Chronic Disease and Leading Causes of Death

"Modifiable behavioral risk factors are leading causes of mortality in the United States. Quantifying these will provide insight into the effects of recent trends and the implications of missed prevention opportunities."

–Mokdad, et al 2004[1]

Leading Causes of Death

Until the early years of this century, the greatest natural threats to long lives were infectious diseases. Thanks to improved hygiene, vector control, safe food, clean water, antibiotics and immunizations, men and women can now live longer. Now, the most common causes of premature death in the U.S. and Louisiana are chronic diseases, such as heart disease, cancer and diabetes, as well as preventable injuries.[2] These are called ***leading*** *causes of death.*

For the most part, the leading causes of death are preventable or controllable through lifestyle and environment changes. Most diseases have several potential causes and several factors that lead to death. Chronic diseases and deaths are related to genetics, lifestyles, and environment.

Factors that significantly contribute to the leading causes of death (such as smoking, poor diet, and inadequate exercise) are called ***actual*** *causes of death.*[3] For example, Heart Disease was the leading cause of death in the United States in 2002. However, the actual causes of death that may have led to heart disease deaths include tobacco, poor diet, and physical inactivity. Knowing the **actual** causes of death is key to preventing death, disability, and chronic disease. This chapter presents data and discussion on the leading causes of death and then presents the **actual** causes of death in the order of their impact as assessed by Mokdad et al (2004).[4]

Knowing both the leading causes and actual causes of death is important. Communities can identify priority diseases for prevention and resource planning. Focusing on the actual causes of death can help communities take action to prevent disease. They can also identify ways to change local policies and environments and work together to support healthy lifestyles. The indicators discussed in this chapter include:

- Death rates and prevalence rates for leading causes of death
- Prevalence rates of contributing behavior risk and/or protection factors

Leading and Actual Causes of Death
United States, 2000

Leading Causes (as recorded on death certificate)		Actual Causes (underlying and/or contributing factors)	
Heart Disease	30%	Tobacco	18%
Malignant Neoplasms (Cancer)	23%	Poor Diet/ Physical Inactivity	17%
Cerebrovascular Disease (Stroke)	7%	Alcohol Consumption	4%
Chronic Lower Respiratory Disease	5%	Microbial Agents	3%
Accidents (Unintentional Injuries)	4%	Toxic Agents	2%
Diabetes Mellitus	3%	Motor-vehicles	2%
Influenza and Pneumonia	3%	Firearms	1%
Alzheimer's Disease	2%	Sexual Behavior	1%
Nephritis (Kidney Disease)	2%	Illicit Drug Use	1%
Septicemia (Blood Poisoning)	1%		

Source: Mokdad, et al. JAMA 2004

Information on the cause of death is obtained from death certificates kept in Vital Records at the Office of Public Health. The National Center for Health Statistics (NCHS) lists 72 selected causes of death for the nation. That list is then used to rank the leading causes nationally. In turn, the list is used to categorize and rank the causes of death for the parish and the state in such a way that the information can be compared nationally across race, sex and age groups.[5] Unless otherwise noted, all of the death rates presented in this chapter are crude death rates. State and national data on age adjusted rates are available in the *2004 Louisiana Health Report Card* or online at www.oph.dhh.louisiana.gov <keywords: data, statistics>.

Information about individual behavior and disease prevalence comes from the state and regional-level Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is an ongoing, anonymous, state-based telephone surveillance system supported by the Centers for Disease Control and Prevention. The BRFSS collects self-reported data on the behavior and conditions that place adults at risk for the chronic diseases, injuries, and preventable infectious diseases that are the leading causes of morbidity and mortality in Louisiana.[6]

The leading causes of death are also associated with other elements of living with a chronic disease or condition. Therefore in addition to the death rates, it is important for communities to look at incidence (the number of new cases) and prevalence (the total number of new and pre-existing cases.) However this type of data for a local area is often limited. State and regional level data from the 2004 Behavioral Research Surveillance Survey (BRFSS), as well as other sources where available, are presented as an indicator of incidence and/or prevalence.

The top five leading causes of deaths can vary by parish. In the following tables, the first table provides crude death rates for the state and the parish for **Louisiana's** top five causes of death: heart disease, cancer, stroke, accidents, and diabetes. The second table provides the **Parish's** top five causes of death. The two are not always the same—this difference may indicate local conditions or factors that communities should consider in their local and regional planning efforts.

Top 5 Statewide Leading Causes of Death, 2002
(rates per 100,000 population)

Cause of Death	Louisiana	Madison
Diseases of Heart	248.4	397.8
Cancer	209.7	213.6
Stroke	57.4	58.9
Accidents	46.7	51.6
Diabetes	39.5	36.8

Top 5 Madison Parish Leading Causes of Death, 2002
(rates per 100,000 population)

Cause of Death	Count	Rate
Diseases of Heart	54	397.8
Cancer	29	213.6
Stroke	8	**
Accidents	7	**
diseases	7	**
Nephritis (Kidneys)	7	**

**Rates for counts less than 20 are unstable

Source: DHH/OPH, Louisiana Center for Health Statistics, 2002 Vital Statistics Data – Tables 26-A & B. www.oph.dhh.louisiana.gov.

Leading Cause of Death in Madison Parish by Race and Sex

Leading causes of death aggregated for an entire geographic population are key indicators of health outcomes and can be used over time and across areas, but it is also important to look at variations in causes of death among different population groups. Causes of death can vary by age, race, sex, and socio-economic status, just to name a few. For example, the leading cause of death for young people is preventable injuries, including death in car crashes where seat belts or child safety seats may not have been in use. Additional information on traffic and child safety can be found in the Community Safety chapter.

Race and sex are two key characteristics that show variations in causes of deaths and health outcomes in general. Since the annual number of deaths for any one group at the parish level is often too small to produce reliable rates, we have compiled the average death rates of the leading causes of death by race and sex for each parish over the ten year period 1993 – 2002. Each parish profile has this data for its respective parish. Rates are not presented for individual categories where the total deaths for the ten years are less than twenty. This data provides a basis for examining the variations in causes of death for different groups. Planners can use this to better target audiences, messages, and interventions.

