.

Limitations of indicator: Data from the LAHOPE survey are self-report and are not confirmed by physician diagnosis. Additionally, LAHOPE does not capture behaviors associated with the previous miscarriage, fetal death, or stillbirth, only those behaviors associated with the most recent delivery. Therefore, behaviors may not be examined longitudinally.

Related Healthy People
2010 Objective(s): None.

2020 Objective(s): MCIH-1. Reduce the rate of fetal and infant deaths.
Targets: MCIH-1.1 5.6 fetal deaths per 1,000 live births and fetal deaths for fetal deaths at 20 or more weeks of gestation. MCIH-1.2 5.9 perinatal deaths per 1,000 live births and fetal deaths for fetal and infant deaths during perinatal period (28 weeks of gestation to 7 days after birth).

References:

1. Oyen N, Skjaerven R, Irgens L. Population-based recurrence risk of sudden infant death syndrome compared with other infant and fetal deaths. *Am J Epidemiol* 1996;144(3): 300-305.
2. Hogberg L, Cnattinguis S. The influence of maternal smoking habits on the risk of subsequent stillbirth: Is there a causal relation? *BJOG* 2007; 114: 699-704.
3. Surkan P, Stephansson O, Dickman P, Cnattinguis S. Previous preterm and small-for-gestational-age births and the subsequent risk of stillbirth. *N Engl J Med* 2004; 350: 777-785.
4. Risch H, Weiss N, Clarke E, Miller A. Risk factors for spontaneous abortion and its recurrence. *Am J Epidemiol* 1988; 128: 420-430.
5. George L, Granath F, Johansson A, Olander B, Cnattinguis S. Risks of repeated miscarriage. *Paediatr Perinat Epidemiol* 2006; 20: 199-126.
6. Black M, Shetty A, Bhattacharya S. Obstetric outcomes subsequent to intrauterine death in the first pregnancy. *BJOG* 2008; 115(2): 269-274.
7. Stubbeffield P, Coonrod D, Reddy U, et al. The clinical content of preconception care: Reproductive history. *Am J Obstet Gynecol* 2008; 199(6 Suppl 2): S373-S383.

Indicator:	Pregnancy Intended/Unintended (D5a)
Domain:	Reproductive Health and Family Planning
Sub-domain:	Pregnancy Intention
Demographic group:	Women having a live birth.
Data resource:	LAMB http://www.lalamb.org/
Data availability:	2005, 2007, 2010
Numerator:	Women who delivered a live birth in a given year in Los Angeles County and reported that just before they got pregnant with their most recent live born infant, they wanted to be pregnant later <u>or</u> they didn't want to be pregnant then or at any time in the future.
Denominator:	Women who delivered a live birth in a given year in Los Angeles County and reported on intention/wantedness of the pregnancy resulted in the most recent live birth (excluding those with missing data).
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	Prior to the pregnancy resulted in the most recent live birth.
Significance:	Nationally, about 49% of all pregnancies are unintended, half of which are estimated to end in abortion. ^{1,2,3} LAMB data also indicate that nearly half of pregnancies resulting in a live birth are unintended. Mistimed, and particularly unwanted pregnancies, have been associated with maternal health behaviors prior to, during, and after pregnancy that can adversely affect birth outcomes, and maternal and infant health. ^{4,5} These behaviors include later entry to prenatal care, smoking and drinking alcohol during pregnancy, and not breastfeeding. ⁴ Women with unintended pregnancies are more likely to have partners who are not supportive of the pregnancy. ⁴ Since preconception is the only time to prevent unintended pregnancy, the Clinical Work Group of the Select Panel on Preconception Care recommends that during routine care all women of reproductive age be screened for their short- and long-term

pregnancy intentions and their risk of conceiving. In addition, it is recommended that providers provide detailed family planning counseling and encouragement to develop a reproductive life plan⁶.

