“In 1900, the major causes of death were infectious diseases, such as pneumonia, tuberculosis and diarrhea. Today chronic diseases such as heart disease, cancer, stroke and diabetes account for more than 70 percent of deaths in the United States.”

— (1) Brownson, 1998
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. These are called leading causes of death (see tables this page). For the most part, the leading causes of death are preventable or controllable through life-style and environment changes.

Chronic diseases are related to genetics, life-styles and environment. Factors that significantly contribute to the leading causes of death are called leading actual causes of death (see table on opposing page). For example, tobacco use is recognized as the leading actual cause of death because of the significant role it plays in many of the leading causes of death. A study of causes of death in Louisiana in 1994 showed that one out of every five deaths in Louisiana was attributable to tobacco use. Ninety-nine percent of these deaths were the result of cancer, heart disease, strokes, vascular and respiratory disease (Chronic Disease Control Program, 1999). The example of tobacco-use shows how leading actual causes of death are not tied to any one cause of death, and often play a part in many of the health events people die from.

Thirty-eight percent of deaths in Louisiana are due to cardiovascular disease (Chronic Disease Control Program, 1998). Causes of death, however, can vary by age (see Appendix). 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.

This chapter discusses the leading actual causes of death in the order of their impact as assessed by McGinnis and Foege (1993). Knowing what the leading causes of death are is important. Communities can identify priority diseases for prevention and resource planning. Focusing on the leading 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 life-style.

The leading actual causes of death in the United States are tobacco, poor diet/physical inactivity and alcohol use. Microbial agents, toxic agents, firearms, risky sexual behavior, motor vehicles and
illegal use of drugs are also included (McGinnis and Foege, 1993).

The indicators discussed here are:

- Leading causes of death
- Obesity
- Fruit and vegetable consumption
- Alcohol consumption
- Tobacco use
- Pediatric nutrition risk factors
- Physical activity
- Preventable injury deaths

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 (Louisiana State Center for Health Statistics, 1999). It is important to note here that the category of accidents, which is a leading cause of death defined by the NCHS, is not entirely the same as preventable injury discussed later in this section. Accidents are unintentional injury, whereas the preventable injuries discussed later also include homicide and suicide. See the Appendix for the age, race and gender categories for homicide and suicide, which are also leading causes of death in some age groups.

Information about individual behaviors comes from the state-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

| Leading Actual Causes of Death: Cause by percentage of death in the United States |
|-----------------------------------------------|------------------|
| Tobacco                                      | 19%              |
| Diet/activity                                 | 14%              |
| Alcohol                                      | 5%               |
| Microbial agents                              | 4%               |
| Toxic agents                                  | 3%               |
| Firearms                                     | 2%               |
| Sexual behavior                               | 1%               |
| Motor vehicles                                | 1%               |
| Illicit drug use                              | <1%              |


Did You Know?

- It is estimated that more than 300,000 deaths occur each year in the U.S. resulting from physical inactivity and poor diet.

Obesity costs the United States $100 billion annually.

- Centers for Disease Control and Prevention, 1998.

Taking Care, Taking Control: “Relay for Life”

The Relay for Life is a national fund raising event for the American Cancer Society. Louisiana communities have made a serious commitment to the event. Last year, 35 communities across the state joined in the festivities. The Acadiana area alone held seven relays to celebrate cancer survivors and raise money for research. The largest event seven years running was held in Lafayette. The event raised over $220,000.

Civic leaders play an important role in bringing the event to their community. The planning committee represents a broad range of civic-minded community leaders who are responsible for planning the events’ activities and recruiting teams.

The opening ceremonies kick things off on an inspirational note with cancer survivors speaking. Then all the survivors in the community walk the first lap of the day. It is a celebration of their survivorship and a symbol of why continued research is so important.

For the next 12 hours, each team must have someone walking on the track at all times. Also, one person must commit to being on the track for the entire 12 hours. Teams usually have 10 to 15 members who have raised at least $100 in donations. While the walkers are collecting their donations, participants enjoy a festival atmosphere with face painting, music, food, contests, volleyball and more.

- For further information: American Cancer Society at 1-800-227-2345, or http://www.cancer.org
behaviors 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 (Chronic Disease Control Program, 1998).

Communities can collect information about life-style behaviors, the actual leading 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 cigarettes or spit tobacco are advertised to, or can be bought by, youth. 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.

**LIFELONG HEALTH HABITS**

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. Physical activity is good for the body.

**DON’T SMOKE, DIP or CHEW!**

According to the Behavioral Risk Factor Surveillance System (BRFSS) 1996 results, 26 percent of Louisiana adults smoke (see Figure 1). This compares to 24 percent of adults nationally. The Healthy People 2000 goal is for less than 15 percent of adults to smoke.