Madison Parish
Top Five Leading Causes of Death
10 Year Average (1993 - 2002)
By Race and Sex

Cause of Death	Average Count	Rate/ 100,000
White Males		
Disease of heart	13.6	581.7
Malignant neoplasm (Cancer)	8.1	346.5
Accidents	2.2	94.1
Cerebrovascular disease (Stroke)	1.9	**
Influenza and pneumonia	1.1	**
Chronic lower respiratory disease	1.1	**
Black Males		
Disease of heart	14.0	363.4
Malignant neoplasm (Cancer)	12.0	311.4
Cerebrovascular disease (Stroke)	4.2	109.0
Accidents	2.4	62.3
Homicide	1.8	**
White Females		
Disease of heart	13.5	528.4
Malignant neoplasm (Cancer)	6.0	234.8
Cerebrovascular disease (Stroke)	3.7	144.8
Chronic lower respiratory disease	1.3	**
Diabetes	1.2	**
Black Females		
Disease of heart	15.7	372.5
Malignant neoplasm (Cancer)	8.3	196.9
Cerebrovascular disease (Stroke)	3.0	71.2
Nephritis (Kidney Diseases)	1.6	**
Accidents	1.5	**
Diabetes	1.5	**

Source: Louisiana Center for Health Statistics, 2005

* The number is an average count per year over 1993-2002

** Rates are not calculated for average counts less than two for reasons of stability

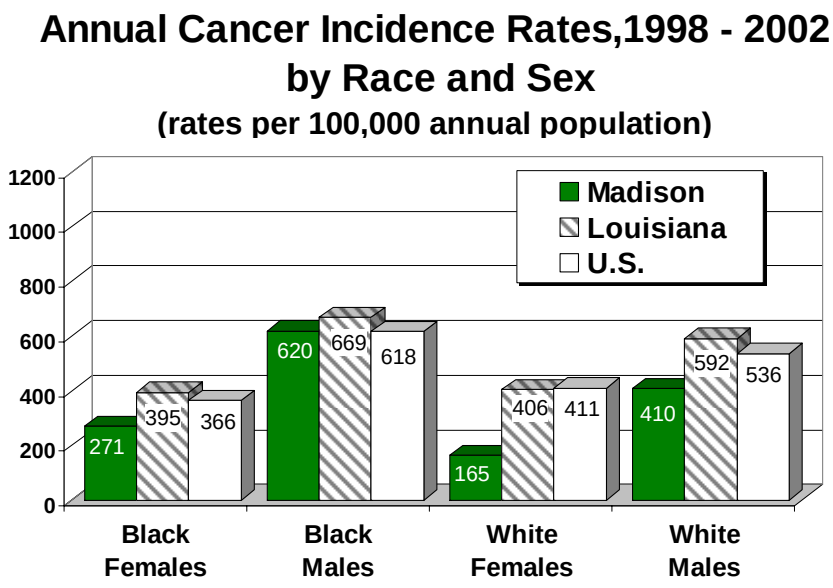
Heart Disease

Heart Disease has consistently been the number one killer nationwide, statewide, and in all but 7 of Louisiana's 64 parishes.[7] **In 2002, heart disease was the leading cause of death in Madison Parish, accounting for 37.8 percent of all deaths. In 2002, the unadjusted death rate for heart disease in the parish was 397.8, as compared to a state rate of 248 deaths per 100,000 population.**[8]

An additional indicator of the prevalence of persons diagnosed and living with heart disease is obtained from the BRFSS. **In Region 8, 5.0 percent of respondents in the 2004 survey indicated that they had been told by a medical professional that they had coronary heart disease. This compares to the 2002 state rate of 4.5 percent.**[9]

Cancer

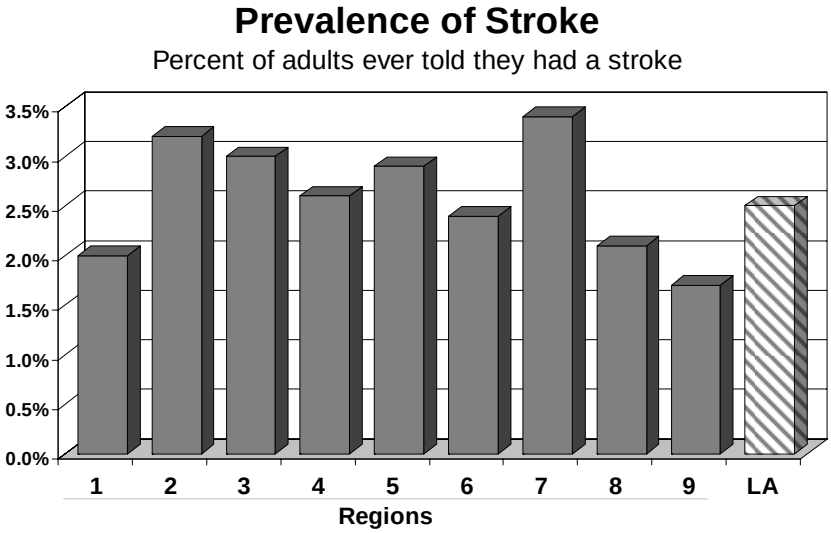
Nationally and statewide, malignant neoplasms—cancer, is the second leading cause of death. A ranking that holds true for most parishes, with the exception of Concordia, Grant, Lafayette, Lincoln, St. Helena, Tensas, and Terrebonne—where cancer ranks first. The cancer incidence data for the following graph is taken from the National Cancer Institute, State Cancer Profiles. This and other parish data such as cancer death rates by type can be found online at http://statecancerprofiles.cancer.gov.



Source: National Cancer Institute <http://www.statecancerprofiles.cancer.gov>

Stroke

Cerebrovascular Disease (stroke) accounts for the third highest number of deaths nationally, statewide, as well as in Madison Parish. **In 2002, cerebrovascular disease accounted for 5.6 percent of all deaths in Madison Parish.**[10] **In 2004, 2.1 percent of BRFSS respondents in Region 8 and 2.5 percent statewide reported being told that they had had a stroke.**[11]



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005

Accidents/Unintentional Injuries

The fourth leading cause of death in Louisiana for 2002 was accidents. **For the Madison population as a whole, accidents was also the fourth leading cause of death, accounting for 4.9 percent of total parish deaths in 2002.**[12] Accidents or unintentional injuries include motor vehicle deaths, other land and water transport deaths, falls, firearms, drowning, fire, poisoning, and others. For the state and each parish individually, the majority of deaths from unintentional injury are due to motor vehicle accidents.[13] Death rates for unintentional injuries vary by age. Specifically, unintentional injuries are the number one leading cause of death for persons ages 1 to 44 years old.[14]

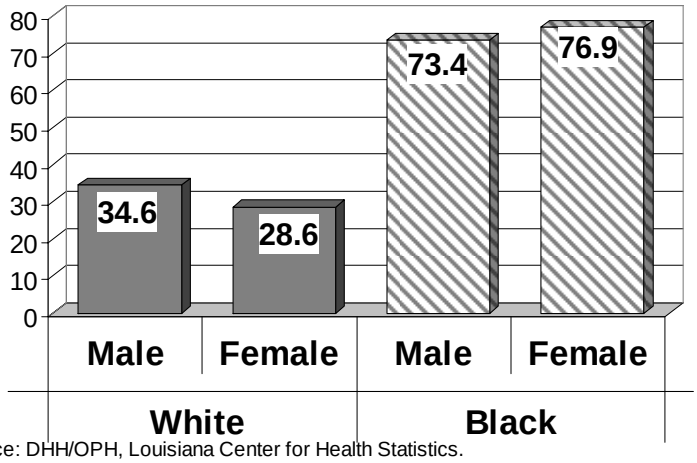
It should be noted that accidents/unintentional injury is not the same as "preventable" injury which includes intentional injuries such as assaults, homicides, suicides and intentional self-harm. Intentional injuries, such as child abuse and homicides, are discussed in the community safety chapter.