Limitations of indicator:	The LAMB survey initiates data collection at 3-7 months postpartum, at which time a mother's feelings toward her pregnancy or recall of her feelings just before pregnancy may have changed. In addition, a woman's recall of pregnancy intention at the time of conception may be influenced by experiences during pregnancy, delivery, or the postpartum period. Respondents are not given an opportunity to report ambivalence about pregnancy. Social acceptability may influence how some women report pregnancy intention.
Related Healthy People 2010 Objective(s):	9-1. Increase the proportion of pregnancies that are intended. Target: 70% of all pregnancies will be intended.
2020 Objective(s):	FP-1 Increase the proportion of pregnancies that are intended. Target: 56%

References:

1. Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Repro Health* 2006; 38:90-96.
2. Henshaw Sk. Unintended pregnancy in the United States. *Fam Plann Perspect* 1998; 30:24-29.
3. Centers for Disease Control and Prevention. Pregnancy Risk Assessment Monitoring System (PRAMS): PRAMS and Unintended Pregnancy. (2004). Retrieved August 6, 2008, from <http://www.cdc.gov/prams/UP.htm>.
4. D'Angelo DV, Gilbert BC, Rochat RW, et al. Differences between mistimed and unwanted pregnancies among women who have live births. *Perspect Sex Repro Health* 2007; 36:192-197.
5. Mohllajee AP, Curtis KM, Morrow B, et al. Pregnancy intention and its relationship to birth and maternal outcomes. *Obstet Gynecol* 2007; 109: 678-686.
6. Moos M-K, Dunlop AL, Jack BW, et al. Healthier women, healthier reproductive outcomes: recommendations for the routine care of all women of reproductive age. *Am J Obstet Gynecol* 2008; 199(6 Suppl 2):S280-89.

Indicator:	Pregnancy Intended/Unintended (D5b)
Domain:	Reproductive Health and Family Planning
Sub-domain:	Pregnancy Intention
Demographic group:	Women having an infant or fetal death.
Data resource:	LA HOPE project http://publichealth.lacounty.gov/mch/LAHOPE/LAHOPE.html
Data availability:	2007- 2009
Numerator:	Women having a fetal/infant death in Los Angeles County within 2007-2009 who reported that just before their most recent pregnancy, they wanted to be pregnant later <u>or</u> they didn't want to be pregnant then or at any time in the future.
Denominator:	Women having a fetal/infant death in Los Angeles County within 2007-2009 who reported on the intention/wantedness of their recent pregnancy (excluding those with missing data).
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	Prior to last pregnancy.
Significance:	Nationally, about 49% of all pregnancies are unintended, half of which are estimated to end in abortion. ^{1,2,3} Mistimed, and particularly unwanted pregnancies, have been associated with maternal health behaviors prior to, during, and after pregnancy that can adversely affect birth outcomes, and maternal and infant health. ^{4,5} These behaviors include later entry to prenatal care, smoking and drinking alcohol during pregnancy, and not breast-feeding. ⁴ Women with unintended pregnancies are more likely to have partners who are not supportive of the pregnancy. ⁴ Since preconception is the only time to prevent unintended pregnancy, the Clinical Work Group of the Select Panel on Preconception Care recommends that during routine care all women of reproductive age be screened for their short- and long-term pregnancy intentions and their risk of conceiving. In addition, it is

recommended that providers provide detailed family planning counseling and encouragement to develop a reproductive life plan.⁶

Limitations of indicator:	The LAHOPE survey initiates data collection at 7-9 months postpartum, at which time a mother's feelings toward her pregnancy or recall of her feelings just before pregnancy may have changed. In addition, a woman's recall of pregnancy intention at the time of conception may be influenced by experiences during pregnancy, delivery, or the postpartum period. Respondents are not given an opportunity to report ambivalence about pregnancy. Social acceptability may influence how some women report pregnancy intention.
Related Healthy People 2010 Objective(s):	9-1. Increase the proportion of pregnancies that are intended. Target: 70% of all pregnancies will be intended.
2020 Objective(s):	FP-1 Increase the proportion of pregnancies that are intended. Target: 56%