Between 1992 and 1996 there was an upward national and state trend in young smokers between ages 18 - 24. This age group has shown a big increase since
1995. **Nearly 37 percent of high school students in Louisiana are current smokers** (Chronic Disease Program, 1997). Generally, men smoke in greater numbers than women. Among high school students, however, both groups showed an increase of four to five percent since 1993. The actual reason for the increase is not known. Among other things, tobacco-use is associated with school absenteeism (Chronic Disease Control Program, 1998).

**Smokeless tobacco, called “dip” or “chew,” also poses a problem, with 11 percent of Louisiana youth dipping regularly** (Louisiana Department of Education, 1997). Smokeless tobacco puts people at risk for aggressive and deadly cancers of the mouth and throat, as well as poor oral health.

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**Taking Care, Taking Control: Heart Surgery**

Sometimes making an important difference can be doing something very simple... like just showing you care. Take the “Mended Hearts” program for an example. Mended Hearts are a group of volunteers who are interested in helping people with heart disease and related surgery. They step in and provide the voice of experience and support that no medical professional can to a heart surgery patient. And, their gift is one of understanding.

Camile, now a Mended Heart member, had a bypass. Nowadays, once a week, he and his wife Mary visit local hospitals and meet with patients who have just gone through heart surgery. Camile talks to the patient, and Mary reassures the partner, who like her, once waited anxiously in the hospital waiting room.

The volunteers offer no medical advice except to encourage patients to comply with their doctors orders. They help calm the anxious family and make it easier to start healing.

There are six chapters of the Mended Hearts in Louisiana and nearly 300 worldwide. Members of the New Orleans chapter visit five local hospitals and follow up with the patients with phone calls at home. They publish a newsletter and sponsor a youngster with heart ailments to a special summer camp in Lafayette.

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**Figure 1:**
(a) Current smokers by age, Louisiana and the United States, by age, 1992 - 1996
(b) Current smokers, Louisiana and the United States, 1996


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**DID YOU KNOW?**
Being overweight in childhood is associated with higher blood pressure, diabetes and psychological disorders and is a predictor of adult obesity. Thirty percent more four year olds are overweight, by comparison with 1988.

-- Chronic Disease Control Program, 1998.

**PREVENTION POINTER:**
If five fruits and vegetables a day sounds like a lot, start by increasing the number you eat by one or two a day.

-- Chronic Disease Control Program, 1998.
Nearly 90 percent of adult smokers started before their 19th 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 (Chronic Disease Control Program, 1998).

**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 life-style 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. If mothers do not eat well-balanced meals while pregnant, their baby may be adversely affected in many ways. An inadequate diet could result in a premature or a very low birth weight baby, which may involve further health complications. This infant can more easily contract other diseases, some of which could be life-threatening. If a breastfeeding mother does not eat adequately, she may not produce enough breast milk. If children do not eat enough for long periods of time, they may weigh less, have stunted growth or have slower mental and physical development. These children may perform poorly academically, may have memory loss or a short attention span, and may be easily distracted. Good nutrition throughout childhood helps ensure good brain development.

An ideal healthy life-style 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.

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**A serving of fruit or vegetables is . . .**

- Fruit: one medium size
- 100% fruit juice: 1/2 cup
- Cooked or canned veggies: 1/2 cup
- Raw leafy veggies: 1 cup
- Dried peas or beans: 1/2 cup
- Dried fruit: 1/4 cup

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**“An ideal healthy life-style includes a balanced and varied diet . . .”**
The general healthy life-styles and eating guidelines are as follows:

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

Louisiana offers two supplemental food programs for low income pregnant and postpartum women, infants and children. The first is the Women, Infants and Children (WIC) program, offering medical nutritional services and, when medically needed, a food package to children up to the age of five. The second is the USDA Commodities food program, which supplements the diets of the elderly and children up to the age of six. WIC also provides vouchers for foods high in protein, vitamins A, C, calcium and iron. WIC also provides nutritional screening and assessment, nutritional education, and breastfeeding guidance. WIC is a cost-effective program reducing potential Medicaid costs by promoting a healthy beginning.

The CDC Pediatric Nutrition Surveillance System (PedNSS) is a tool used by the Nutrition Services Program at the Louisiana Office of Public Health to monitor the pediatric patients at high nutrition risk who attend WIC clinics. High-risk nutrition indicators include being underweight, overweight, short in stature, or having low iron, indicating potential concern for anemia. The WIC program uses this surveillance tool to ensure that children with the greatest nutritional counseling needs will receive counseling with a qualified nutritionist.

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 (Chronic Disease Control Program, 1998).

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 1996, only 18 percent of Louisianans eat the recommended five servings of fruits and vegetables a day (Chronic Disease Program, 1997). In Louisiana, there is a clear difference between men and women in this area. Twenty-one (21) percent of women eat five fruits and vegetables a day compared to 14 percent of men (Chronic Disease Program, 1997).

