

WEST VIRGINIA HEALTHY PEOPLE 2010



Healthy People

West Virginia Healthy People 2010 is the result of years of work by more than 300 people from both the public and private sectors. It is built upon the work of the West Virginia Healthy People 2000 document and the national Healthy People 2010 initiative and will serve as a guide for improving the health of our state. The purpose of *West Virginia Healthy People 2010* is to provide common goals and objectives, hopefully leading to increased collaboration and motivating individuals and organizations to action. This publication is dedicated to the hundreds of individuals who devoted their time and energy to this important process.

West Virginia Healthy People 2010 is based on three basic beliefs:

- Positive changes can be made to improve the overall health of West Virginia.
- Measurable objectives will be helpful tools with common targets and progress tracking.

INTRODUCTION

- People and organizations working together can accomplish more than any one could achieve separately.

Positive changes can be made to improve the overall health of West Virginia. This first belief is at the root of *West Virginia Healthy People 2010*. It is fundamental to this endeavor that we believe as a state that positive changes are possible and that the health of West Virginia can, in fact, be improved. When we must be reminded of our ability to make positive changes, we need only to turn to the large volumes of published literature in the field of disease prevention. This documentation clearly demonstrates the positive impact that policy and environment changes and individual behavior modification can have on mortality and morbidity.

Measurable objectives with common targets and progress tracking are helpful tools in the *West Virginia Healthy People 2010* document. The value of measurable objectives has been shown time and time again in business, industry, government, sports performance, and so many other areas. Common goals help motivate action. Regular tracking of progress is important as well since periodically monitoring our level of achievement and improving upon our

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shortcomings help result in more successful outcomes.

The *West Virginia Healthy People 2010* process certainly believes that people and organizations working together can accomplish much more than any one could achieve separately. This belief generally holds true. It is, in fact, the very basis for the formation of many of the health-related coalitions that currently exist in West Virginia. The effectiveness of coalitions in bringing about change has been demonstrated in many arenas. Collaboration helps eliminate duplication of services and prevents us from “reinventing the wheel.”

Chapter Format

As you review this document, you will note that each chapter has a similar format. The chapter begins with the “Background,” a brief overview of the problem and a description of the impact on individuals and the state. Next, there is a listing of “The Objectives” for this particular focus area. For most objectives there is a measurable target to be reached by the year 2010 or before. In some instances, however, developmental objectives were substituted. A developmental objective is an objective that currently lacks a measurement, but one for which the work group believes measurement will be initiated. Each objective currently has or will have a baseline, or a starting point, against which to measure progress.

The next major section for each chapter is “Meeting the Objectives.” At a minimum, this section lists the entities that will

be leading the initiatives to reach the 2010 objectives. Some chapters go on to provide a general description of the resources that will be used in meeting the objectives. A key to understanding the role of these organizations is the concept of “channels” through which to deliver our health promotion messages and interventions. The six channels identified in each chapter are Worksite, Public Health, Health Care Systems, Schools, Networks, and Higher Education, each of which makes a unique contribution, each in a different way. For example, it is largely through the School Channel that we are able to reach youth in the school age range. Many adults can be impacted through policy interventions and health education programs through the Worksite Channel. The Networks Channel includes access through the faith community and services for senior citizens. Underlying the channels approach is the understanding that no one channel alone has the entire solution.

The final sections in each chapter include resources for those who want to become more involved with a particular focus area or simply obtain additional information. At the end of the chapter we have listed the “Work Group Members” who met to develop the chapter, a listing of some basic “References and Resources,” and a “For More Information” entry, which shows the reader where to go for further information.

Implementing Change

A discussion of strategies for reaching the objectives was not included in each of the 29 chapters that make up *West Virginia Healthy People 2010*. It was recognized early

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on that we live in a rapidly changing environment and that the strategies that are appropriate today may not be applicable in the future. Medical advances, population shifts, changes in the economy, or new findings from genetic research, to name only a few, may make some strategies adopted today obsolete and require adoption of new strategies in the years to come.

The individuals who helped to write the objectives and others who want to make a difference need to work together to develop broad strategies to help us reach the objectives by the year 2010. This will be an ongoing process of strategy development, implementation, evaluation, and then the refinement of old strategies or the development of new ones.

The interest in sustainability led to the creation of a document that clearly outlines where we want to go, but not necessarily how we are going to get there. It is our hope that the work groups or lead entities will continue to meet, track and report progress, develop strategies, implement programs, evaluate these programs, and to thereby keep the *West Virginia Healthy People 2010* initiative alive through this 10-year period.

West Virginia Healthy People 2010 is entrusted not to specific individuals but to various coalitions and agencies. Each chapter contains one or more lead entities that will continue to monitor and to update progress toward the objectives.

Successful implementation of *West Virginia Healthy People 2010* requires a combination of approaches. Working with the public school system is important, as is

working through worksites. Participation of the faith community, government, and the private sector will be necessary, as will the involvement of health care provider organizations, higher education, and voluntary associations. The challenges are too large to be addressed effectively through any one channel alone. The combination of approaches also includes not only traditional health education and an emphasis on individual behavior change, but also an emphasis on policy and environment changes such as clean indoor air regulations and the establishment of more “walkable” communities.

Further, progress toward the objectives set forth in *West Virginia Healthy People 2010* will be greatly facilitated by an emphasis on “best practices,” or approaches for which there is science-based evidence that the intervention is effective. Access to best practices models can come from the work done by the 24 Prevention Research Centers across the country, including the one in Morgantown, West Virginia, which concentrates on risk factors in Appalachia. Other sources are the various professional journals and materials produced by the U.S. Centers for Disease Control and Prevention.

Key to the success of *West Virginia Healthy People 2010* is the ability to know whether what we are doing is effective. The contributions of entities like the West Virginia University Prevention Research Center and others can be invaluable in determining strategies that work and in discarding approaches that have not been shown to be effective.

Unlike some of the advances that were made early in the last century against

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infectious diseases like tuberculosis and smallpox, there is likely to be no magic bullet for most of the problems outlined in *West Virginia Healthy People 2010*. These challenges will require time and continued dedication of many individuals and organizations.

Additional Healthy People Information

A series of supplements following the release of *West Virginia Healthy People 2010* is expected to be published over the course of the next 10 years. A group has already indicated an interest in a supplement on minority health issues. Others may include women's issues, the elderly, or youth.

A mid-course review will also be published around the middle of the decade that will provide an opportunity to re-examine objectives. Mid-course corrections may occur if, for instance, an objective is met long before the year 2010. In that case, the objective could be replaced by a more ambitious goal. Likewise, it may become obvious that an objective will be unobtainable despite our best efforts. In this case, some consideration might be given to lowering expectations to a level that is more realistic.

One of the key factors in keeping *West Virginia Healthy People 2010* alive over the entire decade is widespread access to the Internet. Currently the *West Virginia Healthy People 2010* objectives can be found online. This site will also be used to provide periodic updates and will eventually include the entire *West Virginia Healthy People 2010* document

for downloading. This site will attempt to add links from the document to other health-related websites. Ideally, this would be a two-way process with major associations linking back to the *West Virginia Healthy People 2010* document from their own web sites.

Getting Involved

The Commissioner of Health for West Virginia often speaks of the Bureau for Public Health's "power to convene" or to at least bring people to the same table. This publication, *West Virginia Healthy People 2010*, is material evidence of what can be accomplished when people work together. While Public Health cannot, by itself, achieve the objectives outlined in *West Virginia Healthy People 2010*, it can and has "created the space" for people to come together with common purpose.

As you view the document before you, ask yourself if there is anything you or your organization can do to help advance this agenda and to help the state meet the 2010 objectives. If so, we invite you to contact the address given for the chapter(s) in which you are interested and let us help link you into the process and to the coalitions that are charged with meeting the objectives.