References:

1. Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Repro Health* 2006; 38:90-96.
2. Henshaw Sk. Unintended pregnancy in the United States. *Fam Plann Perspect* 1998; 30:24-29.
3. Centers for Disease Control and Prevention. Pregnancy Risk Assessment Monitoring System (PRAMS): PRAMS and Unintended Pregnancy. (2004). Retrieved August 6, 2008, from <http://www.cdc.gov/prams/UP.htm>.
4. D'Angelo DV, Gilbert BC, Rochat RW, et al. Differences between mistimed and unwanted pregnancies among women who have live births. *Perspect Sex Repro Health* 2007; 36:192-197.
5. Mohllajee AP, Curtis KM, Morrow B, et al. Pregnancy intention and its relationship to birth and maternal outcomes. *Obstet Gynecol* 2007; 109: 678-686.
6. Moos M-K, Dunlop AL, Jack BW, et al. Healthier women, healthier reproductive outcomes: recommendations for the routine care of all women of reproductive age. *Am J Obstet Gynecol* 2008; 199(6 Suppl 2):S280-89.

Indicator:	Pregnancy Intended/Unintended (D5c)
Domain:	Reproductive Health and Family Planning
Sub-domain:	Pregnancy Intention
Demographic group:	Women having a live birth.
Data resource:	LAMB http://www.lalamb.org/
Data availability:	2005, 2007, 2010
Numerator:	Women who delivered a live birth in a given year in Los Angeles County and reported that just before they got pregnant with their most recent live born infant, their partner wanted them to be pregnant later <u>or</u> they didn't want them to be pregnant then or at any time in the future.
Denominator:	Women who had a live birth in a given year in Los Angeles County and reported on their partner's intention/wantedness of the pregnancy which resulted in the recent live birth (excluding those with missing data).
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	Prior to pregnancy that resulted in the most recent live birth.
Significance:	Nationally, about 49% of all pregnancies are unintended, half of which are estimated to end in abortion. ^{1,2,3} LAMB data indicate that nearly half of pregnancies resulting in a live birth are unintended. Mistimed, and particularly unwanted pregnancies, have been associated with maternal health behaviors prior to, during, and after pregnancy that can adversely affect birth outcomes, and maternal and infant health. ^{4,5} These behaviors include later entry to prenatal care, smoking and drinking alcohol during pregnancy, and not breast-feeding. ⁴ Women with unintended pregnancies are more likely to have partners who are not supportive of the pregnancy. ⁴ Since preconception is the only time to prevent unintended pregnancy, the Clinical Work Group of the Select Panel on Preconception Care recommends that during routine care all women of reproductive age be screened for their short- and long-term

pregnancy intentions and their risk of conceiving. In addition, it is recommended that providers provide detailed family planning counseling and encouragement to develop a reproductive life plan.⁶

Limitations of indicator:	The LAMB survey initiates data collection at 3-7 months postpartum, at which time a mother's recall of her partner's feelings just before pregnancy may have changed. In addition, the partner's intention of pregnancy is reported only by the mother. Social acceptability may influence how some women report pregnancy intention of their partner.
Related Healthy People 2010 Objective(s):	9-1. Increase the proportion of pregnancies that are intended. Target: 70% of all pregnancies will be intended.
2020 Objective(s):	FP-1. Increase the proportion of pregnancies that are intended. Target: 56%

References:

1. Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Repro Health* 2006; 38:90-96.
2. Henshaw Sk. Unintended pregnancy in the United States. *Fam Plann Perspect* 1998; 30:24-29.
3. Centers for Disease Control and Prevention. Pregnancy Risk Assessment Monitoring System (PRAMS): PRAMS and Unintended Pregnancy. (2004). Retrieved August 6, 2008, from <http://www.cdc.gov/prams/UP.htm>.
4. D'Angelo DV, Gilbert BC, Rochat RW, et al. Differences between mistimed and unwanted pregnancies among women who have live births. *Perspect Sex Repro Health* 2007; 36:192-197.
5. Mohllajee AP, Curtis KM, Morrow B, et al. Pregnancy intention and its relationship to birth and maternal outcomes. *Obstet Gynecol* 2007; 109: 678-686.
6. Moos M-K, Dunlop AL, Jack BW, et al. Healthier women, healthier reproductive outcomes: recommendations for the routine care of all women of reproductive age. *Am J Obstet Gynecol* 2008; 199(6 Suppl 2):S280-89.

