Indicator:	**Current Cigarette Smoking (E1)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Smoking
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 aged 18-44 years from Los Angeles County who reported that they currently smoke every day or some days.
Denominator:	Women aged 18-44 years from Los Angeles County who reported that they currently smoke either every day, some days, or not at all (excluding unknowns and refusals).
Measures of frequency:	Weighted estimates of annual prevalence and 95% confidence interval.
Period of case definition:	Current.
Significance:	Smoking is the most preventable cause of morbidity and mortality in the United States, yet more than 140,000 women die each year from smoking related causes.[1] Women of reproductive age (18-44 years) who smoke risk adverse pregnancy outcomes, including difficulty conceiving, infertility, spontaneous abortion, prematurity, premature rupture of membranes, low birth weight, neonatal mortality, stillbirth, and sudden infant death syndrome (SIDS), as well as adverse health consequences for themselves.[2,3] Recent studies have found an increase in genetic mutations in fetuses of women who quit smoking during pregnancy, usually when they found out they were pregnant.[4] Because only 20% of women who smoke are able to quit successfully during pregnancy, the Centers for Disease Control and Prevention (CDC) recommend smoking cessation prior to pregnancy.[5] The Clinical Work Group of the Select Panel on Preconception Care workgroup recommends that all childbearing aged women be screened for tobacco use.[6] Interventions should be provided to tobacco users to include counseling about the benefits of not smoking

	before, during, and after pregnancy, a discussion of medications, and referral to intensive services that aid individuals attempting to stop smoking.[6]
Limitations of indicator:	This indicator does not convey the frequency of using cigarettes or the lifetime or current amount of cigarettes smoked, which may affect maternal and infant health outcomes. Indicator does not measure intent to quit smoking or attempts to quit smoking among smokers or exposure to environmental tobacco smoke among non-smokers. Only women who smoked at least 100 cigarettes in their entire lives are asked about current smoking. Therefore, the numerator excludes women who began to smoke relatively recently, although this is likely a small number. 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 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 maximum reduction of the non coverage bias[7].
Related Healthy People 2010 Objective(s):	27-1a. Reduce cigarette smoking by adults 18 years and older. Target: 12%.
2020 Objective(s):	TU-1.1. Reduce tobacco use by adults 18 years and older. Target: 12%

References:

1. Cornforth T. The effects of smoking on women's health. About.com: women's health. http://womenshealth.about.com/library/weekly/aa111599.htm. Updated November 12, 2007.
2. Centers for Disease Control and Prevention. Smoking prevalence among women of reproductive age—United States, 2006. MMWR Aug 8, 2008; 57 (31): 849-852. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5731a2.htm
3. CDC Fact Sheets. Preventing smoking and exposure to secondhand smoke before, during and after pregnancy. http://www.cdc.gov/NCCdphp/publications/factsheets/Prevention/smoking.htm
4. Baum M, Rossi L. Secondhand smoke during pregnancy is risky. Medical News Today. Jul 27, 2005. http://www.medicalnewstoday.com/articles/28119.php

5. Centers for Disease Control and Prevention Recommendations to improve preconception health and health care—United States. MMWR Apr 21, 2006; 55 (RR-6). http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm
6. Floyd RL, Jack BW, Cefalo R, et al. The clinical content of preconception care: alcohol, tobacco, and illicit drug exposures. Am J Obstet Gynecol 2008; 199 (6 Suppl B):S333-S339.
7. CHIS data quality. Assessing and addressing potential noncoverage bias. http://www.chis.ucla.edu/dataquality2.html

Indicator:	**Current Cigarette Smoking (E1a)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Smoking
Demographic group:	Women aged 18-49 years.
Data resource:	Los Angeles County Health Survey (LACHS) http://publichealth.lacounty.gov/ha/hasurveyintro.htm
Data availability:	2007
Numerator:	Women aged 18-49 years from Los Angeles County who reported that they currently smoke every day or some days.
Denominator:	Women aged 18-49 years from Los Angeles County who reported that they currently smoke either every day, some days, or not at all (excluding unknowns and refusals).
Measures of frequency:	Weighted estimates of annual prevalence and 95% confidence interval.
Period of case definition:	Current.
Significance:	Smoking is the most preventable cause of morbidity and mortality in the United States, yet more than 140,000 women die each year from smoking related causes.[1] Women of reproductive age (18-44 years) who smoke risk adverse pregnancy outcomes, including difficulty conceiving, infertility, spontaneous abortion, prematurity, premature rupture of membranes, low birth weight, neonatal mortality, stillbirth, and sudden infant death syndrome (SIDS), as well as adverse health consequences for themselves.[2,3] Recent studies have found an increase in genetic mutations in fetuses of women who quit smoking during pregnancy, usually when they found out they were pregnant.[4] Because only 20% of women who smoke are able to quit successfully during pregnancy, the Centers for Disease Control and Prevention (CDC) recommend smoking cessation prior to pregnancy.[5] The Clinical Work Group of the Select Panel on Preconception Care workgroup recommends that all childbearing aged women be screened for tobacco use.[6] Interventions should be provided to tobacco users to include counseling about the benefits of not smoking