Comments on the publication should be addressed to: Healthy People Program Manager, WV Bureau for Public Health, 350 Capitol Street, Room 319, Charleston, WV 25301-3715, (304) 558-0644.

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Background

The geography of West Virginia in and of itself presents problems with access to quality health care. The surface elevation of West Virginia is extremely uneven. It ranges from a low of 240 feet in the Valley of the Potomac to a high of 4,862 feet at Spruce Knob in Pendleton County. West Virginia's mountains are often steep and rugged, rising and falling in successive waves of ranges. There is very little flat land in the state.

Because West Virginia is a mountainous state, time and distance factors applicable to the flatlands of the Midwest and the East Coast are grossly inappropriate when applied to the state's rugged terrain. For example, time/distance maps depict the distance from Charleston, WV, to Washington, DC, as 250 miles. This "as the crow flies" distance is underestimated using these maps. Actual mileage, using the best records available, is approximately 360 miles, and the average automobile trip between the two cities is about six hours.

1 ACCESS TO QUALITY HEALTH CARE

Non-interstate travel through West Virginia can be treacherous, with numerous mountains to climb, narrow and winding secondary roads, ubiquitous coal trucks, and never-ending road repairs. During the months of late December through early April, poor weather conditions add more time or prevent driving altogether.

West Virginia is the second most rural state in the nation, with 64% of its population living in communities of fewer than 2,500. Forty-five of West Virginia's 55 counties are designated as rural, that is, "non-metropolitan" as defined by the Bureau of the Census. Almost 16% of West Virginia's population is aged 65 or older. If, as anticipated, the trend of an aging population continues, West Virginia can look forward to an older population presenting a growing demand on the state's health care system. This is an even greater burden in a state where transportation (access) problems continue to exist.

Rural Appalachian culture influences health in several important ways. Appalachians inhabit a particular mountain environment that separates them physically from other cultural groups and the resources of those groups. Thus, rural Appalachian culture has developed

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in a historical context of isolation and exploitation, which has assured major differences between Appalachian culture and the dominant urban culture. Many Appalachians are reluctant to enter the mainstream medical system except for emergencies. Health interventions that are developed with consideration for Appalachian culture, values, language, and behaviors have been most successful in altering the health status of mountain dwellers.

Statistics show that Appalachian residents were found to be at significantly higher risk of injury and illness from seatbelt nonuse, obesity, overweight, and current smoking and at significantly lower risk of injury and illness from heavier drinking, binge drinking, and drinking and driving than non-Appalachian residents.

Work disability is also a significant problem in West Virginia. The percentage of those in the labor force that have work disabilities, as well as the percentage of those who are prevented from working due to a work disability, is nearly twice the national average.

As with most rural areas, physician shortages are prevalent. The federal Division of Shortage Designation (DSD), Bureau of Primary Health Care, Health Resources and Services Administration, Department of Health and Human Services, designates an area as a Health Professional Shortage Area (HPSA). The designation is usually a geographic area consisting of a county or a sub-county region and is based on the ratio of primary care physician providers to the population. The state's Division of Recruitment (DOR) compiles the information and forwards it to the

DSD. Currently in West Virginia there are 50 HPSA service areas that include all or part of 40 counties.

The state also provides data to the DSD for the purpose of designating dental and mental health HPSAs. In addition, 50 counties are wholly or partially designated as Medically Underserved Areas (MUAs).

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 1.1. Increase the proportion of persons aged 64 and under with health insurance coverage.

1.1a. Increase the proportion of persons aged 18-64 with health insurance coverage to 90%. (Baseline: 79.4% in 1998)

1.1b. (Developmental) Increase the proportion of children aged 17 and under with health insurance coverage to 100%. (Baseline data available in 2000)

Data Sources: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Behavioral Risk Factor Surveillance System (BRFSS); Children's Health Insurance Program (CHIP)

OBJECTIVE 1.2. (Developmental) Increase the proportion of persons with a personal primary care provider. (Baseline data available in 2000)

Data Source: WVBPH, OEHP, BRFSS

As noted above, 50 of West Virginia's 55 counties are considered medically underserved. During the program year 2000,

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the West Virginia Primary Care Association, in collaboration with the state Division of Primary Care, will be conducting a statewide assessment of the delivery of primary care services to determine the penetration level in the state's population. This "market place analysis" study will provide baseline data on persons served by a personal primary care provider.

OBJECTIVE 1.3. (Developmental) Provide a staffed ambulance on scene of emergency calls within eight minutes of receipt of the call by the Emergency Medical Services (EMS) agency in 90% of the cases in cities with populations of 12,000 or more.
(Baseline data available in 2000)

Data Source: WVBPH, Office of Community and Rural Health Services (OCRHS), Emergency Medical Services (EMS)

The time of response to provide prehospital care to the ill or injured patient directly correlates with the type of outcome for that patient. After researching nationwide data and examining the unique situation of this state, the West Virginia Office of EMS (WVOEMS) has determined that for a population of 12,000 or more a response time of eight minutes or less would aid in decreasing the incidence of mortality within the state and lead toward an optimal outcome for all patients. It is also important that these responses be accomplished with a team of qualified EMS professionals who have the knowledge and resources required to care for the ill and injured patient. In order to incorporate this response time benchmark across the state EMS system, the legislative rule establishing regulatory policy was amended to include it as a licensing standard

for EMS agencies. Analysis of current data indicates that 100% of the agencies that provide service to areas with a population of 12,000 or more meet this standard.

Representatives from the Regional Medical Command Centers in West Virginia have met and are in the process of formulating a method of data collection that will be uniform in nature. This will allow the data collected to be used to form a baseline.

The WVOEMS is in the process of revitalizing the collection and entering of data from the EMS run form. This will allow data from all state EMS agencies to be utilized in the formation of a data baseline.

OBJECTIVE 1.4. (Developmental) Provide a staffed ambulance on scene of emergency calls within 20 minutes of receipt of the call by the EMS agency in 90% of the cases in rural areas (populations less than 12,000).
(Baseline data available in 2001)

Due to the rural nature of West Virginia, a consistent response time of eight minutes or less in an area with a population of less than 12,000 is not realistic. Again, looking at other rural states and statistics on response to the ill and injured patient, WVOEMS has determined that a 20 minute or less response time with qualified personnel would promote the optimal outcome for the patient in this setting. This benchmark was also incorporated into the legislative rule. Analysis indicates that 82% of all EMS agencies are currently meeting or exceeding this standard.

Representatives from the Regional Medical Command Centers in West Virginia have met and are in the process of formulating

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a method of data collection that will be uniform in nature. This will allow the data collected to be used to form a baseline.

The WVOEMS is in the process of revitalizing the collection and entering of data from the EMS run form. This will allow data from all state EMS agencies to be utilized in the formation of a data baseline.

Data Source: WVBPB, OCHRS, EMS

OBJECTIVE 1.5. (Developmental)
Increase access to emergency care that meets the special needs of children in prehospital and hospital settings.

1.5a. (Developmental) Develop statewide protocols for both on-line and off-line medical direction of EMTs and paramedics at the scene of an emergency involving pediatric cases by 2001. (Baseline data available in 2000-2001)

The WVOEMS, in concert with the state's EMS medical director and the state Critical Care Committee, has engaged in the arduous process of developing and implementing statewide prehospital care protocols for field EMS personnel. The needs of children were addressed with protocols that stand alone, separate from those for the adult patient. First Responder and Basic Life Support (BLS) protocols were addressed first and were completed and integrated into the state EMS system in spring 2000. Advanced Life Support (ALS) protocols are currently being developed with an anticipated completion date of summer 2001.