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.

DID YOU KNOW?
“Coffee is twice as likely as fruit to be on the breakfast menu of Americans....when it come to quenching thirst, carbonated soft drinks are ten times more likely to be the beverage of choice than 100% juice.... While fruits might seem like an obvious choice for a healthful snack, only 15% of those polled (in a national survey in 1998) nibble on fruit... vegetables made up only 3% of snacks.”
CAUSES OF DEATH

Overweight

Obesity is an excess of body fat. Diagnosis of overweight or obesity 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 (Chronic Disease Control Program, 1998).

Obesity is now the most common nutritional disease of children, teens and adults in the U.S. (Nutrition Services, 1998).

Being overweight 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 1996 BRFSS, 33 percent of Louisiana adults report being overweight (Chronic Disease Program, 1997). Obesity increases the chances...
of dying prematurely by 20 percent. Figure 2 shows that minorities have the highest rates of obesity. The Healthy People 2000 goal is for fewer than 20 percent of the total population to be obese.

Many people in the United States overeat and do not get enough physical activity. Problems associated with overnutrition (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 (Nutrition Services, 1998).

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.

DID YOU KNOW?
Recent results from the Louisiana Behavioral Risk Factors Survey revealed that:
- 33% of adult Louisianians are overweight.
- 35% of adult Louisianians get no leisure time physical activity.
- 24% of adult Louisianians get the recommended physical activity.
- 18% of adult Louisianians get the recommended five fruits and vegetables a day.

Source: Chronic Disease Program, 1997
Moderate physical activity includes brisk walking, mowing the lawn and climbing stairs. The national goal is for at least 85 percent of people to be moderately physically active (Chronic Disease Control Program, 1998).

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. Thirty-five percent of Louisianians get no leisure-time physical activity at all (Figure 3). Only 11 percent get the recommended amounts of physical activity in their week. In the U.S. as a whole, 28 percent of adults get no physical activity. The Healthy People 2000 goal is no more than 18 percent of adults with no physical activity (Chronic Disease Control Program, 1998).

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 (Chronic Disease Control Program, 1998). Alcohol consumption can lead to lower self-esteem, liver failure and premature death as well as damaged relationships with family, friends and co-workers.

In the last BRFSS survey, close to 15 percent of Louisianians reported that they had consumed five or more drinks in a sitting over the previous month (Chronic Disease Control Program, 1997).

According to the Youth Risk Behavior Survey (Louisiana Department of Education, 1997), a survey similar to BRFSS but with youth, 34 percent of Louisiana public high school students had five or more drinks in a sitting during the previous month, making alcohol the drug of choice in high school.

According to the Office of Addictive Disorders there were an estimated 22,267 heavy drinking adults in East Baton Rouge in 1997. OAD also estimates that approximately 21,366 adults need treatment for alcohol use (Office of Addictive Disorders, 1998).

Alcohol consumption also contributes to the occurrence of motor vehicle crashes. In East Baton Rouge in 1996 there were 14 fatal crashes related to alcohol and 199 crashes resulting in injury. The rate of alcohol-related injury crashes in East Baton Rouge was 77 per 100,000 drivers (Louisiana State University, 1997).
PREVENTABLE INJURY

Firearms, seat belts, alcohol and substance abuse are major factors in thousands of preventable deaths. These deaths include motor vehicle deaths, poisonings, suffocation, drowning, falls, murders and suicides. Injuries are not accidents, although people often refer to them that way. Injuries are understandable, predictable and preventable. They cause more years of potential life lost than cancer and heart disease combined. Injuries are the leading cause of death for people aged 44 and younger. In Louisiana in 1997, 3118 people died of injury at a rate of 71.6 per 100,000 (Injury Research and Prevention Program, 1999). For detailed numbers and rates of injury deaths by cause and gender, see Appendix.

Firearms

Guns are common in this society. According to the Center to Prevent Handgun Violence, 43 percent of American households with children have guns (1998). In 1997, 31 percent of injury deaths in Louisiana were caused by firearms. Gun deaths were the leading cause of death for Louisiana residents between the ages of 15 and 24 (Injury Research and Prevention Program, 1999).

According to the Youth Risk Behavior Survey, eight percent of youth in public high school carried a weapon to school in the 30 days before the survey. There are stark differences between the numbers of young men and young women carrying weapons in high school. About 2.2 percent of young women and 15.3 percent of young men carry weapons (Louisiana Department of Education, 1997). The Healthy People 2000 goal is to reduce these numbers to 5.9 percent.