Diabetes

Accounting for 4 percent of deaths statewide in 2002, diabetes has moved back up to the 5th leading cause of death in the state. The statewide age-adjusted death rates demonstrate a significant difference in deaths from diabetes by race.

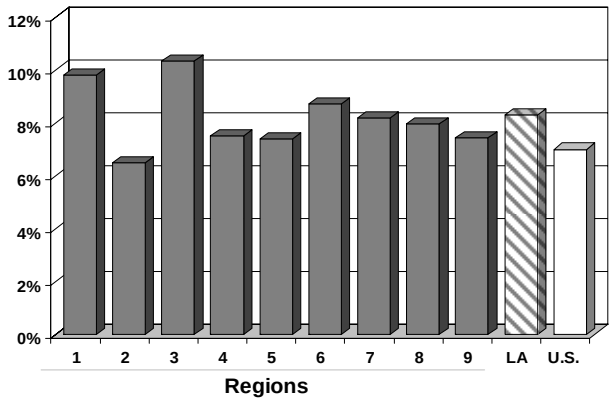
According to the 2004 BRFSS, the prevalence of adult diabetes for Region 8 was 8.0 percent. This compares to an overall state rate of 8.3 percent and a national rate of 7.0 percent. But again, this rate varies for different demographic groups, most notably by race: blacks—10.9 percent, compared to whites—8.3 percent, and others—8.7 percent.

Age-Adjusted Death Rates for Diabetes
by Race and Sex – Louisiana, 2002
Rates per 100,000 population



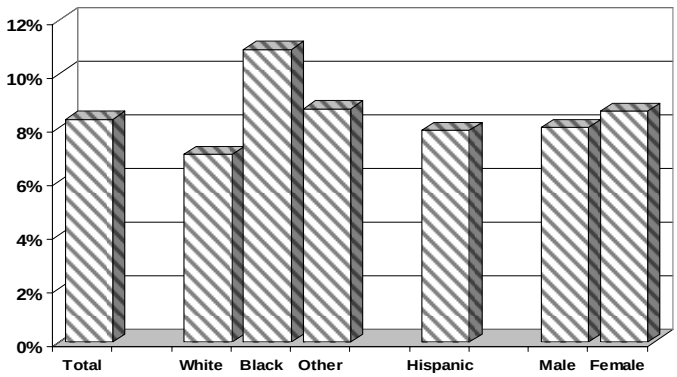
Source: DHH/OPH, Louisiana Center for Health Statistics. *2004 Louisiana Health Report Card*.

Prevalence of Adult Diabetes
Percent of adults 18 years and older
(exluding gestational or pre-diabetes)



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005

Prevalence of Adult Diabetes - Louisiana
by Race, Ethnicity, and Sex
Percent of adults 18 and older



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005

Actual Causes of Death – Behavioral Risk Factors

As described in the beginning of this chapter, the top five **actual** causes of death in the United States are tobacco, poor diet/physical inactivity, alcohol use, microbial agents, and toxic agents. Firearms, risky sexual behavior, motor vehicles, and illegal use of drugs are also included.[15] Each of the top five actual causes of death can be linked to individual lifestyles and risk behaviors. The actual causes of deaths and determinants of health are key to identifying controllable factors that impact health. The following information about individual behaviors comes from the state and regional-level Behavioral Risk Factor Surveillance System (BRFSS).[16]

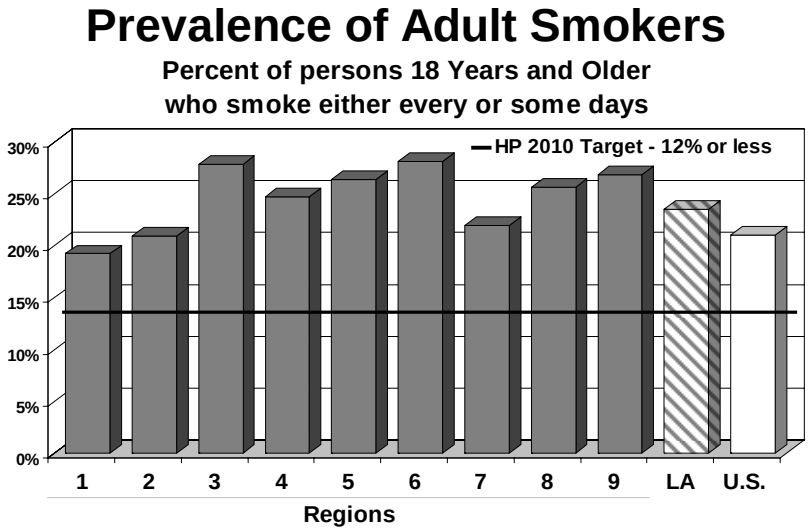
Communities can collect information about lifestyle behaviors, the actual causes of death, and other factors in their environment that contribute to health problems. For example, knowing that tobacco use can contribute to overall poor health and disease, communities might want to look not only at individual smokers, but the number of places where tobacco products are marketed to youth as well as where youth are able to purchase these products. Communities can also look at the number of workplaces and public spaces that have smoke-free environments. Once a community has identified a health outcome or behavior as high-priority, they can change not only the outcome, but the behaviors and circumstances that lead to and maintain the risky behavior.

Tobacco use, poor diet, and physical inactivity are some of the most damaging health habits. Poor diet and little or no physical activity can result in being overweight. Obesity puts a strain on the body and makes it less able to cope with all kinds of illness. In general, physical activity is good for overall health.