Data Source: WVBPB, OCHRS, EMS, EMS for Children Program

The WVOEMS, along with the EMS for Children Program, will develop protocols for children with special needs and then distribute these protocols to both on-line and off-line providers of medical direction of EMTs and paramedics who respond to pediatric emergencies by 2001. The number receiving the protocols will be the number of recipients of the protocols and thus the baseline.

1.5b. (Developmental) Measure 20
acute care facilities utilizing the pediatric categorization and evaluation instrument developed by the American Academy of Pediatricians for appropriate pediatric equipment, drugs, trained personnel, and facilities necessary to provide varying levels of pediatric emergency and critical care. (Baseline developed by 2001)

Data Source: WVBPB, OCHRS, EMS, EMS for Children Program

Children, as a whole, require special care. Proper equipment and education for all medical personnel will give children the greatest chance for an optimal outcome should they become ill or injured. The American Academy of Pediatricians (AAP) has developed guidelines that assist in determining if facilities, whether urban or rural, are prepared to care for children. The West Virginia Office of EMS, with assistance from a grant provided by the Office of Maternal, Child, and Family Health, the EMS-C program, and the AAP guidelines, has developed a tool to evaluate and recognize hospitals that are equipped to deal with the special needs of the pediatric patient. This instrument is called the ARK (Always Ready for Kids) Program. Presently, 12 hospitals

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have been reviewed, and 10 have been ARK recognized. The remaining two have been reviewed and are acting on recommendations for improvement before formal recognition is granted. There are currently three other hospitals that have expressed interest in the ARK program. Unfortunately, the grant used to fund this program has been expended. WVOEMS is currently exploring other funding opportunities.

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:
Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

The Office of Community and Rural Health Services will be leading the initiatives in reaching the objectives as listed in this chapter.

Work Group Members

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Visit the Healthy People 2010 website at:
www.wvdhhr.org/bph/hp2010/

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Background

West Virginia has the oldest population in the nation according to 1996 population estimates. This has focused attention on preserving quality and quantity of life. Chief concerns involving preserving the quality of life are the prevention and treatment of musculoskeletal conditions. Musculoskeletal conditions such as arthritis and other rheumatic conditions, osteoporosis, and chronic back conditions are the major causes of disability in the United States. As the population continues to age, the need for individuals to work at older ages will have a direct effect on social and economic consequences of activity limitation.

Arthritis

Arthritis encompasses more than 100 diseases and conditions that affect joints and the surrounding tissues. It affects nearly one of every six Americans, making it one of the most common diseases in the United States. By the year 2020, an estimated 60 million people will be affected. In addition, arthritis is the leading cause of disability, limiting daily

2 ARTHRITIS, OSTEOPOROSIS, AND CHRONIC BACK CONDITIONS

activities for more than seven million citizens. Another aspect of this disease is the cost of treating arthritis and its complications. These medical and social costs total nearly \$65 billion. In West Virginia, 43% of adults surveyed in the Behavioral Risk Factor Surveillance System reported having pain, aching, stiffness, or swelling in or around a joint in the past year, and 41% reported current limitations in many activities because of joint symptoms.

Osteoporosis

Osteoporosis, or porous bone, is a disease characterized by low bone mass and structural deterioration of bone tissue, leading to bone fragility and an increased susceptibility to fractures of the bone. Osteoporosis is considered the “silent disease” because its progression is so insidious; most individuals are not aware they have osteoporosis until they actually fracture a bone (most commonly the hip, spine, or wrist). Ten million individuals are already afflicted with osteoporosis in the United States, and 18 million more have low bone mass, placing them at increased risk for this disease. One out of every two women and one out of every eight men over 50 will have an

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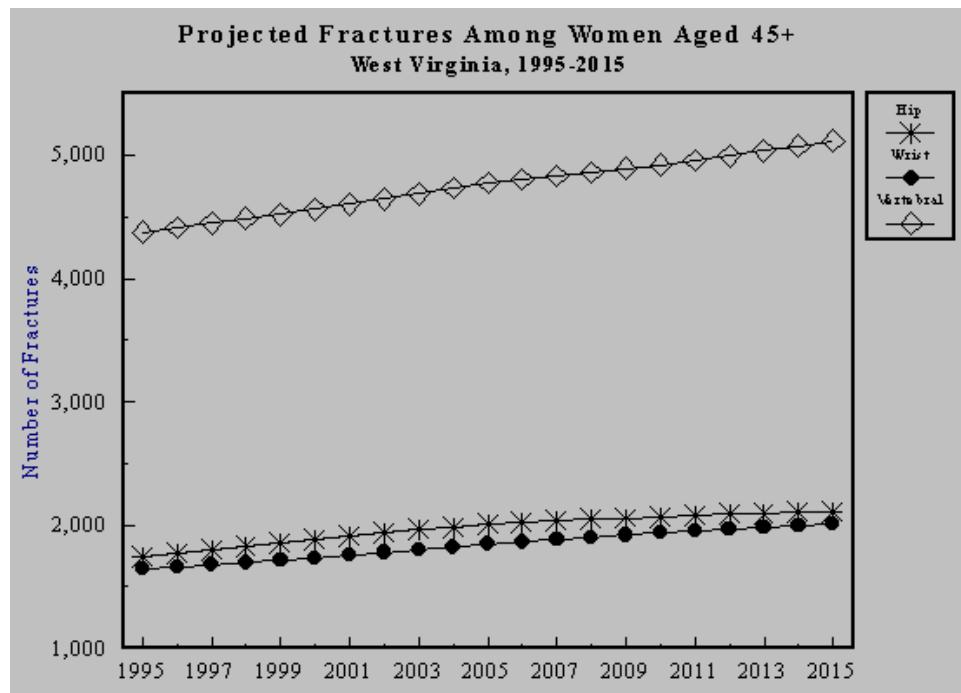
Estimated 1996 Osteoporosis Rates West Virginia Residents Aged 50+		
Characteristic	Number	Rate per 1,000 Population
Women with osteoporosis	63,683	210.2
Women with low bone mass	119,279	393.7
Women with osteoporosis or low bone mass	182,962	604.0
Men with osteoporosis	15,878	68.2
Men with low bone mass	23,818	102.3
Men with osteoporosis or low bone mass	39,696	170.5
Total with osteoporosis	79,561	148.5
Total with low bone mass	143,097	267.1
Total with osteoporosis or low bone mass	222,658	415.6

Prevalence (%) of Selected Osteoporosis Risk Factors, By Gender West Virginia Behavioral Risk Factor Surveillance System, 1997			
Risk Factor	Male	Female	Total
Small, thin body frame	18.6	36.2	27.9
Family history of osteoporosis	4.5	16.2	10.7
Menopause (decreased estrogen levels)		45.2	45.2
Thyroid medication, steroids, or cancer treatment	11.0	22.9	17.3
Fewer than 3 servings of dairy products per day	83.0	83.7	83.4
Current cigarette smoking	27.4	28.7	28.1
Sedentary lifestyle	62.0	68.1	65.7
60 or more alcoholic drinks per month	4.4	0.6	2.4

osteoporosis-related fracture in their lifetime. Osteoporosis is responsible for more than 1.5 million fractures in the United States annually. A woman's risk of a hip fracture is equal to her combined risk of having breast, uterine, or ovarian cancer.

In West Virginia in 1996, 416 out of every 1,000 people aged 50 and older had osteoporosis or were at risk due to low bone density. Over one-half (½) of all women in this age group, or approximately six out of 10, were at risk for osteoporosis. The National

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Osteoporosis Foundation (NOF) predicts that by the year 2015, 227, 246 women and 43,383 men in the state will have osteoporosis or low bone mass. Because osteoporosis primarily affects our older citizens, it is of particular concern to health professionals in West Virginia. After age 35, both men and women begin to lose bone mass (0.3% to 0.5% yearly) as a normal part of aging, through an imbalance of the bone remodeling process. During the years following menopause, a woman's bone loss, especially of trabecular bone, accelerates due to her decreased estrogen levels.