Firearms are also the leading tool of suicide and homicide in the state of Louisiana. Over 70 percent of homicides in Louisiana are gun-related. Of the 696 homicides in 1997, 534 were gun-related. Of the 527 suicides, 386 used a gun (Injury Research and Prevention Program, 1999). Homicide is one of the top five leading causes of death for young men in Louisiana (see Appendix).

The good news is that the rate of gun-related deaths has gone down over the last three years. It has gone from 29 per 100,000 in 1994 to 22 per 100,000 in 1997 (Injury Research and Prevention Program, 1999). The Healthy People 2000 goal is 11.6 per 100,000.

Motor vehicle injury and seatbelt use

Motor vehicles are a primary cause of preventable injury throughout the life-span. In Louisiana in 1997, 905 people died from a motor vehicle injury at a rate of 20.8 per 100,000. In 1996, 642 men died at a rate of 30.6 per 100,000 and 272 women at a rate of 11.6 per 100,000 (Injury Research and Prevention Program, 1999).

| Top Two Causes of Preventable Injury Deaths Louisiana, 1997 and 1996, number (rate/100,000) |
|-----------------------------------------------|---------------|---------------|
| **Firearms** | Male | Female | Total |
| 1997 | 810 (38.6) | 158 (7.0) | 966 (22.2) |
| 1996 | 906 (43.2) | 146 (6.5) | 1,052 (24.2) |
| HP2000 | (11.6) | | |
| **Motor vehicle** | | | |
| 1997 | 605 (28.8) | 300 (13.3) | 905 (20.8) |
| 1996 | 642 (30.6) | 272 (12.1) | 914 (21.0) |
| HP2000 | (14.2) | | |

*Includes homicide and suicide.
States with seatbelt laws have lower rates of fatalities from motor vehicle crashes. In addition, car manufacturers are equipping all new passenger vehicles with automatic crash protection. These protections include automatic belts or airbags. The response is to a federal requirement. Laws requiring drivers to wear seatbelts were instituted in 1995. Since then, there has been a dramatic drop in the number of people reporting that they have never used a seatbelt. **Women are the only subpopulation in the state of Louisiana to meet the Healthy People 2000 goal of fewer than 15 percent of people reporting they do not always use a seatbelt** (Chronic Disease Control Program, 1997).

### THE COMMUNITY CAN . . .

1. **Enforce local values about tobacco**
   - Local values about clean indoor air can be advocated for as policy changes. Regulations about tobacco advertising placement and product sales can be established. Dentists and pediatricians can discuss tobacco addiction with communities.
   - Worksites health policies also cover tobacco use. Like worksite planners, faith communities can advocate for clean air and also provide quitting programs.

2. **Promote fruits and vegetables**
   - School cafeterias can be asked to improve their food selection,
as can office and hospital cafeterias. Local communities may need to consider ways to get produce closer to their people. Some of the best ways include turning abandoned lots into community gardens, encouraging farmers’ markets and offering gardening classes.

3 Improve opportunities for physical activity

- The local government can become involved with improving the area for physical activity by creating laws for parks to be within 1/4 mile of all residents in new housing subdivisions. They can also require ample and pleasant sidewalks with good lighting to make walking more attractive. Levees and old unused railroad beds can be turned into bike and walking paths. Communities can create lots to be set-aside for small businesses, cleaners, small shops and other necessities that would not require car trips.
- Worksites can offer employees flex time to work-out and promote stair usage. Employers can also provide accommodations for bicycles and areas to change clothing after bicycle riding. Employee athletic teams are also very useful for promoting activity.
- The faith community can include physical activity in their community programming and make space available for all ages.

4 Prevent iron deficiencies

- Encourage local grocery stores to offer a wider selection of iron-fortified food products.
- Educate the community on foods that are rich in iron. In addition, encourage the eating of foods rich in vitamin C, which enhances iron absorption.
- Seek out free or reduced-priced nutritional assessment for children or adults with low blood-iron values.

5 Feed children well

- Offer cooking and budgeting classes on how to cook good meals with little money.
- Teach community members how to shop and cook tasty meals using USDA Commodity foods and WIC food items.

6 Fight obesity

- Implement school-based obesity intervention programs.
- Increase federal, state and local funding for sports activities for children and teens.

7 Prevent injury

- Contact statewide agencies to help create injury prevention programs locally. SAFEKIDS and Violence Prevention Program are two examples of these. For information call (504) 568-2509.
Identify local problems, trends and at-risk groups in your community. For example, conduct an observational survey to see how many children on bikes or rollerblades wear helmets. By identifying these groups your community can know whom to target.

Hold injury prevention assemblies at your local schools. Police and firemen are good resources for skills and information.

Support gun education
- Bring policemen to community meetings to discuss firearm safety at home. Encourage parents to be aware of kids and their access to guns at home and in friends’ homes.
- Teach children about the dangers of playing with guns.

References


(2) ibid., p. 425.