	before, during, and after pregnancy, a discussion of medications, and referral to intensive services that aid individuals attempting to stop smoking.[6]
Limitations of indicator:	This indicator does not convey the frequency of using cigarettes or the lifetime or current amount of cigarettes smoked, which may affect maternal and infant health outcomes. It does not measure intent to quit smoking or attempts to quit smoking among smokers or exposure to environmental tobacco smoke among non-smokers. Only women who smoked at least 100 cigarettes in their entire lives are asked about current smoking. Therefore, the numerator excludes women who began to smoke relatively recently, although this is likely a small number. LACHS is a telephone survey that includes only households that have access to landline phones. Hence, non coverage and non response can be a potential source of bias. However, weighting procedures were used to reduce bias associated with exclusion of households without landline phones[7].
Related Healthy People 2010 Objective(s):	27-1a. Reduce cigarette smoking by adults 18 years and older. Target: 12%.
2020 Objective(s):	TU-1.1. Reduce tobacco use by adults 18 years and older. Target: 12%

References:

1. Cornforth T. The effects of smoking on women's health. About.com: women's health. http://womenshealth.about.com/library/weekly/aa111599.htm. Updated November 12, 2007.
2. Centers for Disease Control and Prevention. Smoking prevalence among women of reproductive age—United States, 2006. MMWR Aug 8, 2008; 57 (31): 849-852. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5731a2.htm
3. CDC Fact Sheets. Preventing smoking and exposure to secondhand smoke before, during and after pregnancy. http://www.cdc.gov/NCCdphp/publications/factsheets/Prevention/smoking.htm
4. Baum M, Rossi L. Secondhand smoke during pregnancy is risky. Medical News Today. Jul 27, 2005. http://www.medicalnewstoday.com/articles/28119.php
5. Centers for Disease Control and Prevention Recommendations to improve preconception health and health care—United States. MMWR Apr 21, 2006; 55 (RR-6). http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm

6. Floyd RL, Jack BW, Cefalo R, et al. The clinical content of preconception care: alcohol, tobacco, and illicit drug exposures. Am J Obstet Gynecol 2008; 199 (6 Suppl B):S333-S339.
7. LACHS 2007. Summary of Survey Methodology. 2008, p.3. http://publichealth.lacounty.gov/ha/docs/2007%20LACHS/2007%20LA%20Health%20Survey%20Methods%20(amended).pdf

Indicator:	**Current Cigarette Smoking (E1b)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Smoking
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 smoked during their last pregnancy.
Denominator:	Women who had a live birth in a given year in Los Angeles County and reported that they smoked or did not smoke during their last 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 adjust for non-response and mail/telephone non-coverage.
Period of case definition:	During the pregnancy that resulted in the most recent live birth.
Significance:	Smoking is the most preventable cause of morbidity and mortality in the United States, yet more than 140,000 women die each year from smoking related causes.[1] Women of reproductive age who smoke risk adverse pregnancy outcomes, including difficulty conceiving, infertility, spontaneous abortion, prematurity, premature rupture of membranes, low birth weight, neonatal mortality, stillbirth, and sudden infant death syndrome (SIDS), as well as adverse health consequences for themselves.[2,3] Recent studies have found an increase in genetic mutations in fetuses of women who quit smoking during pregnancy, usually when they found out they were pregnant.[4] Furthermore as only 20% of women who smoke are able to quit successfully during pregnancy, the Centers for Disease Control and Prevention (CDC) recommend smoking cessation prior to pregnancy.[5]

	The Clinical Work Group of the Select Panel on Preconception Care workgroup recommends that all childbearing aged women be screened for tobacco use.[6] Interventions should be provided to tobacco users to include counseling about the benefits of not smoking before, during, and after pregnancy, a discussion of medications, and referral to intensive services that aid individuals attempting to stop smoking.[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):	27-1a. Reduce cigarette smoking by adults 18 years and older. Target: 12%.
2020 Objective(s):	TU-1.1. Reduce tobacco use by adults 18 years and older. Target: 12%

References:

1. Cornforth T. The effects of smoking on women's health. About.com: women's health. http://womenshealth.about.com/library/weekly/aa111599.htm. Updated November 12, 2007.
2. Centers for Disease Control and Prevention. Smoking prevalence among women of reproductive age—United States, 2006. MMWR Aug 8, 2008; 57 (31): 849-852. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5731a2.htm
3. CDC Fact Sheets. Preventing smoking and exposure to secondhand smoke before, during and after pregnancy. http://www.cdc.gov/NCCdphp/publications/factsheets/Prevention/smoking.htm
4. Baum M, Rossi L. Secondhand smoke during pregnancy is risky. Medical News Today. Jul 27, 2005. http://www.medicalnewstoday.com/articles/28119.php
5. Centers for Disease Control and Prevention Recommendations to improve preconception health and health care—United States. MMWR Apr 21, 2006; 55 (RR-6). http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm
6. Floyd RL, Jack BW, Cefalo R, et al. The clinical content of preconception care: alcohol, tobacco, and illicit drug exposures. Am J Obstet Gynecol 2008; 199 (6 Suppl B):S333-S339.