Chronic Back Conditions

Chronic back conditions are the most common physical complaint among American adults. Chronic back pain is described in different ways, such as the occurrence of back pain lasting for more than seven to 12 weeks, back pain lasting beyond the expected period

of healing, or frequently recurring back pain. Chronic back pain is measured by where the pain occurs (such as lower back pain), activity limitation, impairment, and disability. Most back problems originate from bad habits, generally developed over a long period of time: poor posture; overexertion in work and play; sitting incorrectly at a desk or steering wheel; or pushing, pulling, and lifting things carelessly. The annual incidence of low back pain is 5% to 14%, and the lifetime reported prevalence ranges from 60% to 90%. In 1983-85, chronic back conditions rivaled arthritis and heart disease as a major cause of activity limitations.

The Objectives

OBJECTIVE 2.1. (Developmental) Increase to 35% the proportion of youth aged 13-18 years who are educated about good bone

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health and osteoporosis prevention.
(Baseline data available in 2000)

Data Source: West Virginia Department of Education, Office of Healthy Schools, Youth Risk Behavior Survey

OBJECTIVE 2.2. Increase to 35% the proportion of persons aged 18 and over who have received counseling from their health care provider concerning osteoporosis and/or osteoporosis prevention. (Baseline: 22.5% in 1999)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Behavioral Risk Factor Surveillance System (BRFSS)

FLAGSHIP OBJECTIVE

OBJECTIVE 2.3. Reduce the prevalence of osteoporosis, as defined by low bone mineral density (BMD), in West Virginia to no more than 30% among people aged 50 and older. (Baseline: 41.6% in 1996)

Data Source: WVBPH, OEHP, *The Burden of Osteoporosis in West Virginia*

OBJECTIVE 2.4. Reduce hospitalizations due to osteoporosis-related fractures among persons aged 45 or older to 50%. (Baseline: 68.1% in 1996)

Data Sources: West Virginia Health Care Cost Authority; WVBPH, OEHP, *The Burden of Osteoporosis in West Virginia*

OBJECTIVE 2.5. Reduce to no more than 30% the proportion of people with arthritis

who experience a limitation in activity due to arthritis. (Baseline: 40.1% in 1999)

Data Source: WVBPH, OEHP, BRFSS

OBJECTIVE 2.6. (Developmental) Reduce activity limitation due to chronic back conditions by 20% of the individuals affected. (Baseline data available in 2000)

Data Source: WVBPH, OEHP, BRFSS

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

- Work Sites
- Schools
- Public Health Programs
- Networks
- Health Care Systems
- Higher Education

The Osteoporosis Prevention Education Program will use the objectives as the framework to guide the program's work plan for the upcoming year. A special emphasis will be placed on working with the schools within the state to begin to educate West Virginia's children about osteoporosis and other conditions. The Program will also use the assistance of the Osteoporosis Prevention Education Program Advisory Panel to develop community-based programs that will help meet the objectives. The Osteoporosis Program will also award Community-Based Initiative Grants to programs to continue to educate West Virginians based on these objectives.

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www.wvdhhr.org/bph/hp2010/



Background

For more than half a century, cancer has been the second leading cause of death in West Virginia, surpassed only by heart disease. In 1997, 4,766 West Virginians died from cancer. From 1992 to 1996, the state's average annual age-adjusted cancer mortality rate was 232.2 deaths per 100,000 population, 9% higher than the U.S. rate of 213.1. In 1997 nearly one out of every four deaths (22.8%) in West Virginia was due to cancer. Clearly this is a problem of immense proportions.

The four most deadly types of cancer are the same in West Virginia and the U.S. For both sexes lung cancer is the greatest killer; in 1997, it claimed the lives of 953 of our men and 631 of our women, one-third of all cancer deaths. Breast cancer is the second leading cause of cancer deaths among women, killing 331 women in 1997. Prostate cancer took 231 lives that year, making it the second most deadly cancer among men. Colorectal cancer follows as the third leading cause of cancer mortality for both sexes, with 221 men and 283 women lost to this cancer in 1997.

3 CANCER

Each year from 1993 through 1997, over 9,000 West Virginians were diagnosed with cancer. This number does not include basal cell and squamous cell carcinomas of the skin, which are not captured in the state cancer registry. The number of new cancer cases each year was distributed virtually equally between men and women, with a total of 23,582 cases diagnosed among men over the five-year period and 22,914 diagnosed among women. Cancer incidence increases significantly with age, and West Virginia now has the distinction of having the "oldest" population of the 50 states, with a median age of 37.7 in 1996, higher even than that in Florida (37.6). Given this fact, cancer will continue to increase in the state if steps are not taken toward its control.

Each year from 1993 through 1997, about 1,800 new cases of lung cancer were diagnosed in West Virginians. Still a disease that is more prevalent among men than among women, lung cancer was diagnosed at an average rate of 101.8 new cases per 100,000 men and 52.4 per 100,000 women annually from 1993 through 1997. The gap between men and women in the number of lung cancer cases diagnosed was larger in the past, however, and it will continue to close as the smoking prevalence rises among young women in our state.

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Breast cancer is the most commonly diagnosed cancer among West Virginia women. From 1993 through 1997, approximately 1,200 new cases were diagnosed annually. The incidence rate in 1997 was 89.5 per 100,000 women.

Among West Virginia men, prostate cancer is the most commonly diagnosed cancer, accounting for one in every four cancer diagnoses. An average of 1,180 new cases were diagnosed annually from 1993 through 1997. The 1997 incidence rate was 104.3 for every 100,000 men.

Cancers of the colon and rectum were the third most common cancer diagnosed in both men and women in West Virginia. The 1997 incidence rate was slightly higher for men than for women (52.7 cases among every 100,000 men, compared to 42.7 cases among every 100,000 women).

Statistics reflect only a portion of the enormous health problem of cancer, yet there is evidence that the prospect of preventing and surviving cancer continues to improve. Perhaps 50% or more of cancer incidence can be prevented through smoking cessation and changed dietary habits. The early detection of cancers through screening can save even more lives.

The American Cancer Society reports that smoking is responsible for 87% of lung cancers and is also associated with cancers of the mouth, pharynx, larynx, esophagus, pancreas, cervix, kidney, and urinary bladder. Smoking accounts for about 30% of all cancer deaths. In 1997, 27% of West Virginia adults were current cigarette smokers (27% of men and 28% of women). The state ranked fifth

among the 50 states, the District of Columbia, and Puerto Rico in the prevalence of current smoking.

Even more alarming is the prevalence of smoking among the youth of West Virginia. In 1997, the Youth Risk Behavior Survey (YRBS), which was conducted in 33 states, found that West Virginia ranked third among those states in frequent cigarette use by high school students. Of those surveyed, one in four (24%) were frequent smokers, 23% of girls and 25% of boys. Three out of every four high school students surveyed had tried smoking cigarettes at least once.

Mortality from breast cancer can be substantially reduced if the tumor is discovered at an early stage. For women in their forties, there is recent evidence that having mammograms on a regular basis may reduce their chances of dying from breast cancer by about 17%. For women between the ages of 50 and 69, mammography is even more effective in preventing breast cancer mortality. There is strong evidence that regular screening among women of these ages reduces breast cancer deaths by about 30%.

Opinions vary regarding routine screening of asymptomatic men for prostate cancer; however, the American Cancer Society suggests an annual digital examination and Prostate Specific Antigen (PSA) test for men over 50 who have a life expectancy of at least 10 years.

