Indicator: **Self-reported Diagnosed Diabetes (I1a)**

Domain: Chronic Conditions

Sub-domain: Diabetes

Demographic group: Women aged 18-44 years.

Data resource: California Health Interview Survey (CHIS)
http://www.chis.ucla.edu/

Data availability: 2005, 2007, 2009

Numerator: Women respondents in Los Angeles County aged 18-44 years who reported ever (excluding time during pregnancies) being told by a doctor that they have diabetes.

Denominator: Women respondents in Los Angeles County aged 18-44 years who did or did not report ever having been told by a doctor that they have diabetes (excluding unknowns and refusals).

Measures of frequency: Weighted estimates of annual prevalence and 95% confidence interval.

Period of case definition: Lifetime excluding time during pregnancies.

Significance: Diabetes is the sixth leading cause of death in the United States, and is capable of causing serious health complications including heart disease, blindness, kidney failure, and lower-extremity amputations. In addition, gestational diabetes can cause serious problems for both mothers and babies. Because preconception and prenatal control of diabetes reduces the risk of congenital malformations, pregnancy loss, and perinatal mortality, the Clinical Work Group of the Select Panel on Preconception Care recommends that all diabetic women of reproductive age be counseled before pregnancy about the importance of diabetes control[1].

Limitations of indicator: This indicator is based on self-reported data that were not confirmed by a physician. However, self-reported diabetes data from BRFSS has consistently yielded high reliability and moderate validity.[2]

CHIS is a random-dial telephone survey. The sample used was taken from the database of landline phone numbers. Hence, non response and non coverage can be a potential source of bias, especially, taking into account increasing number of cellular phone users in California. However, recently CHIS started to include cell phones in the sample as well as studied differences between cell phone only and land line users for the proper weighting of the estimates and maximize reduction of the non coverage bias[3].

Related Healthy People
2010 Objective(s):   5.4. Increase the proportion of adults with diabetes whose condition has been diagnosed.
Target: 80%
5-8. Decrease the proportion of women with gestational diabetes.

2020 Objective(s):   D-15. Increase the proportion of adults aged 20 years and older with diabetes whose condition has been diagnosed.
Target: 80.1%

References:

1. Dunlop AL, Jack BW, Bottalico JN, et al. The clinical content of preconception care: women with chronic medical conditions. Am J Obstet Gynecol 2008; 199(6 Suppl 2):S310-27.
2. Nelson DE, Holtzman D, Bolen J, Stanwyck CA, Mack KA. Reliability and validity of measures from the Behavioral Risk Factor Surveillance System (BRFSS). Soc Prev Med 2001; 46 Suppl 1:S3-42.
3. CHIS data quality. Assessing and addressing potential noncoverage bias. http://www.chis.ucla.edu/dataquality2.html

Indicator:	**Pre-pregnancy Diabetes (I2)**
Domain:	Chronic Conditions
Sub-domain:	Diabetes
Demographic group:	Women who delivered a live birth in a given year in Los Angeles County
Data resource:	Los Angeles Mommy and Baby Project (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 reporting that they had high blood sugar (diabetes) in the six months (3 months for 2005 data) before they got pregnant.
Denominator:	All women who delivered a live birth in a given year in Los Angeles County responding to if they had or did not have high blood sugar (diabetes) in the six months (3 months for 2005 data) before they got pregnant (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 adjust for non-response and mail/telephone non-coverage.
Period of case definition:	In the six months (3 months for 2005 data) before the pregnancy that resulted in the recent live birth.
Significance:	Based on 2005 PRAMS data, 10.4% of women having a live birth reported experiencing diabetes; 23.1% of these women reported pre-existing diabetes.[1] Women with diabetes are at an increased risk for complications during pregnancy, and are more likely than non-diabetic women to experience adverse infant health outcomes such as large for gestational-age birth weight and birth defects.[2,3] Macrosomia (i.e., large birth weight for gestational age) increases the risk of labor complications, cesarean delivery, intracranial hemorrhage, shoulder dystocia, and respiratory distress. Because preconception and prenatal control of

diabetes reduces the risk of congenital malformations, pregnancy loss, and perinatal mortality, the Clinical Work Group of the Select Panel on Preconception Care recommends that all diabetic women of reproductive age be counseled about the importance of diabetes control before pregnancy and appropriately treated to achieve diabetes control.[4]

Limitations of indicator:
Women who experienced a fetal death or abortion are excluded. LAMB data are self-reported, and were not confirmed by a physician and may be subject to misclassification bias.