Indicator:	**Current Cigarette Smoking (E1c)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Smoking
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 smoked during their last pregnancy.
Denominator:	Women having a fetal/infant death in LA County in 2007-2009 who reported that they smoked or did not smoke during their last 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:	During the last pregnancy.
Significance:	Smoking is the most preventable cause of morbidity and mortality in the United States, yet more than 140,000 women die each year from smoking related causes.[1] Women of reproductive age who smoke risk adverse pregnancy outcomes, including difficulty conceiving, infertility, spontaneous abortion, prematurity, premature rupture of membranes, low birth weight, neonatal mortality, stillbirth, and sudden infant death syndrome (SIDS), as well as adverse health consequences for themselves.[2,3] Recent studies have found an increase in genetic mutations in fetuses of women who quit smoking during pregnancy, usually when they found out they were pregnant.[4] Furthermore as only 20% of women who smoke are able to quit successfully during pregnancy, the Centers for Disease Control and Prevention (CDC) recommend smoking cessation prior to pregnancy.[5]

	The Clinical Work Group of the Select Panel on Preconception Care workgroup recommends that all childbearing aged women be screened for tobacco use.[6] Interventions should be provided to tobacco users to include counseling about the benefits of not smoking before, during, and after pregnancy, a discussion of medications, and referral to intensive services that aid individuals attempting to stop smoking.[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):	27-1a. Reduce cigarette smoking by adults 18 years and older. Target: 12%.
2020 Objective(s):	TU-1.1. Reduce tobacco use by adults 18 years and older. Target: 12%

References:

1. Cornforth T. The effects of smoking on women's health. About.com: women's health. http://womenshealth.about.com/library/weekly/aa111599.htm. Updated November 12, 2007.
2. Centers for Disease Control and Prevention. Smoking prevalence among women of reproductive age—United States, 2006. MMWR Aug 8, 2008; 57 (31): 849-852. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5731a2.htm
3. CDC Fact Sheets. Preventing smoking and exposure to secondhand smoke before, during and after pregnancy. http://www.cdc.gov/NCCdphp/publications/factsheets/Prevention/smoking.htm
4. Baum M, Rossi L. Secondhand smoke during pregnancy is risky. Medical News Today. Jul 27, 2005. http://www.medicalnewstoday.com/articles/28119.php
5. Centers for Disease Control and Prevention Recommendations to improve preconception health and health care—United States. MMWR Apr 21, 2006; 55 (RR-6). http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm
6. Floyd RL, Jack BW, Cefalo R, et al. The clinical content of preconception care: alcohol, tobacco, and illicit drug exposures. Am J Obstet Gynecol 2008; 199 (6 Suppl B):S333-S339.

Indicator:	**Cigarette Smoking Before Pregnancy (E2a)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Smoking
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 smoked cigarettes during the six months prior to pregnancy.
Denominator:	Women who delivered a live birth in a given year in Los Angeles County and reported that they smoked or did not smoke cigarettes during the six months prior to 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 adjust for non-response and mail/telephone non-coverage.
Period of case definition:	Within 6 months prior to the pregnancy that resulted in the most recent live birth.
Significance:	Smoking before and during pregnancy is the most preventable known cause of illness and death among mothers and infants and has been strongly associated with low birthweight, small size for gestational age, preterm birth, as well as spontaneous abortion, stillbirth, SIDS and increased risk for various birth defects.[1, 2] Compared to non-smokers, women who smoked during pregnancy were about twice as likely to have premature rupture of membranes, placental abruption and placenta previa.[1] According to 2004 PRAMS data collected from 26 reporting areas, the mean prevalence of pre-pregnancy tobacco use was 23.2%; 45% of these women reported quitting during pregnancy, yet over 50% of them relapsed within six months after delivery.[3]

	Because nicotine is highly addictive, tobacco cessation can be difficult. Some studies have shown that tobacco use during early pregnancy can be harmful to both the fetus and the infant later in life with increased risk resulting from progressive levels of cigarette consumption. [4-9] Therefore, women who quit smoking before pregnancy can significantly reduce their risk for adverse birth and infant outcomes. The Clinical Work Group of the Select Panel on Preconception Care workgroup recommends that all childbearing aged women be screened for tobacco use.[10] Interventions should be provided to tobacco users to include counseling about the benefits of not smoking before, during, and after pregnancy, a discussion of medications, and referral to intensive services that aid individuals attempting to stop smoking.[10]
Limitations of indicator:	The indicator does not convey information on the amount of tobacco products consumed on average day/week. Also, LAMB 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):	16-17. Increase abstinence from alcohol, cigarettes, and illicit drugs among pregnant women. Target for cigarette smoking: 99%. 27-1a. Reduce cigarette smoking by adults 18 years and older. Target: 12%.
2020 Objective(s):	TU-1.1. Reduce tobacco use by adults 18 years and older. Target: 12% TU-6. Increase smoking cessation during pregnancy: Target: 30% MICH-11. Increase abstinence from alcohol, cigarettes, and illicit drugs among pregnant women. Target for abstinence from cigarette smoking: 98.6%.