Many cancers related to dietary factors also can be prevented. Diets high in fat and low in fiber have been associated with cancers of the colon and rectum, uterus, prostate, and breast. Scientific evidence suggests that are

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approximately one-third of the cancer deaths related to diet. In 1997, West Virginia ranked first among the 50 states, the District of Columbia, and Puerto Rico in prevalence of obesity (41%). In addition, many of the skin and lip cancers could be prevented by limiting exposure to the sun and by wearing protective clothing and using sunscreens.

Many types of resources are necessary to reduce the burden of cancer in West Virginia. First, the means of providing information on prevention, early detection, and treatment to the public and to health care professionals must be improved. Second, access to state-of-the-art cancer treatment for all West Virginians must be made available. Third, surveillance of cancer occurrence in the state must be maintained. Gaps in the network of resources exist, and it is imperative that these gaps in information, practice patterns, surveillance, and other areas be recognized and filled to meet the objectives.

The Objectives

FLAGSHIP OBJECTIVE

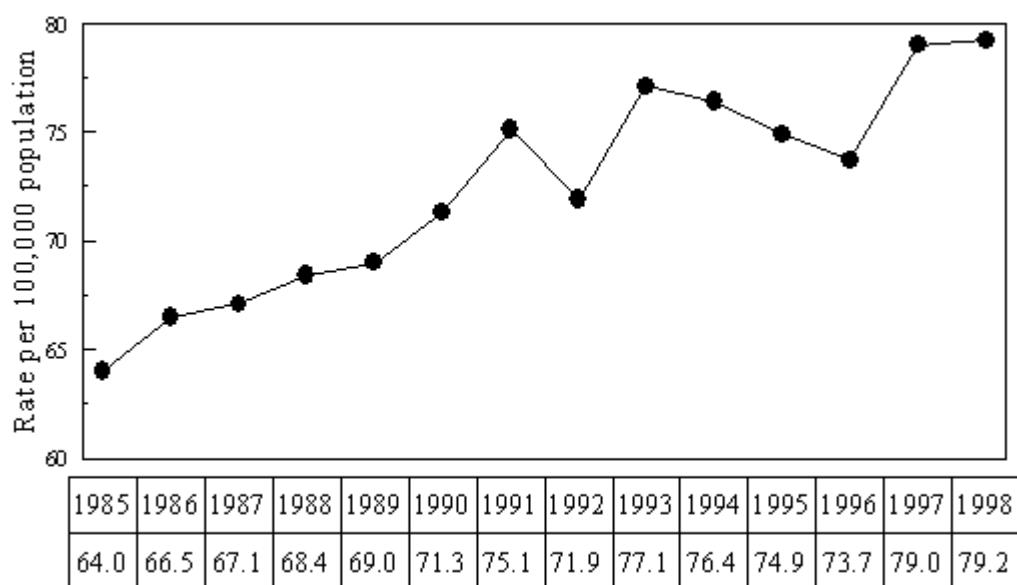
OBJECTIVE 3.1. Reduce lung cancer deaths to no more than 59 per 100,000 West Virginia residents. (Age-adjusted Baseline: 62.2 per 100,000 WV residents in 1997)

Data Sources: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Health Statistics Center (HSC); West Virginia Cancer Registry (WVCR)

Lung cancer is the leading cause of cancer deaths for both men and women in West Virginia and the U.S. Lung cancer deaths in West Virginia in 1997 accounted for approximately 33% of all cancer deaths and 8% of all deaths. West Virginia's high smoking rates, high rates of occupational lung disease and exposure to environmental lung carcinogens, and insufficient intake of dietary

Lung Cancer Mortality

West Virginia, 1985-1998



*Rates are age-adjusted to the estimated US, 2000 population.

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antioxidants such as fruits and vegetables among state residents make lung cancer prevention a particularly important target.

OBJECTIVE 3.2. Reduce breast cancer deaths to no more than 21 per 100,000 West Virginia females. (Age-adjusted Baseline: 22.6 per 100,000 West Virginia females in 1997)

Data Sources: WVBPH, OEHP, HSC; WVCR

The breast cancer death rate among West Virginia women steadily decreased in the 1990s, from 34.2 deaths per 100,000 women in 1990 to 22.6 in 1997. Experts believe that this decline is largely due to increased mammography screening. The percentage of women in West Virginia aged 18 and older who have ever had a mammogram increased from 38.2% in 1988 to 58.9% in 1997. This suggests that improved breast cancer management, from early detection to treatment, is having a beneficial effect.

OBJECTIVE 3.3. Reduce prostate cancer-related deaths to 19.5 per 100,000 West Virginia males. (Age-adjusted Baseline: 20.5 per 100,000 West Virginia males in 1997)

Data Source: WVBPH, OEHP, HSC; WVCR

Since 1991, U.S. mortality rates for prostate cancer have decreased modestly each year due to early detection and improved treatment. This same downward trend has been noted in state rates, from 25.7 deaths per 100,000 men in 1993 to 20.5 in 1997. At this rate of decline, the 2010 objective of 19.5 deaths per 100,000 men will be met.

OBJECTIVE 3.4. (Developmental) Decrease the number of persons who have had a sunburn with redness lasting at least 12 hours within the past 12 months. (Baseline data for West Virginia will be available from the 1999 BRFSS.)

Data Source: WVBPH, OEHP, BRFSS (The Comprehensive Cancer Plan needs to identify a source of funding to repeat the question in the 2002 and 2005 questionnaires to assess the progress toward this objective.)

Exposure to the sun's ultraviolet rays appears to be the most important environmental risk factor in developing skin cancer. Melanoma is the most serious form of skin cancer, and since 1973 its incidence has been increasing at a faster rate than any other cancer. By the year 2000, the lifetime risk for melanoma in the U.S. will be one in 75. Educating West Virginians to protect themselves against exposure to ultraviolet rays by wearing protective clothing and using sunscreen with Sun Protection Factor (SPF) 15 or more and decreasing the number of persons who experience sunburn would prevent many melanomas and other skin cancers.

OBJECTIVE 3.5. (Developmental) Increase the proportion of adults aged 18 and older who have received from a physician:

3.5.a. Counseling about tobacco use cessation (Baseline data on tobacco use cessation will be available from the 2000 BRFSS);

3.5.b. Counseling about diet modification (Baseline data on diet modification will be available from the 2000 BRFSS);

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3.5c. Counseling about cancer screening recommendations. (The Comprehensive Cancer Plan needs to identify a source of funding to add a question on cancer screening counseling to the 2001 questionnaire to assess the progress toward this objective.)

Data Source: WVBPH, OEHP, BRFSS

Physicians are a key resource for informing their patients about cancer prevention and early detection. Opportunities for providing counseling about reducing the risk for cancer must not be missed.

OBJECTIVE 3.6. Increase to at least 95% the proportion of women aged 18 and older who have ever received a Pap test and to at least 85% those who received a Pap test within the preceding three years. (**Baseline:** by 1997, 93.4% of women aged 18 and older in West Virginia had ever had a Pap test and 78.9% of women aged 18 and older in West Virginia had a Pap test in the previous three years.)

Data Source: WVBPH, OEHP, BRFSS

Data from 1995 show the annual age-adjusted mortality rate for cervical cancer in West Virginia was 51% higher than the corresponding U.S. rate (4.1 deaths per 100,000 women vs. 2.7 deaths). Early detection of cervical cancer through regular Pap test screening, followed by proper treatment, clearly lowers the mortality from this disease.

OBJECTIVE 3.7. Attain a level of at least 50% of people aged 50 and older who have received a colorectal screening examination

(fecal occult blood testing) within the preceding 1-2 years and increase to at least 40% those who have ever received proctosigmoidoscopy. (**Baseline:** by 1997, 27.2% of West Virginians aged 40 and older had ever had a sigmoidoscopy or proctoscopy examination)

Data Source: WVBPH, OEHP, BRFSS

There is increasing evidence that the detection and treatment of early-stage colorectal cancers and adenomatous polyps can reduce mortality. The American Cancer Society recommends screening for persons 50 years and older with an annual fecal occult blood test plus either flexible sigmoidoscopy every five years, colonoscopy every ten years, or double contrast barium enema every five to ten years. Screening for persons with increased risk factors should begin at an earlier age, depending on the family history of colorectal cancer or polyps. Although screening for colon cancer is clearly beneficial, studies are still being done to determine which test or combinations of screening tests provide the most practical and effective approach.