Indicator:	Contraception (Access, Availability, and Use) (D6a)
Domain:	Reproductive Health and Family Planning
Sub-domain:	Contraception
Demographic group:	Women having a live birth.
Data resource:	LAMB http://www.lalamb.org/
Data availability:	2010
Numerator:	Women who had a live birth in a given year in Los Angeles County and reported that they or their partners were using birth control at the time of conception.
Denominator:	Women who had a live birth in a given year in Los Angeles County and reported that they or their partners were or were not using birth control at the time of conception.
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	At conception.
Significance:	Nationally, about 49% of all pregnancies are unintended, half of which are estimated to end in abortion. ^{1,2,3} LAMB data indicate that nearly half of pregnancies resulting in a live birth are unintended. Mistimed, and particularly unwanted pregnancies, have been associated with maternal health behaviors prior to, during, and after pregnancy that can adversely affect birth outcomes, and maternal and infant health. ^{4,5} These behaviors include later entry to prenatal care, smoking and drinking alcohol during pregnancy, and not breast-feeding. ⁴ Women with unintended pregnancies are more likely to have partners who are not supportive of the pregnancy. ⁴ Since preconception is the only time to prevent unintended pregnancy, the Clinical Work Group of the Select Panel on Preconception Care recommends that during routine care all women of reproductive age be screened for their short- and long-term pregnancy intentions and their risk of conceiving. In addition, it is

recommended that providers provide detailed family planning counseling and encouragement to develop a reproductive life plan.⁶

Limitations of indicator: Data are self-reported and are subject to misinterpretations of the response options. Data are also subject to non-response bias.

Related Healthy People

2010 Objective(s): 9-3. Increase the proportion of females at risk of unintended pregnancy (and their partners) who use contraception.

Target: 100%.

2020 Objective(s): FP-6. Increase the proportion of females or their partners at risk of unintended pregnancy who use contraception at most recent sexual intercourse.

Target: 91.3%

FP-2. Reduce the proportion of females experiencing pregnancy despite use of reversible contraceptive method

Target: 9.9%

References:

1. Finer L B, Henshaw S K. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Reprod Health* 2006; 38: 90-6.
2. Henshaw SK. Unintended pregnancy in the United States. *Fam Plann Perspect* 1998; 30:24-29.
3. Committee on Unintended Pregnancy. *The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families*, ed. S.S. Brown and L. Eisenberg. 1995. Washington, D.C.: National Academy Press. 380.
4. Moos M-K, Dunlop AL, Jack BW, et al. Healthier women, healthier reproductive outcomes: recommendations for the routine care of all women of reproductive age. *Am J Obstet Gynecol* 2008; 199(6 Suppl 2):S280-89.

Indicator:	Postpartum Contraception Use (D7a)
Domain:	Reproductive Health and Family Planning
Sub-domain	Contraception – Access, Availability, and Use
Demographic group:	Women having an infant or fetal death.
Data resource:	LA HOPE project http://publichealth.lacounty.gov/mch/LAHOPE/LAHOPE.html
Data availability:	2007- 2009
Numerator:	Women having a fetal/infant death in LA County in 2007-2009 who reported that they or their husbands or partners were currently doing something to keep from getting pregnant.
Denominator:	Women having an infant or fetal death in LA County in 2007-2009 who reported that they or their husbands or partners were or were not currently doing something to keep from getting pregnant (excluding those with missing data).
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	After pregnancy.
Significance:	Shorter inter-pregnancy intervals (less than 18-24 months) are associated with higher rates of adverse pregnancy outcomes such as uterine rupture, maternal morbidities, preterm birth, low birth weight, and small for gestational age infants. ¹⁻⁶ Appropriate family planning, including use of postpartum contraception, is one means of preventing short inter-pregnancy interval as well as unintended pregnancy. The Clinical Work Group of the Select Panel on Preconception Care recommends inclusion of detailed family planning counseling and encouragement to develop a reproductive life plan in preconception care for all women and men of reproductive age. ^{7,8}
Limitations of indicator:	Data are self-reported and are subject to misinterpretations of the response options. Data are also subject to non-response bias.