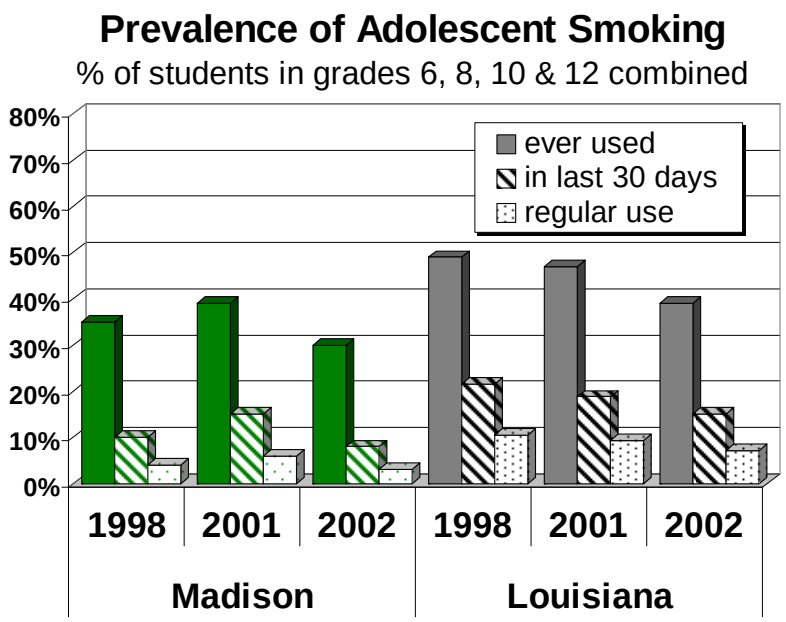
Tobacco – Don't Chew, Dip, or Smoke!

The Healthy People 2010 goal is to reduce the percent of adults who smoke to 12 percent or less. **According to the 2004 BRFSS, in Region 8, 25.7 percent of adults smoke cigarettes every day or some days.** This compares to 23.5 percent of Louisiana adults and 22.4 percent of adults nationally.[17]

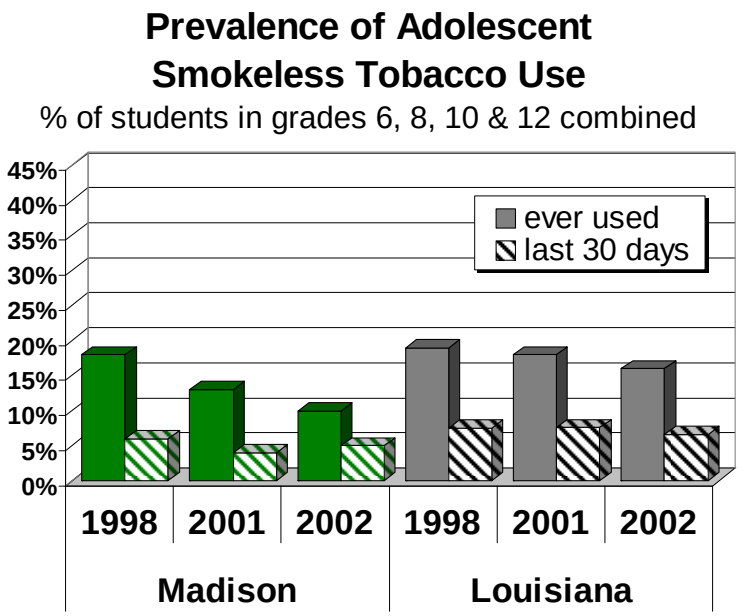
Smokeless tobacco, called "dip" or "chew," also poses a problem, with 10 percent of Louisiana youth dipping regularly.[18] Smokeless tobacco puts people at-risk for aggressive and deadly cancers of the mouth and throat, as well as poor oral health.



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005



Data Source: 2002 Louisiana Communities that Care Student Survey Report



Data Source: 2002 Louisiana Communities that Care Student Survey Report.

Parish and state data for prevalence of youth tobacco usage for both cigarettes and chewing tobacco is available from the DHH/OADD Communities that Care Survey. As an estimate of the overall youth usage rates, the data presented here is a composite of all students surveyed—grades 6, 8, 10, and 12 combined.

For 2002, in Madison Parish 30 percent of students had at least tried a cigarette, 8 percent had smoked in the last 30 days, and 3 percent were regular smokers. In addition, 10 percent had tried smokeless tobacco, and 5 percent had used it in the last 30 days.[19]

Nearly 90 percent of adult smokers started before their 18th birthday. So preventing tobacco use must focus on helping children and teens resist the marketing strategies of the tobacco industry as well as peer pressure to smoke. But, it is also important for communities to help current smokers stop and to develop policies that create a smoke-free norm and prevent exposure to secondhand smoke.[20]

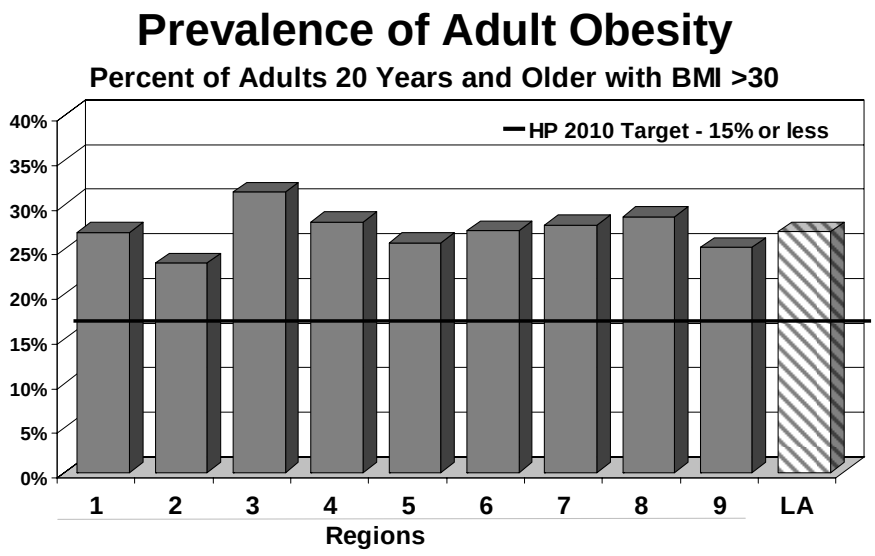
Taking Care, Taking Control:

Louisiana Cities say "No" to smoking in Public Places

The city of Shreveport is leading the way for communities to reduce exposure to second hand smoke by becoming the first Louisiana city to adopt a citywide ban on smoking, effective May 2005. In June, Mandeville quickly followed suit, adopting an indoor smoking ban covering all buildings, stores, libraries, theaters, restaurants, city-owned facilities, and specifically named parks and playgrounds. Lafayette, Sulphur, and Grambling have also adopted city ordinances bringing the current state total up to five. The numbers are expected to continue increasing as other cities are joining the initiative to reduce exposure to second hand smoke by eliminating indoor smoking in public places.