OBJECTIVE 3.8. Increase to 95% the expected number of cancer cases reported to the West Virginia Cancer Registry within 12 months of the close of the diagnosis year and publish incidence and mortality data within 18 months of the close of the diagnosis year. (**Baseline:** 75% of the expected number of 1997 cases were reported to the WVCR by December 31, 1998, and the 1997 incidence rates will be published by December 31, 1999.)

Data Source: WVBPH, WVCR

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The completeness and timeliness of West Virginia cancer data is dependent upon the reporting practices of a vast number of health care providers, including hospitals, physicians, pathology laboratories, cancer treatment centers, surgery centers, nursing homes, other state cancer registries, the Office of Vital Registration, and the West Virginia Breast and Cervical Cancer Screening Program. It is imperative to keep all of these reporting sources informed of their responsibility for cancer reporting to the WVCR within six months of initial diagnosis.

With improving technology and changing patterns of diagnosis and treatment of cancer, an increasing number of patients are receiving all of their cancer care outside the hospital setting. This poses challenges to the WVCR to identify these cases and to obtain the information necessary to include them in the registry. Greater emphasis must be placed on identifying new reporting sources, informing them of the reporting requirements and monitoring the quality, completeness, and timeliness of their reporting.

OBJECTIVE 3.9. (Developmental) Increase the number of cancer survivors who are living five years or longer after diagnosis of cancer. (Baseline data available in 2002)

Data Source: WVBPH, WVCR

In the early 1900s, few cancer patients had hope of long-term survival. In the 1930s, about one in four was alive five years after treatment. About 491,400 Americans, or four of every 10 patients who were diagnosed with cancer in 1998 were expected to be alive five years after diagnosis. This four in 10, or 40%, is called the observed survival rate. When

adjusted for normal life expectancy (factors such as dying of other causes), a relative five-year survival rate of 58% is seen for all cancers. Five-year relative survival rates, commonly used to monitor progress in early detection and treatment, include persons who are living five years after diagnosis, whether in remission, disease free, or under treatment. While these rates provide some indication about the average survival experience of cancer patients in a given population, they are less informative when used to predict individual prognosis.

The WVCR currently contains five complete years of cancer data, i.e., 1993-1997. As the registry matures, five-year survival rates will become available. U.S. five-year survival rates are available for specific cancer sites from the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) program. The SEER program currently has cancer data for 1973-1996.

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

- Worskites
- Schools
- Public Health Programs
- Networks
- Health Care System
- Higher Education

The West Virginia Comprehensive Cancer Control Coalition (WVCCCC) will use the objectives as the framework for the West Virginia Comprehensive Cancer Plan to be

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developed in 2000. The WVBPH's Office of Epidemiology and Health Promotion is the coordinating agency for the Coalition. The mission of the WVCCCC is to provide leadership through facilitating and coordinating statewide and community level collaborations resulting in a comprehensive effort to reduce the human and economic impact of cancer in West Virginia. The Coalition will address the problem of cancer in the state by using the six health promotion channels listed above.

The following is a partial list of agencies represented on the WVCCCC:

American Association of Retired Persons
American Cancer Society
Betty Puskar Breast Cancer Center
CamCare Health Education and Research Institute
Center for Rural Health Development
Charleston Area Medical Center
Coalition for a Tobacco-Free West Virginia
HBA Cytology Center, Inc.
Kanawha County Schools
Leukemia Society of America
Marshall University School of Medicine
Mary Babb Randolph Cancer Center
West Virginia Cancer Registrars Association
WV Department of Health & Human Resources-Bureau for Public Health
West Virginia Hospital Association
West Virginia School of Osteopathic Medicine
West Virginia State Medical Association
West Virginia Rural Health Education Partnership
West Virginia University (WVU) Center on Aging
WVU Extension Service
WVU School of Dentistry
WVU School of Medicine

WVU School of Pharmacy
Young Women's Christian Association-ENCORE Plus

There are currently two cancer programs within the Bureau for Public Health: the West Virginia Breast and Cervical Cancer Screening Program (WVBCCSP) and the West Virginia Cancer Registry. The WVBCCSP will continue to address Objectives 2 and 6 and the WVCR will address Objective 8.

The remaining six objectives will be addressed in the upcoming West Virginia Comprehensive Cancer Control Plan.

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www.wvdhhr.org/bph/hp2010/



Background

Kidneys perform several vital functions: they remove wastes from the body in the form of urine, filter toxins from the blood, and regulate blood pressure and the balance of certain important body nutrients including potassium and calcium. If both of a patient's kidneys fail to function properly due to one of many kidney diseases, one may experience end stage renal disease (ESRD) or total kidney failure.

Anyone can develop kidney disease, and eventually ESRD. Diabetes and high blood pressure are two of the leading causes of kidney disease. Diabetes accounts for 42% of the new cases of kidney failure in the United States, while high blood pressure contributes to 26% of the new cases.

According to the latest U.S. statistics available at the time of publication, the overall incidence rate of ESRD was 318.46 cases per one million persons in 1998. In the Mid-Atlantic Renal Coalition (MARC) Network 5

4 CHRONIC KIDNEY DISEASE

region, which includes West Virginia, Virginia, Maryland, and Washington, DC, the ESRD incidence rate was 376.57 per million people in that year. In West Virginia, the rate was 337.91 per million. Nearly all of these individuals became permanently dependent on renal replacement therapy (RRT) to stay alive.

RRT is a life-saving process that artificially replaces the function of diseased kidneys and aids patients suffering from ESRD. Two primary options exist for RRT patients: dialysis or kidney transplantation. In 1999, West Virginia had 1,303 people actively receiving some form of dialysis, and over 20% of adult dialysis facility patients were awaiting transplantation.

There are two types of dialysis: hemodialysis and peritoneal dialysis. Hemodialysis involves removing blood from the body and filtering it into a machine that continuously draws blood, cleanses it and removes excess fluids, and then returns the blood to the patient. Hemodialysis requires a person to have a three-to-four-hour treatment three times a week, typically in a treatment facility. Peritoneal dialysis is an internal or in-body dialysis in which a blood-cleansing solution is injected into a peritoneal cavity,

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extracting toxins and excess fluids and then drained from the body cavity. Peritoneal dialysis is performed each day and is usually performed at home.

Many patients also benefit from a kidney transplant. A functioning transplant will end the need for dialysis. Donated organs from cadavers or living donors who match the patient are used for transplantation.

The importance of early referral for patients with ESRD cannot be overstated. Studies from the U.S. and abroad have shown that earlier patient referrals may lead to fewer complications, shorter hospital stays, and decreased medical costs. Today, there are new and better treatments choices for ESRD patients. Learning about treatment choices can assist patients in determining the treatment that works best for them. No matter what treatment is chosen, the patient will experience lifelong changes. The addition of adequate nutritional counseling, treatment choices, and social services before renal replacement therapy can help ensure the patient leads the fullest life possible.

Predialysis referral to a renal team consisting of a nephrologist, nurse, dietician, and social worker provides time to establish a working relationship to acquaint the patient/family with the various modes of renal replacement therapy, and to determine what is the optimal therapy, both medically and psychosocially, for the individual. Should hemodialysis be the therapy of choice, early intervention with the renal team also provides the necessary time for referral for the creation and subsequent maturation of the arteriovenous (AV) fistula.