References:

1. Smoking prevalence among women of reproductive age—United States, 2006. MMWR. August 8, 2008; 57(31); 849-852. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5731a2.htm

2. CDC Fact Sheets. Preventing smoking and exposure to secondhand smoke before, during and after pregnancy. http://www.cdc.gov/NCCdphp/publications/factsheets/Prevention/smoking.htm
3. 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 Areas, 2004. MMWR. December 14, 2007; 56(SS10); 1-35. http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5610a1.htm
4. Hanke W, Sobala W, Kalinka J. Environmental tobacco smoke zxposure among Ppegnant women: impact on fetal biometry at 20-24 weeks of gestation and newborn child's weight. Int Arch Occup Environ Health 2004; 77: 47-52.
5. Malik S, Ccelves MA, Honein MA, et al. Maternal smoking and congenital heart defects. Pediatrics 2008; 121(4)e: 810-6.
6. Mendez MA, Torrent M, Ferrer C, Ribas-Fito N, Sunyer J. Maternal smoking very early in pregnancy is related to overweight at age 5-7 y. Am J Clin Nutr. 2008 Jun; 87(6): 1906-13.
7. Figueras F, Meler E, Eixarch E, et al. Association of smoking during pregnancy and fetal growth restriction: subgroups of higher susceptibility. European J Obstet Gynecol Reprod Biol 2008; 138:171-5.
8. Jaddoe VW, Troe EJ, Hofman A, et al. Active and passive smoking during pregnancy and the risks of low birthweight and preterm birth: The Generation R Study. Paediatr Perinat Epidemiol 2008; 22:162-71
9. Vielwerth SE, Jensen RB, Larsen T, Greisen G. The impact of maternal smoking on fetal and infant growth. Early Hum Dev 2007; 83:491-5.
10. Floyd RL, Jacj BW, Cefalo R, et al. The clinical content of preconception care: alcohol, tobacco, and illicit drug exposures. Am J Obstet Gynecol 2008; 199 (6 Suppl B):S333-S339.

Indicator:	**Cigarette Smoking Before Pregnancy (E2b)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Smoking
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 smoked cigarettes during the six months prior to pregnancy.
Denominator:	Women having a fetal/infant death in LA County in 2007-2009 who reported that they smoked or did not smoke cigarettes during the six months prior to 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 adjust for non-response and mail/telephone non-coverage.
Period of case definition:	Within 6 months prior to the last pregnancy.
Significance:	Smoking before and during pregnancy is the most preventable known cause of illness and death among mothers and infants and has been strongly associated with low birthweight, small size for gestational age, preterm birth, as well as spontaneous abortion, stillbirth, SIDS and increased risk for various birth defects.[1, 2] Compared to non-smokers, women who smoked during pregnancy were about twice as likely to have premature rupture of membranes, placental abruption and placenta previa.[1] According to 2004 PRAMS data collected from 26 reporting areas, the mean prevalence of pre-pregnancy tobacco use was 23.2%; 45% of these women reported quitting during pregnancy, yet over 50% of them relapsed within six months after delivery.[3]

	Because nicotine is highly addictive, tobacco cessation can be difficult. Some studies have shown that tobacco use during early pregnancy can be harmful to both the fetus and the infant later in life with increased risk resulting from progressive levels of cigarette consumption. [4-9] Therefore, women who quit smoking before pregnancy can significantly reduce their risk for adverse birth and infant outcomes. The Clinical Work Group of the Select Panel on Preconception Care workgroup recommends that all childbearing aged women be screened for tobacco use.[10] Interventions should be provided to tobacco users to include counseling about the benefits of not smoking before, during, and after pregnancy, a discussion of medications, and referral to intensive services that aid individuals attempting to stop smoking.[10]
Limitations of indicator:	The indicator does not convey information on the amount of tobacco products consumed on average day/week. Also, LA HOPE 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):	16-17. Increase abstinence from alcohol, cigarettes, and illicit drugs among pregnant women. Target for cigarette smoking: 99%. 27-1a. Reduce cigarette smoking by adults 18 years and older. Target: 12%.
2020 Objective(s):	TU-1.1. Reduce tobacco use by adults 18 years and older. Target: 12% TU-6. Increase smoking cessation during pregnancy: Target: 30% MICH-11. Increase abstinence from alcohol, cigarettes, and illicit drugs among pregnant women. Target for abstinence from cigarette smoking: 98.6%.