Obesity

Obesity is an excess of body fat. A diagnosis of overweight or obese is based on a measure of relative weight, called body mass index (BMI), to estimate the prevalence of obesity. Adults may think of themselves as obese when they begin to feel that their weight is affecting their quality of life. However, a diagnosis of overweight should be done with the help of a professional. Obesity is now the most common nutritional disease of children, teens, and adults in the U.S.[21]



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005

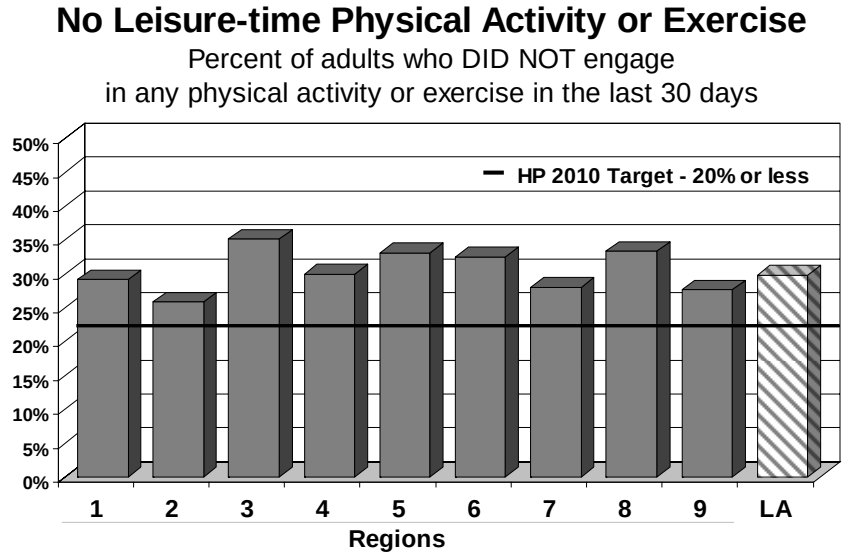
Being overweight and/or obese is linked to high blood pressure, high blood cholesterol, and diabetes. It is also related to heart disease, stroke, some cancers, and gallbladder disease. **According to the BRFSS, 28.7 percent of adults in Region 8 are obese. This compares to the state rate of 27.0 percent.**[22]

Many people in the United States over-eat and do not get enough physical activity. Problems associated with over-nutrition (too much sugar, fat, cholesterol, salt, and alcohol) can increase the risk of chronic diseases, including heart disease, cancer, diabetes, high blood pressure, and liver disease. Prevention of obesity could also prevent the development of diseases associated with being overweight. Obesity is becoming a chronic social problem and the number of overweight individuals is steadily increasing. Obesity is the most commonly occurring nutritional disease of children and teens in the United States, affecting one in five children. Overweight children encounter social and psychological problems. Most overweight children (80 percent) remain overweight in adulthood.[23]

The way people are trying to deal with their obesity is changing. The trend had been to focus almost solely on changes in diet. Now, obesity is better understood by people to be a result of too many calories from fat and the other food groups combined with not enough physical activity. The current way for people to deal with obesity calls for improving overall diet and getting more exercise.

Physical Activity

Physical activity goals are met if moderate activity occurs in segments at least ten minutes long, and add up to at least 30 minutes a day, five or more days per week. Some examples of moderate physical activity include brisk walking, push-mowing the lawn, and climbing stairs. The Healthy People goal is for at least 30 percent of people to be moderately physically active.[24]



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005

Regular activity can help prevent and manage high blood pressure, heart disease, diabetes, osteoporosis, and obesity. It may also play a role in mental health. Exercise has a helpful effect on mood, depression, anxiety, and self-esteem. **According to the BRFSS, 28 percent of Louisiana adults and 33 percent of adults in Region 8 are not physically active.**[25] This compares to 24 percent of adults nationally (US median 2002). The Healthy People 2010 goal is for less than 20 percent of adults to be physically inactive.

Taking Care – Taking Control:
Mayor Challenges Residents to "Lighten Up!"

The mayor of Shreveport challenged local citizens to participate in "Lighten Up Louisiana" – a campaign that promoted healthy eating and physical activity for residents statewide.

Shreveport residents who took part in the initiative for the entire five months received a Mayoral Certificate as a reward for their efforts. Residents who made a dedicated effort to change their lifestyle by exercising, quitting smoking, eating less, and/or eating healthier foods received a certificate congratulating them for taking part in "Lighten Up Shreveport" and making the decision to improve their health.

The weight loss and physical activity competition was a joint program effort sponsored by the Louisiana Department of Health and Hospitals, Office of Public Health and the Governor's Council on Physical Fitness and Sports between August 30, 2004-January 31, 2005.

Eat a Balanced Diet

Eating well is more than just eating food that tastes good. Adequate and appropriate food is important. An unhealthy diet may be the result of not eating enough food every day, not eating a balanced variety of foods, or simply eating too many food items that do not contain the needed nutrients. A healthy eating lifestyle will help prevent disease and improve the quality and length of life. The nutrition information discussed below is provided by Nutrition Services and the OPH Chronic Disease Control Program.

Improper and inadequate nutrition can affect infants, children, and adults. An ideal healthy lifestyle includes a balanced and varied diet with daily exercise and a healthy body weight. A good diet must be balanced, offering a variety of foods that will provide all the essential nutrients and enough energy to maintain an appropriate body weight. A good diet supplies adequate iron and calcium to both children and adults. Consuming food items containing vitamin C will help iron absorption. When enough iron is not consumed, an individual may become tired, lethargic, weak or irritable. A lack of iron in children affects social and brain development. Calcium is required for bone growth. If too much protein and phosphorus (colas and processed foods) are consumed, the body will excrete too much calcium through the urine. Excessive fat intake will clog arteries and increase the risk of cancer and heart disease. The general healthy lifestyles and eating guidelines are as follows:

- Eat only moderate amounts of fat, sugar, and salt;
- Choose plenty of foods high in fiber, especially fresh fruits and vegetables;
- Drink lots of fluids; and
- Get plenty of physical activity.

Eat more fruits and vegetables – An appropriate diet is varied, low in fat and salt, and high in foods from plant sources. The national Five-A-Day program promotes a daily intake of five servings from plant sources. The five fruits and vegetables should be three vegetables and two fruits daily.[26] Certain foods can provide protection from cancers, heart disease, and other life-threatening conditions. A balanced diet can also help people achieve and maintain appropriate weight.