Nutritional education and intervention are also of utmost importance in the maintenance of optimum protein/albumin and electrolyte levels. Early referral allows the medical team to help prevent acceleration of renal function loss by ensuring the avoidance of situations such as the use of potentially nephrotoxic drugs and dehydration states. Including patients in decisions involving their care and encouraging their active participation will help empower patients to be proactive in learning about their care with the goal of decreasing morbidity ultimately related to noncompliance.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 4.1. Slow the rate of new cases of end-stage renal disease (ESRD) by 10%. (Baseline: 337.91 per million West Virginia population in 1998)

Data Source: Mid Atlantic Renal Coalition (MARC)

According to preliminary MARC data, 583 new cases of ESRD were diagnosed in 1999; of these, the primary causes were diabetes, 49%; hypertension, 26%; glomerulonephritis, 12%; cystic kidney disease, 3%; and other causes, 10%. Some warning signs may include high blood pressure, swelling in the face and ankles, eye puffiness, rusty or brown urine, back pain just beneath the rib cage, or frequent urination.

OBJECTIVE 4.2. Increase to 40% the proportion of new hemodialysis patients who use arteriovenous fistulas as the primary mode of vascular access. (Baseline: 18.9%)

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Data Source: National Kidney Foundation, Dialysis Outcomes Quality Initiative (DOQI), Vascular Access for In-Center Hemodialysis Patients: Preliminary Finding, 1999

Primary AV fistulas should be constructed in at least 40% of all new patients electing to receive hemodialysis as their initial form of RRT. The AV fistula is established by surgically attaching a person's artery to a vein. The increased pressure in the vein causes the vein to swell and the walls of the vein to strengthen. This provides the site to insert hemodialysis needles (fistula needles). Despite drawbacks in terms of cardiac load on the heart, the AV fistula is considered the "gold standard" of blood access. A primary AV fistula using the cephalic vein confers the best permanent access with the fewest complications, requires fewer interventions compared to other access types, and has a sufficient patency rate.

Advantages of AV Fistulas are:

- Longest functional life
- Lowest rate of infection and thrombosis
- Predictable performance
- Supported by a large body of literature

OBJECTIVE 4.3. Increase the proportion of dialysis patients awaiting transplantation to 50%. (Baseline: 21.4% of all ESRD patients in WV were awaiting transplantation in 1998)

Data Source: MARC data

Patient survival rates for kidney transplantation continue to increase. According to the United Network of Organ Sharing (UNOS) Annual Report, 1998 data reveals kidney survival rates at one year of

88% for cadaveric recipients and 94% for living donor recipients. UNOS reports that patient survival rates at one year at 94% for cadaveric recipients and 98% for living donor recipients. The cost of care for those patients who have a successful kidney transplant is significantly lower compared to ESRD patients on long-term dialysis.

Transplant referrals are monitored and reported by MARC annually. Of the 78.6% of all WV ESRD patients who were not awaiting a kidney transplant in 1998, 19.6% had been referred for evaluation, 19.1% had refused referral, 28.2% were medically unsuitable, and 11.7% were not established. In 1999, MARC Network 5 sent facility specific Transplant Referral Pattern reports to each dialysis provider. Each was asked to determine the need for educational programs or internal assessment to deliver complete transplant information to every medically eligible patient. It was noted that many patients in WV may have limited access to these services due to geographic location. There are currently only two UNOS transplant centers located in the state (Charleston and Morgantown).

OBJECTIVE 4.4. (Developmental) Increase the proportion of persons with Type 1 or Type 2 diabetes and proteinuria who receive recommended medical therapy to reduce progression to chronic renal insufficiency. (Baseline data available in 2001)

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Data Source: West Virginia Primary Care Chart Audits from 1997 and 2000

The West Virginia Primary Care Chart Audits were performed by Marshall University Center for Rural Health in 1997 and 2000. Data exist on the 15 selected primary care clinics audited these years. These data were collected in order to compare diabetes care in West Virginia to data analyzed in 11 clinics in 1997. The sample group followed in 1997 was not the same sample group followed in 2000. A total of 1,200 charts were reviewed in 2000 compared to 991 charts in 1997. Health center staff, using a protocol developed by Marshall University, performed these chart reviews. Data were collected on annual foot and eye checks, flu shots, HbA1c x 2/year, lipid checks, average HbA1c value (actual value), lipid profile (actual value), tobacco use, and cessation offered.

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:
Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

Some of the offices and organizations that are helping to lead the initiatives to reach the objectives include:

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www ASN-Online.org

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Background

The 2010 goals for diabetes care in West Virginia focus on the following challenges: increasing the demand for better diabetes care through public awareness; increasing early detection of Type 2 diabetes; improving management of diabetes care; increasing the collection of statewide diabetes data; and monitoring and evaluating the effectiveness of diabetes care statewide. Overall, the main goal is to increase the quality of life for persons with diabetes living in West Virginia.

Diabetes is a significant public health issue in West Virginia. Data from the Behavioral Risk Factor Surveillance System (BRFSS) survey indicate that, as of 1997, an estimated 88,635 persons had been diagnosed with diabetes, representing 6.3% of all West Virginian adults. West Virginia's obesity rate as self-reported by respondents to the 1998 BRFSS survey was 43%, the highest in the nation. That same year, 70.0% of adult West Virginians reported having a sedentary lifestyle. West Virginia's median age is 37.6, the oldest in the nation. An estimated 577,300

5 **DIABETES**

West Virginians are at increased risk for diabetes due to these risk factors.

Convincing evidence shows that diabetes prevalence continues to escalate nationwide in a costly and devastating manner, primarily due to lifestyle changes. Negative changes in eating habits, meals containing higher levels of fat, and the ever-increasing consumption of fast foods are resulting in the occurrence of obesity at younger-than-everages. Physical activities are frequently being replaced by sedentary lifestyles, exacerbating the obesity problem. A large percentage of West Virginians live in very rural areas, with limited access to health care. Education and income levels remain low, contributing to less-than-desirable health care outcomes. These factors are creating a diabetes epidemic. Diabetes is a major disease challenge for both persons with diabetes and their health care providers.

Diabetes is more common among certain racial and ethnic populations. According to the BRFSS, from 1996-1998, 17.2% of African-American women were diagnosed with diabetes, compared with 6% of Caucasian women. Nine percent (9.4%) of African-American men were diagnosed with diabetes, compared to 6.3% of Caucasian men. Diabetes-related death rates are higher among

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the minority populations as well. The death rate in West Virginia for African-American males with diabetes is 68.8% while the death rate for white males is 32.8%. The death rate for African-American females is 57.4% as compared to 30.8% for white females (BRFSS).

The majority of persons with diabetes have Type 2 diabetes, with approximately 5%-10% having Type 1. Some of the early but vague symptoms are fatigue, blurred vision, and irritability. Complications from diabetes include damage to small and large blood vessels, damage to nerves, and decreased ability to fight infections. A woman with diabetes who gives birth is more likely than other women to have an infant who has congenital anomalies or dies within the perinatal period. A person with diabetes is more likely to have cardiovascular problems, including heart attacks and strokes, lower extremity amputation, kidney problems, and blindness, than persons without diabetes; Persons with diabetes are two to four times more likely to develop heart disease or to suffer a stroke. An estimated 60% to 65% of the diabetes population suffers from hypertension. Over one-half of lower extremity amputations occur among persons with diabetes. Nerve problems occur in 60% to 70% of persons with diabetes. Diabetes continues to be the leading cause of new adult blindness, as well as end-stage renal disease. According to the National Healthy People 2010 goals, "Both type 1 and type 2 diabetes have a significant genetic component. For type 1 diabetes, genetic markers that indicate a greater risk for this condition have been identified; they are sensitive but not specific. Type 2 diabetes, especially in vulnerable racial and ethnic groups, may be associated with a

'thrifty gene.' Family and twin studies demonstrate considerable influence of genetics for Type 2 diabetes, but a specific genetic marker for the common variety of Type 2 diabetes has not been identified."