Related Healthy People 2010 Objective(s):
5-1. Increase the proportion of persons with diabetes who receive formal diabetes education. Target: 60%.
5-2. Prevent diabetes.
5-4. Increase the proportion of adults with diabetes whose condition has been diagnosed.
5-8. Decrease the proportion of pregnant women with gestational diabetes.

2020 Objective(s)
D-14   Increase the proportion of persons with diagnosed diabetes who receive formal diabetes education
D-15   Increase the proportion of persons with diabetes whose condition has been diagnosed

References:

1. Centers for Disease Control and Prevention. Pregnancy complications and perinatal outcomes among women with diabetes -- North Carolina, 1989-1990. MMWR, Nov. 05, 1993 / 42(43):847-51.
2. Temple RC, Aldridge VJ, Murphy HR. Prepregnancy care and pregnancy outcomes in women with type 1 diabetes. Diabetes Care 2006; 29:1744-49.
3. Clausen TD, Mathiesen E, Ekbom P, et al. Poor pregnancy outcome in women with type 2 diabetes. Diabetes Care 2005, 28:323-28.
4. Dunlop AL, Jack BW, Bottalico JN, et al. The clinical content of preconception care: women with chronic medical conditions. Am J Obstet Gynecol 2008 Dec;199(6 Suppl B):S310-27.

Indicator: **Pre-pregnancy Diabetes (I2a)**

Domain: Chronic Conditions

Sub-domain: Diabetes

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 had high blood sugar (diabetes) six months before they got pregnant.

Denominator: All women having a fetal/infant death in LA County in 2007-2009 who reported that they had or did not have high blood sugar (diabetes) six months before they got pregnant (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 adjust for non-response and mail/telephone non-coverage.

Period of case definition: In the six months before the most recent pregnancy.

Significance: Based on 2005 PRAMS data, 10.4% of women having a live birth reported experiencing diabetes; 23.1% of these women reported pre-existing diabetes.[1] Women with diabetes are at an increased risk for complications during pregnancy, and are more likely than non-diabetic women to experience adverse infant health outcomes such as large for gestational-age birth weight and birth defects.[2,3] Macrosomia (i.e., large birth weight for gestational age) increases the risk of labor complications, cesarean delivery, intracranial hemorrhage, shoulder dystocia, and respiratory distress. Because preconception and prenatal control of diabetes reduces the risk of congenital malformations, pregnancy loss, and perinatal mortality, the Clinical Work Group of the Select Panel on Preconception Care

recommends that all diabetic women of reproductive age be counseled about the importance of diabetes control before pregnancy and appropriately treated to achieve diabetes control.[4]

Limitations of indicator: Women who experienced a fetal death or abortion are excluded. LAHOPE data are self-reported and were not confirmed by a physician and may be subject to misclassification bias.

Related Healthy People
2010 Objective(s): 5-1. Increase the proportion of persons with diabetes who receive formal diabetes education. Target: 60%.
5-2. Prevent diabetes.
5-4. Increase the proportion of adults with diabetes whose condition has been diagnosed.
5-8. Decrease the proportion of pregnant women with gestational diabetes.