Related Healthy People

- 2010 Objective(s): 9-3. Increase the proportion of females at risk of unintended pregnancy (and their partners) who use contraception.
Target: 100%.
- 2020 Objective(s): FP-6. Increase the proportion of females or their partners at risk of unintended pregnancy who use contraception at most recent sexual intercourse.
Target: 91.3%
FP-2. Reduce the proportion of females experiencing pregnancy despite use of reversible contraceptive method
Target: 9.9%

References:

1. Stamilio D, DeFranco E, Pare E, et al. Short interpregnancy interval: Risk of uterine rupture and complications of vaginal birth after cesarean delivery. *Obstet Gyn* 2007; 110: 1075-1082.
2. Nabukera S, Wingate M, Kirby R, et al. Interpregnancy interval and subsequent perinatal outcomes among women delaying initiation of childbearing. *J Obstet Gynaecol Res* 2008; 34: 941-947.
3. DeFranco E, Stamilio D, Boslaugh S, Gross G, Muglia L. A short interpregnancy interval is a risk factor for preterm birth and its recurrence. *Am J Obstet Gynecol* 2007; 197:264e261-e266.
4. Conde-Agudelo A, Rosas-Bermudez A, Kafury-Goeta A. Birth spacing risk of adverse perinatal outcomes: A meta-analysis. *JAMA* 2006; 295: 1809-1823.
5. Bakewell J, Stockbauer J, Schramm W. Factors associated with repetition of low birthweight: Missouri longitudinal study. *Paediatr Perinat Epidemiol* 1997; 11 Suppl 1: 119-129.
6. Rodrigues T, Barros H. Short interpregnancy interval and risk of spontaneous preterm delivery. *Eur J Obstet Gynecol Reprod Biol.* 2008; 136: 184-188.
7. Moos M-K, Dunlop AL, Jack BW, et al. Healthier women, healthier reproductive outcomes: recommendations for the routine care of all women of reproductive age. *Am J Obstet Gynecol* 2008; 199(6 Suppl 2):S280-89.
8. Frey KA, Navarro SM, Kotelchuck M, Lu MC. The clinical content of preconception care: preconception care for men. *Am J Obstet Gynecol* 2008; 199(6 Suppl 2):S389-95.

Indicator:	Use of Assisted Reproductive Technology (D8a)
Domain:	Reproductive Health and Family Planning
Sub-domain:	Use of Assisted Reproductive Technology
Demographic group:	Women having a live birth.
Data resource:	LAMB http://www.lalamb.org/
Data availability:	2005, 2007, 2010
Numerator:	Women who delivered a live birth in a given year in Los Angeles County and reported that they did take any fertility drugs or receive any medical procedures from a doctor, nurse, or other health care worker to help them get pregnant with their most recent live born infant.
Denominator:	Women who delivered a live birth in a given year in Los Angeles County and reported using or not using assisted reproductive technology to help them get pregnant with their most recent live born infant (excluding unknowns and refusals).
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	Prior to the pregnancy that resulted in the most recent live birth.
Significance:	In the United States, infertility is estimated to affect approximately 10% of couples, and about 1% of births result from pregnancies produced through Assisted Reproductive Technology (ART). ¹ It is recommended that couples receiving fertility treatments receive preconception counseling on all topics discussed with patients without fertility problems, with added counseling on ART success rates and risks. ² A major risk associated with infertility treatment is multiple-birth deliveries, which in 2002 occurred in 53% of live-births resulting from ART. ³ Multiple gestation pregnancies are more likely to result in preterm deliveries and low infant birthweight. ² In addition, multiple-gestation pregnancies are more likely to result in maternal health complications. ²

Limitations of indicator: Data are self-reported and are subject to misinterpretations of the response options. Data are also subject to non-response bias.