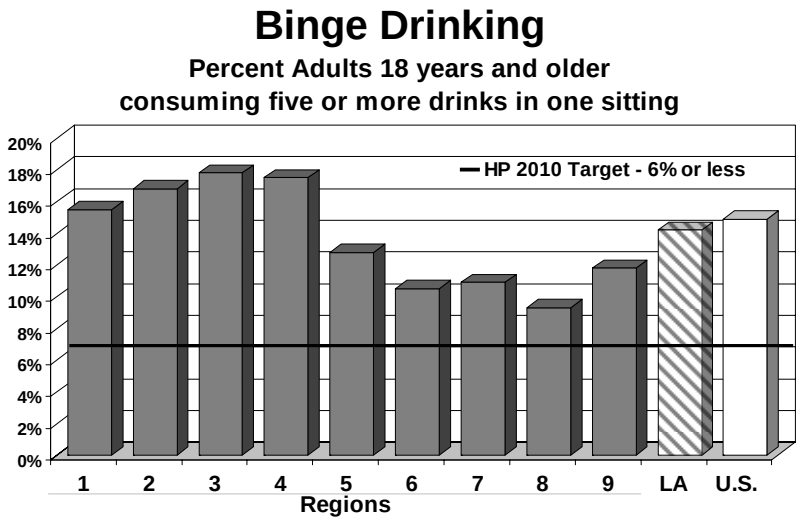
According to the BRFSS in 2003, only 16 percent of adult Louisianians eat the recommended five servings of fruits and vegetables a day. In Louisiana, there is a clear difference between men and women in this area. Twenty (20) percent of adult women eat five fruits and vegetables a day compared to 13 percent of adult men.[27]

Unfortunately, the decision to eat healthier may be affected by the amount of fruits and vegetables available locally. Communities may ask whether local markets and cafeterias in schools, businesses, and hospitals have fruits and vegetables available and whether the food selection is limited or poorly prepared.

Alcohol

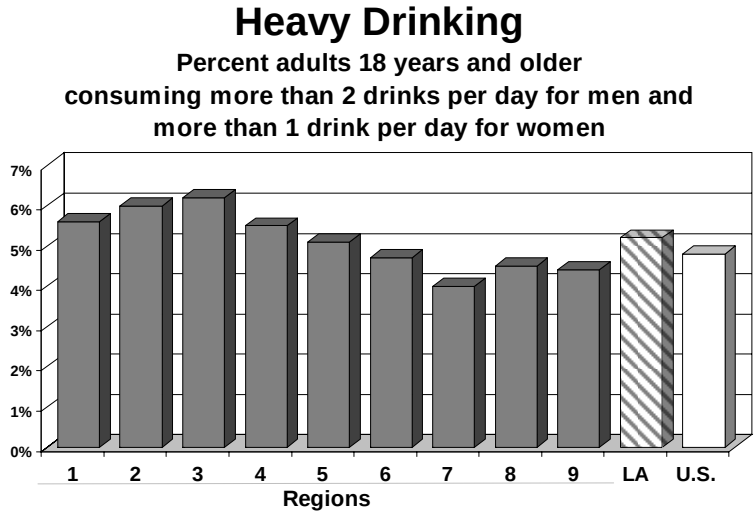
Alcohol consumption leads to injury, poor sexual decision-making, cirrhosis of the liver and some cancers. These include esophageal and liver cancers. In addition, alcohol use is also the leading preventable cause of birth defects.

Alcohol consumption is measured in two ways that reflect its impact on health. The first measurement is "binge-drinking," which is defined as five or more drinks in one sitting. This kind of drinking can lead to poor decision-making and injury. The second way is ongoing, excessive alcohol consumption, which is 60 or more drinks in a month or an average of two drinks a day. This kind of drinking contributes to chronic diseases because of the physical effect of alcohol.[28] Alcohol consumption can lead to lower self-esteem, liver failure, and premature death, as well as damaged relationships with family, friends, and co-workers.



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005

According to the 2004 BRFSS, 9.3 percent of Region 8 adults reported that they had consumed five or more drinks in one sitting over the previous month—binge drinking. This compares to the state rate of 14.2 percent, the national rate of 14.9 percent and the HP 2010 objective of no more than 6 percent.[29]



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005

In Region 8, 4.5 percent of adults are heavy drinkers—compared to a state rate of 5.2 percent and a national rate of 4.8 percent.[30]

Alcohol consumption also contributes to the occurrence of motor vehicle crashes. **In Madison for 2002, there were 1 fatal crashes related to alcohol and 21 crashes resulting in injury.**[31] Additional information on alcohol related injuries and fatalities can be found in the Community Safety Chapter.

Get Screened

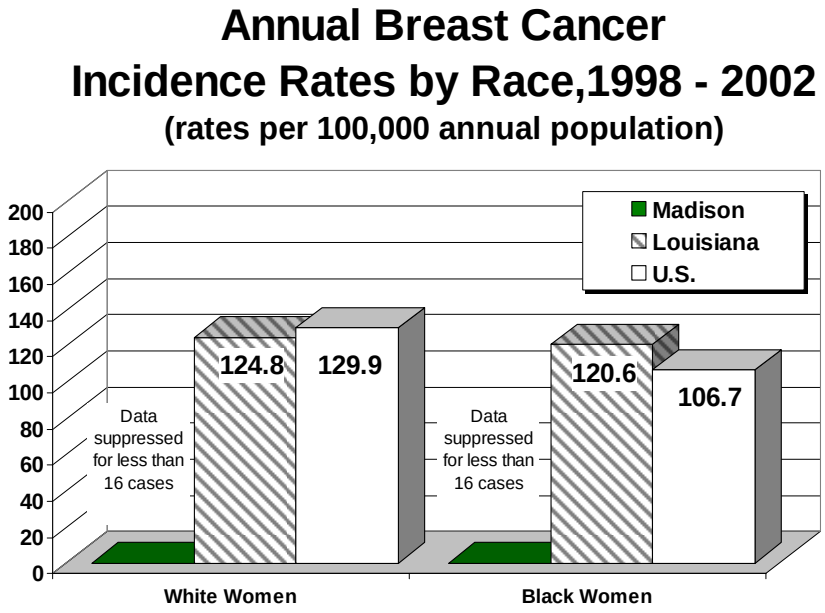
Adults should take preventive care of themselves, even if they do not feel unhealthy. Adults should be aware of the importance of preventive health screenings, such as pap smears, mammograms, and colorectal screenings. Low rates for recommended screenings indicates the need to increase both the awareness and availability of screenings**.** Communities should then identify opportunities to increase the awareness and availability of health screenings targeted to at-risk populations.