2020 Objective(s) D-14   Increase the proportion of persons with diagnosed diabetes who receive formal diabetes education
D-15   Increase the proportion of persons with diabetes whose condition has been diagnosed

References:

1. Centers for Disease Control and Prevention. Pregnancy complications and perinatal outcomes among women with diabetes -- North Carolina, 1989-1990. MMWR, Nov. 05, 1993 / 42(43):847-51.
2. Temple RC, Aldridge VJ, Murphy HR. Prepregnancy care and pregnancy outcomes in women with type 1 diabetes. Diabetes Care 2006; 29:1744-49.
3. Clausen TD, Mathiesen E, Ekbom P, et al. Poor pregnancy outcome in women with type 2 diabetes. Diabetes Care 2005, 28:323-28.
4. Dunlop AL, Jack BW, Bottalico JN, et al. The clinical content of preconception care: women with chronic medical conditions. Am J Obstet Gynecol 2008 Dec;199(6 Suppl B):S310-27.

Indicator: **Hypertension during pregnancy (I3)**

Domain: Chronic Conditions

Sub-domain: Hypertension

Demographic group: Women aged 18-44 years.

Data resource: California Health Interview Survey (CHIS)
                                 http://www.chis.ucla.edu/

Data availability: 2005, 2007, 2009

Numerator: Women respondents in Los Angeles County aged 18-44
                                 years who reported that they have ever been told by their
                                 health care provider that they had hypertension.

Denominator: All women respondents in Los Angeles County aged 18-44
                                 years who reported that they have or have not ever been
                                 told by their health care provider that they had hypertension
                                 (excluding unknowns and refusals).

Measures of frequency: Weighted estimates of annual prevalence and 95%
                                 confidence interval.

Period of case definition: Lifetime.

Significance: In 2002, national data estimated that 3% of women of
                                 reproductive age had hypertension.[1] As the number of
                                 pregnancies among women aged 35 years and older
                                 increases, this proportion is likely to grow. Pregnancies
                                 among women with chronic hypertension can lead to
                                 preeclampsia or eclampsia, damage to the central nervous
                                 system, and kidneys.[2,3] Potential life threatening conditions
                                 related to chronic hypertension during pregnancy include
                                 preterm delivery, intrauterine growth retardation, placental
                                 abruption, and fetal demise.[4]   The Clinical Work Group of
                                 the Select Panel on Preconception Care recommends that
                                 all women of reproductive age with chronic hypertension
                                 be counseled before pregnancy about medication
                                 management and about the maternal and infant risks
                                 associated with hypertension during pregnancy.[5]

Limitations of indicator: The CHIS data is self-reported and may be subject to misclassification bias. Furthermore, based on studies making comparisons with clinical data, it was found that self-reports of hypertension status may underestimate hypertension prevalence.[6]

CHIS is a random-dial telephone survey. The sample used was taken from the database of landline phone numbers. Hence, non response and non coverage can be a potential source of bias, especially, taking into account increasing number of cellular phone users in California. However, recently CHIS started to include cell phones in the sample as well as studied differences between cell phone only and land line users for the proper weighting of the estimates and maximal reduction of the non coverage bias[7].

Related Healthy People
2010 Objective(s):   12-9. Reduce the proportion of adults with high blood pressure. Target: 16%.

2020 Objective(s):   HDS-5.1   Reduce the proportion of adults with hypertension.

References:

1. D'Angelo D, Williams L, Morrow B, et al. Preconception and interconception health status of women who recently gave birth to a live-born infant, Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 26 reporting area, 2004. MMWR Surveill Summ 2007; 56:1-35.
2. Jain L. The effect of pregnancy-induced and chronic hypertension on pregnancy outcome. J Perinatol 1997; 17:425-27.
3. Thorngren-Jereck K, Herbst A. Perinatal factors associated with cerebral palsy in children born in Sweden. Obstet Gynecol 2006; 108:1499-1505.
4. Barton J, Sibai B. Prediction and prevention of recurrent preeclampsia. Obstet Gynecol 2008; 112:359-72.
5. Dunlop AL, Jack BW, Bottalico JN, et al. The clinical content of preconception care: women with chronic medical conditions. Am J Obstet Gynecol 2008; 199(6 Suppl 2): S310-27.
6. Joint National Committee. Hypertension prevalence and the status of awareness, treatment, and control in the United States: final report. Hypertension 1985; 7:456-468.
7. CHIS data quality. Assessing and addressing potential noncoverage bias. http://www.chis.ucla.edu/dataquality2.html