References:

1. Smoking prevalence among women of reproductive age—United States, 2006. MMWR. August 8, 2008; 57(31); 849-852. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5731a2.htm
2. CDC Fact Sheets. Preventing smoking and exposure to secondhand smoke before, during and after pregnancy. http://www.cdc.gov/NCCdphp/publications/factsheets/Prevention/smoking.htm

3. 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 Areas, 2004. MMWR. December 14, 2007; 56(SS10); 1-35. http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5610a1.htm
4. Hanke W, Sobala W, Kalinka J. Environmental tobacco smoke zxposure among Ppegnant women: impact on fetal biometry at 20-24 weeks of gestation and newborn child's weight. Int Arch Occup Environ Health 2004; 77: 47-52.
5. Malik S, Ccelves MA, Honein MA, et al. Maternal smoking and congenital heart defects. Pediatrics 2008; 121(4)e: 810-6.
6. Mendez MA, Torrent M, Ferrer C, Ribas-Fito N, Sunyer J. Maternal smoking very early in pregnancy is related to overweight at age 5-7 y. Am J Clin Nutr. 2008 Jun; 87(6): 1906-13.
7. Figueras F, Meler E, Eixarch E, et al. Association of smoking during pregnancy and fetal growth restriction: subgroups of higher susceptibility. European J Obstet Gynecol Reprod Biol 2008; 138:171-5.
8. Jaddoe VW, Troe EJ, Hofman A, et al. Active and passive smoking during pregnancy and the risks of low birthweight and preterm birth: The Generation R Study. Paediatr Perinat Epidemiol 2008; 22:162-71
9. Vielwerth SE, Jensen RB, Larsen T, Greisen G. The impact of maternal smoking on fetal and infant growth. Early Hum Dev 2007; 83:491-5.
10. Floyd RL, Jacj BW, Cefalo R, et al. The clinical content of preconception care: alcohol, tobacco, and illicit drug exposures. Am J Obstet Gynecol 2008; 199 (6 Suppl B):S333-S339.

Indicator:	**Binge Drinking (E4)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Alcohol
Demographic group:	Women aged 18-44 years.
Data resource:	California Health Interview Survey (CHIS) http://www.chis.ucla.edu/
Data availability:	2005
Numerator:	Women aged 18-44 years from Los Angeles County who reported participation in binge drinking (4 or more drinks at one time) on at least one occasion within the past month.
Denominator:	Women aged 18-44 years from Los Angeles County who reported that they participated or did not participate in binge drinking (4 or more drinks at one time) on at least one occasion within the past month (excluding unknowns and refusals).
Measures of frequency:	Weighted estimates of annual prevalence and 95% confidence interval.
Period of case definition:	Within past 30 days.
Significance	Preconception drinking is highly predictive of alcohol use during pregnancy, which is associated with adverse birth and infant outcomes.[1] The most severe outcomes, such as Fetal Alcohol Syndrome (FAS), characterized by impaired growth and mental retardation in the infant, seem to result from frequent and heavy drinking, especially binge drinking, during early pregnancy (3-8 weeks post-conception).[2] Because the US Surgeon General has determined that no amount of alcohol consumption during pregnancy is known to be safe, current medical guidelines advise against any alcohol use around the time of conception and throughout pregnancy.[2, 3] CDC analysis of 2002 Behavioral Risk Factor Surveillance System (BRFSS) data for women aged 18 – 44 indicated that the prevalence of binge drinking was 12.4% both for all women of

	childbearing age overall and for those who might become pregnant.[4] The Clinical Work Group of the Select Panel on Preconception Care workgroup recommends all childbearing aged women be screened for alcohol use and provided with information regarding potential adverse health outcomes including the negative effects of alcohol consumption during pregnancy.[5] In addition, women who exhibit signs of alcohol dependence or misuse should be directed to support programs that would assist them to achieve long-term cessation of alcohol use and be advised to delay any future pregnancies until they are able to abstain from alcohol use .[5]
Limitations of indicator:	CDC's and National Institute on Alcohol Abuse and Alcoholism's definition of binge drinking is that the blood alcohol level used to categorize drinking as binge drinking is generally reached for women if they drink 4 or more drinks within about 2 hours.[6] CHIS survey asks about number of drinks per occasion and categorizes binge drinking as 4 drinks for women and 5 drinks for men. However, this indicator does not specify the exact period of time (hours) during which those drinks where consumed. Also, it does not indicate the number of binge drinking incidents during the past month. The 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[7].
Related Healthy People 2010 objective(s):	26-11c. Reduce the proportion of adults (those 18 years and older) engaging in binge drinking of alcoholic beverages during the past month. Target: 6%.
2020 objective(s):	Reduce the proportion of adults (those 18 years and older) engaging in binge drinking of alcoholic beverages during the past 30 days. Target: 24.3%