Mammograms

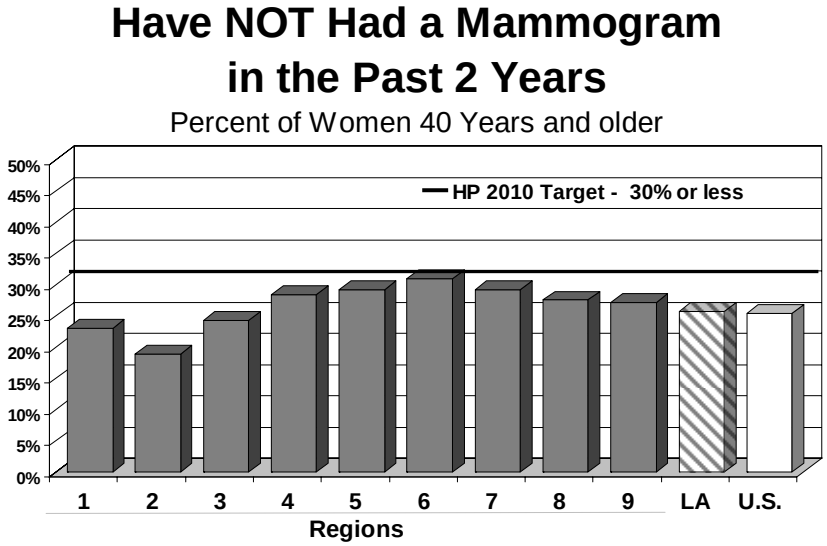
In 2002, 718 women in Louisiana died of breast cancer, accounting for about 16.3 percent of cancer deaths among women.[32] From 1998-2002, breast cancer was the most common type of cancer among females nationwide.[33]

Both the incidence and mortality rates vary by race. The incidence rate of diagnosed breast cancer is higher for white females; yet, proportionately more African American women die because of the late stage at which it is diagnosed.[34]

Routine mammograms are the most effective way to detect early changes in the breast. Death from breast cancer can be significantly reduced with early detection. Studies have shown that about 39 percent of all cancer deaths of women from 50 to 74 years of age could be avoided if women got the recommended screening.[35]



Source: National Cancer Institute <http://www.statecancerprofiles.cancer.gov>



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005

The causes of breast cancer are not known, but risk factors for breast cancer include early menstruation and late onset of menopause, a personal or family history of breast cancer, never having had children or having the first child at a late age, and lifestyle factors such as lack of physical activity and obesity.

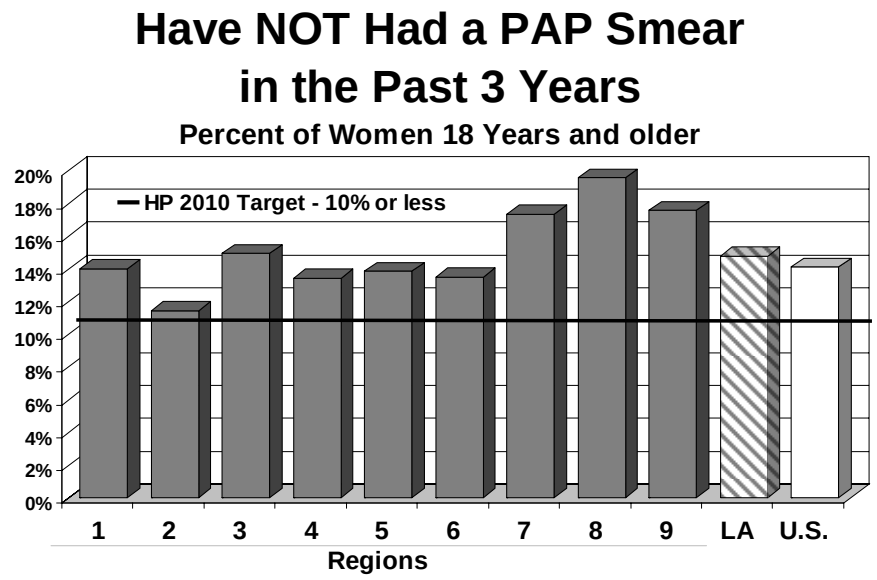
Recommendations for breast cancer screening are for women over age 40 to get a mammogram every one to two years.[36] The Healthy People 2010 goal is for the non-compliance rate to be 30 percent or less. **In Region 8, the rate of women over age 40 who did not have a mammogram in the last two years was 27.5 percent compared to nearly 25 percent statewide.[37]**

Pap Smears

Papanicolaou (Pap) smears can detect at least 70 percent of potential cervical cancers. Pap smears are a screening test performed during routine pelvic exams. Pap smears identify lesions on the cervix that may develop into cancer. Early treatment of cervical cancer reduces the chance of dying from the disease.

Evidence-based clinical recommendations for Paps are that females who are or have ever been sexually active, and have not had a hysterectomy, should be regularly screened for cervical cancer.[38] Screenings should begin within three years of the start of sexual activity or by the age 21, and should be performed at least once every three years.

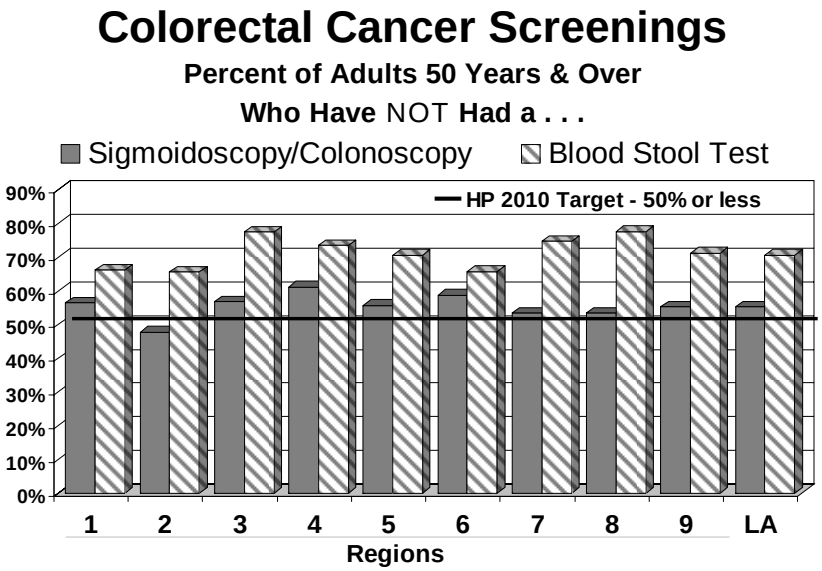
According to the 2004 BRFSS, 19.6 percent of women in Region 8 over the age of 18 had not had a Pap smear in the past three years. Statewide, 15 percent and nationally, 14 percent of women over the age of 18 had not had a Pap smear in the past three years. The Healthy People 2010 goal is for the percentage of women not having had a Pap smear screening within the last three years to be 10 percent or less.