Indicator:	**Hypertension during pregnancy (I3a)**
Domain:	Chronic Conditions
Sub-domain:	Hypertension
Demographic group:	Women who delivered a live birth in a given year in Los Angeles County
Data resource:	Los Angeles Mommy and Baby Project (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 reporting that they had high blood pressure (such as high blood pressure caused by pregnancy, preeclampsia, or toxemia) during their last pregnancy.
Denominator:	All women who delivered a live birth in a given year in Los Angeles County responding to if they did or did not have high blood pressure (such as high blood pressure caused by pregnancy, preeclampsia, or toxemia) during their last pregnancy (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:	During the pregnancy that resulted in the most recent live birth.
Significance:	In 2002, national data estimated that 3% of women of reproductive age had hypertension.[1] As the number of pregnancies among women aged 35 years and older increases, this proportion is likely to grow. Pregnancies among women with chronic hypertension can lead to preeclampsia or eclampsia, damage to the central nervous system, and kidneys.[2,3] Potential life threatening conditions related to chronic hypertension during pregnancy include preterm delivery, intrauterine growth retardation, placental abruption, and fetal demise.[4] The Clinical Work Group of the Select Panel on Preconception Care recommends that all women of reproductive age with chronic hypertension

be counseled before pregnancy about medication management and about the maternal and infant risks associated with hypertension during pregnancy.[5]

Limitations of indicator: The LAMB survey excludes women with fetal death or abortion. Based on studies making comparisons with clinical data, self-reports of hypertension status may underestimate hypertension prevalence.[6]

Related Healthy People
2010 Objective(s): 12-9. Reduce the proportion of adults with high blood pressure. Target: 16%.

2020 Objective(s): HDS-5.1   Reduce the proportion of adults with hypertension.

References:

1. D'Angelo D, Williams L, Morrow B, et al. Preconception and interconception health status of women who recently gave birth to a live-born infant, Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 26 reporting area, 2004. MMWR Surveill Summ 2007; 56:1-35.
2. Jain L. The effect of pregnancy-induced and chronic hypertension on pregnancy outcome. J Perinatol 1997; 17:425-27.
3. Thorngren-Jereck K, Herbst A. Perinatal factors associated with cerebral palsy in children born in Sweden. Obstet Gynecol 2006; 108:1499-1505.
4. Barton J, Sibai B. Prediction and prevention of recurrent preeclampsia. Obstet Gynecol 2008; 112:359-72.
5. Dunlop AL, Jack BW, Bottalico JN, et al. The clinical content of preconception care: women with chronic medical conditions. Am J Obstet Gynecol 2008; 199(6 Suppl 2): S310-27.
6. Joint National Committee. Hypertension prevalence and the status of awareness, treatment, and control in the United States: final report. Hypertension 1985; 7:456-468.

Indicator:	**Hypertension during pregnancy (I3b)**

Domain:	Chronic Conditions
Sub-domain:	Hypertension
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 had high blood pressure (such as high blood pressure caused by pregnancy, preeclampsia, or toxemia) during their last pregnancy.
Denominator:	All women having a fetal/infant death in LA County in 2007-2009 who reported that they did or did not have high blood pressure (such as high blood pressure caused by pregnancy, preeclampsia, or toxemia) during their last pregnancy (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 adjust for non-response and mail/telephone non-coverage.
Period of case definition:	During the most recent pregnancy.
Significance:	In 2002, national data estimated that 3% of women of reproductive age had hypertension.[1] As the number of pregnancies among women aged 35 years and older increases, this proportion is likely to grow. Pregnancies among women with chronic hypertension can lead to preeclampsia or eclampsia, damage to the central nervous system, and kidneys.[2,3] Potential life threatening conditions related to chronic hypertension during pregnancy include preterm delivery, intrauterine growth retardation, placental abruption, and fetal demise.[4] The Clinical Work Group of the Select Panel on Preconception Care recommends that all women of reproductive age with chronic hypertension be counseled before pregnancy about medication

management and about the maternal and infant risks associated with hypertension during pregnancy.[5]