References:

1. Centers for Disease Control and Prevention. Alcohol use among women of childbearing age—United States 1991-1999. MMWR Apr 5, 2002.51:273-6. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5113a2.htm
2. Centers for Disease control and Prevention. 2002 PRAMS surveillance report: multi-state exhibits. Aug 23, 2006. http://www.cdc.gov/prams/2002PRAMSSurvReport/MultiStateExhibits/Multistates12.htm
3. Surgeon General's advisory on alcohol use in pregnancy; Feb 21, 2005. http://www.surgeongeneral.gov/pressreleases/sg02222005.html.
4. Centers for Disease Control and Prevention. Alcohol consumption among women who are pregnant or might become pregnant—United States 2002. MMWR Dec 24, 2004. 53:1178-81. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5350a4.htm
5. Floyd RL, Jack BW, Cefalo R, et al. The clinical content of preconception care: alcohol, tobacco, and illicit drug exposures. Am J Obstet Gynecol 2008; 199 (6 Suppl B):S333-S339.
6. National Institute on Alcohol Abuse and Alcoholism. NIAAA council approves definition of binge drinking. (PDF-1.6Mb). NIAAA Newsletter 2004; 3:3. Information retrieved from: http://www.cdc.gov/alcohol/faqs.htm#10
7. CHIS data quality. Assessing and addressing potential noncoverage bias. http://www.chis.ucla.edu/dataquality2.html

Indicator:	**Binge Drinking (E4a)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Alcohol
Demographic group:	Women aged 18-49 years.
Data resource:	Los Angeles County Health Survey (LACHS) http://publichealth.lacounty.gov/ha/hasurveyintro.htm
Data availability:	2007
Numerator:	Women aged 18-49 years from Los Angeles County who reported they had at least one drink during the previous 30 days.
.	
Denominator:	Women aged 18-49 years from Los Angeles County who reported they had or did not have one or more drinks during the previous 30 days (excluding unknowns and refusals).
Significance	Preconception drinking is highly predictive of alcohol use during pregnancy, which is associated with adverse birth and infant outcomes.[1] The most severe outcomes, such as Fetal Alcohol Syndrome (FAS), characterized by impaired growth and mental retardation in the infant, seem to result from frequent and heavy drinking, especially binge drinking, during early pregnancy (3-8 weeks post-conception).[2] Because the US Surgeon General has determined that no amount of alcohol consumption during pregnancy is known to be safe, current medical guidelines advise against any alcohol use around the time of conception and throughout pregnancy.[2, 3] CDC analysis of 2002 Behavioral Risk Factor Surveillance System (BRFSS) data for women aged 18 – 44 indicated that the prevalence of binge drinking was 12.4% both for all women of childbearing age overall and for those who might become pregnant.[4] The Clinical Work Group of the Select Panel on Preconception Care workgroup recommends all childbearing aged women be screened for alcohol use and provided with information regarding potential adverse health outcomes including the negative effects of alcohol consumption during pregnancy.[5] In addition, women who

	exhibit signs of alcohol dependence or misuse should be directed to support programs that would assist them to achieve long-term cessation of alcohol use and be advised to delay any future pregnancies until they are able to abstain from alcohol use .[5]
Limitations of indicator:	The indicator does not convey the specific amount of alcohol consumed. CDC's and National Institute on Alcohol Abuse and Alcoholism's definition of binge drinking is that the blood alcohol level used to categorize drinking as binge drinking is generally reached for women if they drink 4 or more drinks within about 2 hours.[6] However, LACHS indicator shows only "one or more drinks" without categorization by frequency and amount of alcohol consumption. LACHS is a telephone survey that includes only households that have access to landline phones. Hence, non coverage and non response can be a potential source of bias. However, weighting procedures were used to reduce bias associated with exclusion of households without landline phones[7].
Related Healthy People 2010 objective(s):	26-11c. Reduce the proportion of adults (those 18 years and older) engaging in binge drinking of alcoholic beverages during the past month. Target: 6%.
2020 objective(s):	Reduce the proportion of adults (those 18 years and older) engaging in binge drinking of alcoholic beverages during the past 30 days. Target: 24.3%

References:

1. Centers for Disease Control and Prevention. Alcohol use among women of childbearing age—United States 1991-1999. MMWR Apr 5, 2002.51:273-6. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5113a2.htm
2. Centers for Disease control and Prevention. 2002 PRAMS surveillance report: multi-state exhibits. Aug 23, 2006. http://www.cdc.gov/prams/2002PRAMSSurvReport/MultiStateExhibits/Multistates12.htm
3. Surgeon General's advisory on alcohol use in pregnancy; Feb 21, 2005. http://www.surgeongeneral.gov/pressreleases/sg02222005.html.
4. Centers for Disease Control and Prevention. Alcohol consumption among women who are pregnant or might become pregnant—United States 2002. MMWR Dec