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005

Colorectal Cancer Screening

Colorectal cancer is the second most common form of cancer in the U.S. It also has the second highest mortality rate. An estimated 146,940 new cases of Colorectal Cancer have been diagnosed in 2004 with 56,730 deaths nationally. In Louisiana between 1997 and 2001, cancer of the colon and rectum was the most common cancer. **It is the third most common cancer among both white and African American Louisiana men.**[39]



Source: 2004 BRFSS, DHH/OPH Chronic Disease Epidemiology Unit, 2005

In addition to being a very deadly cancer, the treatment and burden of suffering are significant. People who have a high risk of colorectal cancer are those with a family or personal history of colorectal, endometrial, breast, or ovarian cancers. Diets high in fat or low in fiber may also lead to added risk. All people 50 and over should have a periodic fecal occult blood test, as well as testing for early stage cancer.[40]

The Community Can …

Reduce exposure to environmental tobacco smoke[41,42]

- Assess current tobacco-use prevention and cessation activities.
- Advocate for stricter smoking bans and restrictions in policies, regulations, and laws to limit smoking in workplaces and other public areas.
- Legislate to increase excise tax on tobacco products at the state and national levels.
- Encourage merchants to limit the number of tobacco ads in their stores, remove self-service displays, and comply with the law by checking IDs and refusing to sell tobacco products to minors.

Toolkits & Guides

The Guide to Community Preventive Services (Community Guide) provides recommendations on population-based interventions to promote health and to prevent disease, injury, disability, and premature death, appropriate for use by communities and healthcare systems.
www.thecommunityguide.org/tobacco/tobac-int-smoke-bans.pdf

Tobacco Use, Access, and Exposure to Tobacco in Media among Middle and High School Students.
www.cdc.gov/mmwr/preview/mmwrhtml/mm5412a1.htm

Implement strategies that have been proven to combat obesity by increasing physical activity[43,44,45]

- Involve families in health promotion.
- Include sidewalks and parks in urban plans.
- Provide nutrition information in restaurants, particularly in fast food establishments.
- Promote and subsidize farmers' markets.
- Offer on-site education in supermarkets.
- Offer routine clinical counseling about weight control.

Toolkits & Guides

Healthy Weight: Community Outreach Initiative, U. S. Department of Health and Human Services/National Institute of Health, February 2004.
www.nhlbi.nih.gov/health/prof/heart/obesity/hwcoi/hwcoi_text.pdf

The Guide to Community Preventive Services (Community Guide) provides recommendations on population-based interventions to promote health and to prevent disease, injury, disability, and premature death, appropriate for use by communities and healthcare systems.
www.thecommunityguide.org/obese/

Explore the use of disease management in addressing diabetes[4647,48]

- Teach people to manage their diabetes to improve blood sugar control.
- Provide diabetes self-management education in community gathering places such as community centers, faith-based institutions, libraries, or private facilities such as residential cardiovascular risk-reduction centers.

Toolkits & Guides

National Guideline Clearinghouse - Recommendations for healthcare system and self-management education interventions to reduce morbidity and mortality from diabetes. Diabetes Disease Management in a Community-Based Setting.
www.guideline.gov/summary/

Diabetes Disease Management in a Community-based Setting,
www.managedcaremag.com/archives/0206/0206.peer_diabetes.pdf

Improve cardiovascular health[49,50]

- Assess local capacity of human and financial resources within existing health care to introduce preventive strategies for cardiovascular diseases. The assessment should include absolute risk thresholds for intervention as well as resources required to identify high-risk individuals.
- Increase awareness of cardiovascular diseases, their causes, and their prevention among policy-makers, health care workers, and the general community.
- Emphasize the importance of population-wide public policy initiatives, particularly in relation to tobacco control, diet and physical activity.
- Combine population-wide strategies (in particular legislative and fiscal controls on tobacco use) with individualized approaches for cardiovascular disease prevention.

- Encourage the treatment of individuals based on level of absolute risk of developing cardiovascular disease, rather than treating individual risk factors to try and reach arbitrary targets.

Toolkits & Guides

The Guide to Community Preventive Services (Community Guide) provides recommendations on population-based interventions to promote health and to prevent disease, injury, disability, and premature death, appropriate for use by communities and healthcare systems.
www.thecommunityguide.org/obese/

Cardiovascular Website at the Centers for Disease Control and Prevention,
www.cdc.gov/cvh/index.htm

Improve knowledge, attitudes, and behaviors of young people[51,52]

- Provide information to young people to increase their knowledge and understanding of health issues and to motivate them to practice healthy behaviors:
  - Organize peer educators in a wide range of formal and informal settings such as schools and workplaces, to provide role models for other youth, to convey information on health, and to refer peers to health services.
  - Use TV, radio and other community-wide media campaigns, including popular theater and other culturally-appropriate means that appeal to youth.

Toolkits & Guides

Reproductive Health Outreach Programs for Young Adults
www.pathfind.org/guides-tools.htm

Adolescent Health at a Glance
wbln0018.worldbank.org/HDNet/hddocs.nsf/0/97b4ae3e6a7ad27985256d1a006bae7b?OpenDocument

Reduce infant and child morbidity and mortality

- Improve family and community practices by counseling on child feeding including early and exclusive breast feeding up to six months; breast feeding with appropriate complementary feeding between six and 24 months.
- Complete full course of immunization for children before their first birthday (BCG, DPT, OPV, and measles).

Toolkits & Guides

Preventing Infant Mortality - Department of Health and Human Services, www.hhs.gov/news,
www.doh.gov.ph/CHD-12-new/familyhealth.htm

Increase opportunities for individuals to engage in daily, moderate physical activity that follows current recommendations[53]

- Encourage use of alternative modes of transportation (e.g., bicycling, light rail, bus).
- Implement walking programs in malls, faith-based organizations, senior centers, and neighborhoods.
- Advocate for low-cost physical activity programs in community recreation or health centers, YMCAs, and senior centers.

- Promote low-cost, weight management/maintenance resources or programs that emphasize healthful eating and physical activity.
- Increase awareness of low or no cost access resources for physical activity, such as pools and community trail systems.
- Provide mini-grants to communities to promote health and fitness activities or programs.
- Facilitate partnerships between school and senior groups that encourage opportunities for physical activity, such as a Walking School Bus program.
- Provide transportation to and from physical activity locations for individuals who do not have access to other modes of transportation.

Toolkits & Guides

Physical Activity Evaluation Handbook – Centers for Disease Control and Prevention, www.cdc.gov/nccdphp/dnpa, www.cdc.gov/nccdphp/dnpa/physical/handbook/pdf/handbook_508.pdf

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