Related Healthy People
2010 Objective(s): None.

2020 Objective(s): None.

References:

1. Stephen EH, Chandra A. Updated projections of infertility in the United States: 1995-2005. *Fertil Steril* 1998; 70:30-34.
2. Grainger DA, Frazier LM, Rowland CA. Preconception care and treatment with assisted reproductive technologies. [Matern Child Health J](#) 2006; 10 (5 Suppl):S161-4.
3. Wright FC, Schieve LA, Reynolds MA, et al. Assisted reproductive technology surveillance—United States, 2002. *MMWR Surveill Summ* 2005; 54:1-24.
4. Schieve LA, Rosenberg D, Handler A, Rankin K, Reynolds MA. Validity of self-reported use of assisted reproductive technology treatment among women participating in the pregnancy risk assessment monitoring system in five states, 2000. *Matern Child Health J* 2006; 10:427-31.

Indicator:	Use of Assisted Reproductive Technology (D8b)
Domain:	Reproductive Health and Family Planning
Sub-domain:	Use of Assisted Reproductive Technology
Demographic group:	Women having an infant or fetal death.
Data resource:	LA HOPE project http://publichealth.lacounty.gov/mch/LAHOPE/LAHOPE.html
Data availability:	2007- 2009
Numerator:	Women having a fetal/infant death in LA County in 2007-2009 who reported taking any fertility drug or receiving any medical procedure from a doctor, nurse, or other health care worker to help them get pregnant with their most recent pregnancy.
Denominator:	Women having a fetal/infant death in LA County in 2007-2009 who reported using or not using assisted reproductive technology to help them get pregnant with their most recent pregnancy (excluding those with missing data).
Measures of frequency:	Crude annual prevalence and by selected maternal demographic characteristics, weighted to account for unequal probabilities of selection, and adjusted for non-response and mail/telephone non-coverage.
Period of case definition:	Prior to last pregnancy.
Significance:	In the United States, infertility is estimated to affect approximately 10% of couples, and about 1% of births result from pregnancies produced through Assisted Reproductive Technology (ART). ¹ It is recommended that couples receiving fertility treatments receive preconception counseling on all topics discussed with patients without fertility problems, with added counseling on ART success rates and risks. ² A major risk associated with infertility treatment is multiple-birth deliveries, which in 2002 occurred in 53% of live-births resulting from ART. ³ Multiple gestation pregnancies are more likely to result in preterm deliveries and low infant birthweight. ² In addition, multiple-gestation pregnancies are more likely to result in maternal health complications. ²
Limitations of indicator:	Data are self-reported and are subject to misinterpretations of the response options. Data are also subject to non-response bias.

Related Healthy People
2010 Objective(s): None.

2020 Objective(s): None.

References:

1. Stephen EH, Chandra A. Updated projections of infertility in the United States: 1995-2005. *Fertil Steril* 1998; 70:30-34.
2. Grainger DA, Frazier LM, Rowland CA. Preconception care and treatment with assisted reproductive technologies. [Matern Child Health J](#) 2006; 10 (5 Suppl):S161-4.
3. Wright FC, Schieve LA, Reynolds MA, et al. Assisted reproductive technology surveillance—United States, 2002. *MMWR Surveill Summ* 2005; 54:1-24.
4. Schieve LA, Rosenberg D, Handler A, Rankin K, Reynolds MA. Validity of self-reported use of assisted reproductive technology treatment among women participating in the pregnancy risk assessment monitoring system in five states, 2000. *Matern Child Health J* 2006; 10:427-31.