24, 2004. 53:1178-81.
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5350a4.htm
5. Floyd RL, Jack BW, Cefalo R, et al. The clinical content of preconception care: alcohol, tobacco, and illicit drug exposures. Am J Obstet Gynecol 2008; 199 (6 Suppl B):S333-S339.
6. National Institute on Alcohol Abuse and Alcoholism. NIAAA council approves definition of binge drinking. (PDF-1.6Mb). NIAAA Newsletter 2004; 3:3. Information retrieved from: http://www.cdc.gov/alcohol/faqs.htm#10
7. LACHS 2007. Summary of Survey Methodology. 2008, p.3. http://publichealth.lacounty.gov/ha/docs/2007%20LACHS/2007%20LA%20Health%20Survey%20Methods%20(amended).pdf

Indicator:	**Alcohol Consumption During Pregnancy (E5a)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Alcohol
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 consumed any alcohol during their most recent pregnancy.
Denominator:	Women who delivered a live birth in a given year in Los Angeles County and reported that did or did not consume alcohol during 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:	During the pregnancy that resulted in the most recent live birth.
Significance:	Alcohol use during pregnancy is associated with adverse birth and infant outcomes.[1] The most severe outcomes, such as Fetal Alcohol Syndrome (FAS), characterized by impaired growth and mental retardation in the infant, seem to result from frequent and heavy drinking, especially binge drinking, during early pregnancy (3-8 weeks post-conception).[2] Because the US Surgeon General has determined that no amount of alcohol consumption during pregnancy is known to be safe, current medical guidelines advise against any alcohol use around the time of conception and throughout pregnancy.[2, 3] CDC analysis of 2002 Behavioral Risk Factor Surveillance System (BRFSS) data for women aged 18 – 44 indicated that the prevalence of binge drinking was 12.4% both for all women of childbearing age overall and for those who might become pregnant.[4]

Limitations:	Data are self-reported and are subject to misinterpretations of the response options. Data are also subject to non-response bias. The indicator does not show the amount and frequency of alcohol consumption.
Related Healthy People 2010 objective(s):	26-11c. Reduce the proportion of adults (those 18 years and older) engaging in binge drinking of alcoholic beverages during the past month. Target: 6%.
2020 objective(s):	MCH-11.1 Increase abstinence from alcohol among pregnant women. Target: 98.3% of pregnant women aged 15-44 abstained from alcohol in the past 30 days

References:

1. Centers for Disease Control and Prevention. Alcohol use among women of childbearing age—United States 1991-1999. MMWR Apr 5, 2002.51:273-6. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5113a2.htm
2. Centers for Disease control and Prevention. 2002 PRAMS surveillance report: multi-state exhibits. Aug 23, 2006. http://www.cdc.gov/prams/2002PRAMSSurvReport/MultiStateExhibits/Multistates12.htm
3. Surgeon General's advisory on alcohol use in pregnancy; Feb 21, 2005. http://www.surgeongeneral.gov/pressreleases/sg02222005.html.
4. Centers for Disease Control and Prevention. Alcohol consumption among women who are pregnant or might become pregnant—United States 2002. MMWR Dec 24, 2004. 53:1178-81.

Indicator:	**Alcohol Consumption During Pregnancy (E5b)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Alcohol
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 consumed any alcohol during their most recent pregnancy.
Denominator:	Women having a fetal/infant death in Los Angeles County within 2007-2009 who reported that consumed or did not consume alcohol during 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:	During the last pregnancy.
Significance:	Alcohol use during pregnancy is associated with adverse birth and infant outcomes.[1] The most severe outcomes, such as Fetal Alcohol Syndrome (FAS), characterized by impaired growth and mental retardation in the infant, seem to result from frequent and heavy drinking, especially binge drinking, during early pregnancy (3-8 weeks post-conception).[2] Because the US Surgeon General has determined that no amount of alcohol consumption during pregnancy is known to be safe, current medical guidelines advise against any alcohol use around the time of conception and throughout pregnancy.[2, 3] CDC analysis of 2002 Behavioral Risk Factor Surveillance System (BRFSS) data for women aged 18 – 44 indicated that the prevalence of binge drinking was 12.4% both for all women of childbearing age overall and for those who might become pregnant.[4]

Limitations of indicator:	Data are self-reported and are subject to misinterpretations of the response options. Data are also subject to non-response bias. The indicator does not show the amount and frequency of alcohol consumption.
Related Healthy People 2010 objective(s):	26-11c. Reduce the proportion of adults (those 18 years and older) engaging in binge drinking of alcoholic beverages during the past month. Target: 6%.
2020 objective(s):	MCH-11.1 Increase abstinence from alcohol among pregnant women. Target: 98.3% of pregnant women aged 15-44 abstained from alcohol in the past 30 days

References:

1. Centers for Disease Control and Prevention. Alcohol use among women of childbearing age—United States 1991-1999. MMWR Apr 5, 2002.51:273-6. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5113a2.htm
2. Centers for Disease control and Prevention. 2002 PRAMS surveillance report: multi-state exhibits. Aug 23, 2006. http://www.cdc.gov/prams/2002PRAMSSurvReport/MultiStateExhibits/Multistates12.htm
3. Surgeon General's advisory on alcohol use in pregnancy; Feb 21, 2005. http://www.surgeongeneral.gov/pressreleases/sg02222005.html.
4. Centers for Disease Control and Prevention. Alcohol consumption among women who are pregnant or might become pregnant—United States 2002. MMWR Dec 24, 2004. 53:1178-81.