Limitations of indicator: LAHOPE data are self-reported and are subject to misinterpretations of the response options. Data are also subject to non-response bias. Based on studies making comparisons with clinical data, it was found that self-reports of hypertension status may underestimate hypertension prevalence.[6]

Related Healthy People
2010 Objective(s):   12-9. Reduce the proportion of adults with high blood pressure. Target: 16%.

2020 Objective(s):   HDS-5.1   Reduce the proportion of adults with hypertension.

References:

1. D'Angelo D, Williams L, Morrow B, et al. Preconception and interconception health status of women who recently gave birth to a live-born infant, Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 26 reporting area, 2004. MMWR Surveill Summ 2007; 56:1-35.
2. Jain L. The effect of pregnancy-induced and chronic hypertension on pregnancy outcome. J Perinatol 1997; 17:425-27.
3. Thorngren-Jereck K, Herbst A. Perinatal factors associated with cerebral palsy in children born in Sweden. Obstet Gynecol 2006; 108:1499-1505.
4. Barton J, Sibai B. Prediction and prevention of recurrent preeclampsia. Obstet Gynecol 2008; 112:359-72.
5. Dunlop AL, Jack BW, Bottalico JN, et al. The clinical content of preconception care: women with chronic medical conditions. Am J Obstet Gynecol 2008; 199(6 Suppl 2): S310-27.
6. Joint National Committee. Hypertension prevalence and the status of awareness, treatment, and control in the United States: final report. Hypertension 1985; 7:456-468.

Indicator: **Pre-pregnancy Hypertension (I4a)**

Domain: Chronic Conditions

Sub-domain: Hypertension

Demographic group: Women who delivered a live birth in a given year in Los Angeles County

Data resource: Los Angeles Mommy and Baby Project (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 reporting that they had high blood pressure (hypertension) six months before they got pregnant.

Denominator: Women who delivered a live birth in a given year in Los Angeles County responding to if they did or did not have high blood pressure (hypertension) six months before they got pregnant (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 adjust for non-response and mail/telephone non-coverage.

Period of case definition: In the six months before the pregnancy that resulted in the most recent live birth.

Significance: In 2002, national data estimated that 3% of women of reproductive age had hypertension.[1] As the number of pregnancies among women aged 35 years and older increases, this proportion is likely to grow. Pregnancies among women with chronic hypertension may lead to preeclampsia or eclampsia, damage to the central nervous system, and kidneys.[2,3] Potential life threatening conditions related to chronic hypertension during pregnancy include preterm delivery, intrauterine growth retardation, placental abruption, and fetal demise.[4] The Clinical Work Group of the Select Panel on Preconception Care recommends that all women of reproductive age with chronic hypertension be counseled before pregnancy about medication

management and about the maternal and infant risks associated with hypertension during pregnancy.[5]

Limitations of indicator: The LAMB survey excludes women with fetal death or abortion. Based on studies making comparisons with clinical data, self-reports of hypertension status may underestimate hypertension prevalence.[6]

Related Healthy People
2010 Objective(s):   12-9. Reduce the proportion of adults with high blood pressure. Target: 16%

2020 Objective(s):   HDS-5.1   Reduce the proportion of adults with hypertension

References:

1. D'Angelo D, Williams L, Morrow B, et al. Preconception and interconception health status of women who recently gave birth to a live-born infant, Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 26 reporting area, 2004. MMWR Surveill Summ 2007; 56:1-35.
2. Jain L. The effect of pregnancy-induced and chronic hypertension on pregnancy outcome. J Perinatol 1997; 17:425-27.
3. Thorngren-Jereck K, Herbst A. Perinatal factors associated with cerebral palsy in children born in Sweden. Obstet Gynecol 2006; 108:1499-1505.
4. Barton J, Sibai B. Prediction and prevention of recurrent preeclampsia. Obstet Gynecol 2008; 112:359-72.
5. Dunlop AL, Jack BW, Bottalico JN, et al. The clinical content of preconception care: women with chronic medical conditions. Am J Obstet Gynecol 2008; 199(6 Suppl 2): S310-27.
6. Joint National Committee. Hypertension prevalence and the status of awareness, treatment, and control in the United States: final report. Hypertension 1985; 7:456-468.

Indicator: **Pre-pregnancy Hypertension (I4b)**

Domain: Chronic Conditions

Sub-domain: Hypertension

Demographic group:
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 had high blood pressure (hypertension) six months before they got pregnant.

Denominator: All women having a fetal/infant death in LA County in 2007-2009 who reported they did or did not have high blood pressure (hypertension) six months before they got pregnant (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 adjust for non-response and mail/telephone non-coverage.

Period of case definition: In the six months before the most recent pregnancy.

Significance: In 2002, national data estimated that 3% of women of reproductive age had hypertension.[1] As the number of pregnancies among women aged 35 years and older increases, this proportion is likely to grow. Pregnancies among women with chronic hypertension may lead to preeclampsia or eclampsia, damage to the central nervous system, and kidneys.[2,3] Potential life threatening conditions related to chronic hypertension during pregnancy include preterm delivery, intrauterine growth retardation, placental abruption, and fetal demise.[4] The Clinical Work Group of the Select Panel on Preconception Care recommends that all women of reproductive age with chronic hypertension be counseled before pregnancy about medication

management and about the maternal and infant risks associated with hypertension during pregnancy.[5]

Limitations of indicator: LAHOPE data are self-reported and are subject to misinterpretations of the response options. Data are also subject to non-response bias. Based on studies making comparisons with clinical data, self-reports of hypertension status may underestimate hypertension prevalence.[6]

Related Healthy People
2010 Objective(s):   12-9. Reduce the proportion of adults with high blood pressure. Target: 16%

2020 Objective(s):   HDS-5.1   Reduce the proportion of adults with hypertension

References:

1. D'Angelo D, Williams L, Morrow B, et al. Preconception and interconception health status of women who recently gave birth to a live-born infant, Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 26 reporting area, 2004. MMWR Surveill Summ 2007; 56:1-35.
2. Jain L. The effect of pregnancy-induced and chronic hypertension on pregnancy outcome. J Perinatol 1997; 17:425-27.
3. Thorngren-Jereck K, Herbst A. Perinatal factors associated with cerebral palsy in children born in Sweden. Obstet Gynecol 2006; 108:1499-1505.
4. Barton J, Sibai B. Prediction and prevention of recurrent preeclampsia. Obstet Gynecol 2008; 112:359-72.
5. Dunlop AL, Jack BW, Bottalico JN, et al. The clinical content of preconception care: women with chronic medical conditions. Am J Obstet Gynecol 2008; 199(6 Suppl 2): S310-27.
6. Joint National Committee. Hypertension prevalence and the status of awareness, treatment, and control in the United States: final report. Hypertension 1985; 7:456-468.