Indicator:	**Secondhand Smoke Exposure (E7a)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Secondhand Smoke Exposure
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 during their pregnancy they had been >0 hours on average in the same room with someone who was smoking.
Denominator:	Women who delivered a live birth in a given year in Los Angeles County and reported the average time per day during their pregnancy they have been in the same room with someone who was smoking (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:	During the pregnancy that resulted in the most recent live birth.
Significance:	Even if a woman quits smoking before or during pregnancy to ensure her baby's health, if others smoke around her it may compromise her and her children's health. Between 70% and 90% of non-smokers in the United States are regularly exposed to secondhand smoke.[1] Babies born to mothers who were exposed to secondhand smoke during their pregnancies are 20% more likely to have low birth weight than babies whose mothers were not exposed to secondhand smoke.[2] Babies who are themselves exposed to secondhand smoke after birth are more likely to die of SIDS, and infants and children who experience secondhand smoke exposure are at increased risk for ear infections, bronchitis, asthma and other respiratory tract problems.[2] The CDC recommends counseling women of childbearing

	age about the risks of exposure to secondhand smoke as an important interconception health promotion measure.[2]
Limitations of indicator:	The indicator does not convey whether smokers reside in the home, which may affect maternal and infant health outcomes. The indicator does not measure other exposures to environmental tobacco smoke. Also, the indicator does not show the average time of exposure per day and does not have very limited categories of exposure by time (only exposed and non exposed). Data from LAMB survey 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):	27-10. Reduce the proportion of nonsmokers exposed to environmental tobacco smoke. Target: 45%.
2020 Objective(s):	TU-11.3. Reduce the proportion of nonsmoker adults aged 18 and older exposed to environmental tobacco smoke. Target: 33.8%

References:

1. University of Minnesota Division of Periodontology: Secondhand smoke facts. June 2007. http://www1.umn.edu/perio/tobacco/secondhandsmoke.html
2. CDC Fact Sheets. Preventing smoking and exposure to secondhand smoke before, during and after pregnancy. http://www.cdc.gov/NCCdphp/publications/factsheets/Prevention/smoking.htm

Indicator:	**Secondhand Smoke Exposure (E7b)**
Domain:	Tobacco, Alcohol, and Substance Use
Sub-domain:	Secondhand Smoke Exposure
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 who reported and reported that during their pregnancy they have been >0 hours on average in the same room with someone who was smoking.
Denominator:	Women having a fetal/infant death in Los Angeles County within 2007-2009 who reported the average time per day during their pregnancy they have been in the same room with someone who was smoking (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:	During the last pregnancy.
Significance:	Even if a woman quits smoking before or during pregnancy to ensure her baby's health, if others smoke around her it may compromise her and her children's health. Between 70% and 90% of non-smokers in the United States are regularly exposed to secondhand smoke.[1] Babies born to mothers who were exposed to secondhand smoke during their pregnancies are 20% more likely to have low birth weight than babies whose mothers were not exposed to secondhand smoke.[2] Babies who are themselves exposed to secondhand smoke after birth are more likely to die of SIDS, and infants and children who experience secondhand smoke exposure are at increased risk for ear infections, bronchitis, asthma and other respiratory tract problems.[2] The CDC recommends counseling women of childbearing

	age about the risks of exposure to secondhand smoke as an important interconception health promotion measure.[2]
Limitations of indicator:	The indicator does not convey whether smokers reside in the home, which may affect maternal and infant health outcomes. The indicator does not measure other exposures to environmental tobacco smoke. Also, the indicator does not show the average time of exposure per day and does not have very limited categories of exposure by time (only exposed and non exposed). Data from LAHOPE survey 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):	27-10. Reduce the proportion of nonsmokers exposed to environmental tobacco smoke. Target: 45%.
2020 Objective(s):	TU-11.3. Reduce the proportion of nonsmoker adults aged 18 and older exposed to environmental tobacco smoke. Target: 33.8%

References:

1. University of Minnesota Division of Periodontology: Secondhand smoke facts. June 2007. http://www1.umn.edu/perio/tobacco/secondhandsmoke.html
2. CDC Fact Sheets. Preventing smoking and exposure to secondhand smoke before, during and after pregnancy. http://www.cdc.gov/NCCdphp/publications/factsheets/Prevention/smoking.htm