Indicator:	**Asthma (I5)**
Domain:	Chronic Conditions
Sub-domain:	Asthma
Demographic group:	Women aged 18-44 years.
Data resource:	California Health Interview Survey (CHIS) http://www.chis.ucla.edu/
Data availability:	2005, 2007, 2009
Numerator:	Women respondents in Los Angeles County aged 18-44 years who reported that they had ever been told by a doctor, nurse, or other health professional that they had asthma and reported that they still have asthma.
Denominator:	All women respondents in Los Angeles County aged 18-44 years who reported that they had or had not ever been told by a doctor, nurse, or other health professional that they had asthma.
Measures of frequency:	Weighted estimates of annual prevalence and 95% confidence interval
Period of case definition:	Current.
Significance:	Asthma affects at least 8.2% of pregnant women and 9.4% of women of reproductive age in the United States.[1] For about 30% of women with asthma, the severity of the disease worsens during pregnancy.[2] While outcomes of pregnancy in which the woman's asthma is mild or well-controlled are usually good, severe and poorly controlled asthma during pregnancy may be associated with an increased likelihood of premature delivery, cesarean delivery, preeclampsia, growth restriction, other perinatal complications, and maternal morbidity and mortality.[3] Subsequent pregnancies tend to follow a course similar as the first pregnancy with respect to status of asthma severity.[4] The Clinical Work Group of the Select Panel on Preconception Care recommends that women of reproductive age with asthma be counseled about the importance of achieving asthma control prior to pregnancy

and the potential for their asthma control to decline during pregnancy.[2] The panel also recommends that those women with poor control of their asthma be encouraged to use effective birth control until symptom control is achieved.[2] Finally, preventive therapy with inhaled corticosteroids is highly recommended for women with chronic asthma who are planning to become pregnant or who could become pregnant as use of these medications prior to pregnancy has been shown to reduce the rate of asthma-related health care utilization during pregnancy.[4]

Limitations of indicator:

Estimates are based on self-reported current asthma status, which has not been confirmed by a physician. There is no information about the severity of asthma, whether the asthma is controlled, and whether medications that are safe during pregnancy are being used to control asthma.
Also, CHIS is a random-dial telephone survey. The sample was taken from the database of landline phone numbers. Hence, non response and non coverage can be a potential source of bias, especially, taken into account increasing number of cellular phone users in California. However, recently CHIS started to include cell phones in the sample as well as studied differences between cell phone only and land line users for the proper weighting of the estimates and maximal reduction of the non coverage bias[5].

Related Healthy People
2010 Objective(s):

24-1. Reduce asthma deaths.
24-2. Reduce hospitalizations for asthma.
24-3. Reduce hospital emergency department visits for asthma.
24-4. Reduce activity limitations among persons with asthma.
24-6. Increase the proportion of persons with asthma who receive formal patient education as an essential part of the management of their condition.
24-7. Increase the proportion of persons with asthma who receive appropriate asthma care.
24-7a. Increase the proportion of persons with asthma who receive written asthma management plans from their health care providers.

2020 Objective(s):   RD-1.1. Reduce asthma deaths in adults aged 35-64 years old.
      Target: 6.0 deaths per million
    RD-3.2. Reduce hospital emergency department visits for asthma in children and adults aged 5-64 years old.
      Target: 49.1 visits per 10000
    RD-4. Reduce activity limitations among persons with current asthma.
      Target: 10.2%
    RD-6. Increase the proportion of persons with asthma who receive formal patient education.
      Target: 14.4%
    RD-7.1. Increase the proportion of persons with asthma who receive written asthma management plans from their health care providers.
      Target: 36.8%

References:

1. Kwon HL, Belanger K, Bracken MB. Asthma prevalence among pregnant and childbearing-aged women in the United States: estimates from national health surveys. Ann Epidemiol 2003;13:317-24.
2. Dunlop AL, Jack BW, Bottalico JN, et al. The clinical content of preconception care: women with chronic medical conditions. Am J Obstet Gynecol 2008; 199(6 Suppl B):S310-27.
3. Asthma in pregnancy. ACOG Practice Bulletin No. 90. American College of Obstetricians and Gynecologists. Obstet Gynecol 2008;111:457-64.
4. Schatz M, Dombrowski MP, Wise R, et al. Asthma morbidity during pregnancy can be predicted by severity classification. J Allergy Clin Immunol 2003;112:283-8.
5. CHIS data quality. Assessing and addressing potential noncoverage bias. http://www.chis.ucla.edu/dataquality2.html