Diabetes is a family disease. It requires behavior modification and adaptions that involve not only the person diagnosed but immediate family as well. It requires education, self-care management techniques, dietary and lifestyle changes. Diabetes is a costly disease that requires increased medical visits, medication and/or supplies, and education.

Recent research has been completed that reveals the benefits of near-euglycemic management. This means that with near-normal blood glucose levels, persons are less likely to develop some of the complications commonly associated with diabetes. This may prevent or delay complications of microvascular origin. It is essential that health care providers remain knowledgeable and share up-to-date information and treatment guidelines with their patients.

The Objectives

OBJECTIVE 5.1. Reduce perinatal mortality in infants of mothers with diabetes to no more than 12 per 1,000 births.
(Baseline: 14.6 per 1,000 births from 1990-1999)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Health Statistics Center (HSC)

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Pregnant mothers need to be instructed in meal planning and how to do blood glucose monitoring. Insulin is often required during pregnancy to attain adequate blood glucose control. Diabetes control is achievable when families have the needed professional assistance from their health care providers and if they have adequate financial resources. Expectant mothers are usually motivated to achieve the best outcome.

OBJECTIVE 5.2. Reduce the frequency of major congenital malformations in infants of mothers with diabetes to no more than 15 per 1,000 births. (Baseline: 26.5 in 1997)

Data Source: WVBPH, OEHP, HSC

Reduction of major congenital malformations in infants includes prepregnancy counseling and planning for the pregnancy after near-normal blood glucose levels are achieved. Careful monitoring needs to be continued during pregnancy. With prepregnancy planning and tight control of blood glucose levels congenital malformations are equal to those of mothers without diabetes.

OBJECTIVE 5.3. Reduce the frequency of lower extremity amputations to 15 per 1,000 persons with diabetes. (Baseline: 20 per 1,000 persons with diabetes in 1992-95)

Data Source: WVBPH, OEHP, BRFSS

It is estimated that half of lower extremity amputations can be prevented. Persons with diabetes need to be taught to be assertive and remove their shoes and socks at each physician visit. They need to incorporate checking their own feet into their daily routines and reporting any noted problems.

Also, they need to be made aware that it is recommended that their health care provider complete a comprehensive foot exam annually.

OBJECTIVE 5.4. Decrease the incidence of end-stage renal disease (ESRD) requiring dialysis or transplantation to no more than 253 per 1,000,000 population. (Baseline: 337 per 1,000,000 population in 1998)

Data Source: Mid-Atlantic Renal Coalition (MARC), contractor for ESRD Network 5

Decreasing the prevalence of end-stage renal disease due to diabetes requires critical attention to blood pressure control. It is currently recommended that blood pressures stay below 130/85. It is also important to evaluate the micro albuminuria and ensure that safe levels are maintained. The importance of maintaining good blood glucose levels in order to prevent kidney disease needs to be emphasized.

OBJECTIVE 5.5. Increase to at least 90% the proportion of patients with diabetes who annually obtain lipid assessment (total cholesterol, LDL cholesterol, HDL cholesterol, triglyceride). (Baseline: 87.1% in 1997)

Data Source: WVBPH, OEHP, BRFSS

It is highly recommended that persons with diabetes obtain lipid assessments annually. Optimal care of persons with diabetes includes intensive glycemic control, proper nutrition, physical activity, smoking cessation, and weight control. Medical management, including that of co-morbid conditions, will actualize improved outcomes

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and decreased cost of diabetes and its complications.

FLAGSHIP OBJECTIVE

OBJECTIVE 5.6. Increase to 85% the proportion of persons with diabetes who have a glycosylated hemoglobin measurement at least once a year. (Baseline: 15.9% in 1998)

Data Source: WVBPH, OEHP, BRFSS

The HgA1c is the gold standard for diabetes care. To help prevent diabetes complications, the HgA1c should be maintained at 7% or below according to the Diabetes Control and Complications Trial (DCCT) and United Kingdom Prospective Diabetes Study (UKPDS) findings.

OBJECTIVE 5.7. Increase to 73% the proportion of persons with diabetes who have an annual dilated eye exam. (Baseline: 65.5% in 1998)

Data Source: WVBPH, OEHP, BRFSS

Annual eye exams are important because diabetes is the primary cause of adult blindness. Serious eye problems can be prevented and treatments such as laser surgery or vitrectomy can be performed to save eyesight.

OBJECTIVE 5.8. Increase to 55% the proportion of persons with diabetes who perform self-blood-glucose monitoring (SBGM) at least daily. (Baseline: 50.3% in 1998)

Data Source: WVBPH, OEHP, BRFSS

Every person having diabetes needs to be performing self-blood-glucose monitoring at least daily. This technique enables people to make intelligent decisions based on facts. Each person who checks his or her blood glucose should record it and share it with the health care provider. SBGM can show patterns and heighten awareness of where persons can change exercise routines and eating habits to feel better. One of the barriers to success in SBGM is the need for health care providers to understand more fully the reimbursement issues.

OBJECTIVE 5.9. Increase to 52% the proportion of persons with diabetes who have received diabetes education in the past year from someone other than their physician, such as a registered dietician or certified diabetes educator. (Baseline: 29.5% in 1997)

Data Source: WVBPH, OEHP, BRFSS

Diabetes is a condition that persons need to self-manage. Almost all of diabetes management is done outside of the physician's office. It is imperative that people have a good knowledge base so that they can make appropriate decisions.

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

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The West Virginia Bureau for Public Health, Division of Health Promotion's Diabetes Control Program is the entity leading the initiatives to reach the objectives.

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West Virginia Bureau for Public Health. *West Virginia Vital Statistics 1997*. Charleston, WV: West Virginia Department of Health and Human Resources, March 1999.

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Background

According to the Americans with Disabilities Act of 1990, a person is considered as having a “disability” if he or she meets at least one of the following criteria: (1) He or she has a physical or cognitive impairment that substantially limits one or more major life activities; (2) he or she has a record of such an impairment, and/or (3) he or she is regarded as having such an impairment.

In spite of recent federal legislative initiatives and funded programs, there remains a discrepancy in the quality of life between persons with disabilities and their non-disabled peers in the areas of self-care, independent living, social skills, self-determination, education, health and safety, employment, and leisure. Programs that serve persons with disabilities vary from state to state with respect to the extent and quality of services provided. This is due, in part, to the geographic and demographic make-up of each state, unemployment rate, and tax base within the individual state. For example, states that

6 **DISABILITY AND** **SECONDARY** **CONDITIONS**

are largely rural, like West Virginia, are less likely to have an accessible system of transportation; persons with low incidence disabilities may be widely scattered, making it difficult to provide services; persons with disabilities are less likely to secure employment when they must compete with non-disabled peers for a small pool of jobs; and the wealth of individual state and local governments determines the amount of state funding available to initiate or sustain programs serving individuals with disabilities. The elimination of such barriers is crucial to improving the quality of life for all individuals with disabilities.

The U.S. Census of 1990 reports that 35% of West Virginians are identified as having a disability. Of those, 19% are rated as severe. Approximately 3% of this population have difficulty with self-care, a major quality of life area. Survey research conducted by Keith and Stewart in 1992 found that approximately one-third of West Virginia households included a person with an identified disability. Of the adults who responded to this survey, one in five reported requiring professional care for their disability. Primary disabilities with concomitant chronic health problems and physical limitations occur within the aging population of West Virginia. Additionally, poverty, low educational levels,

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lack of prenatal care, and teenage pregnancies may contribute to high incidences of disability among infants born in the state.

One of the most important quality of life issues influencing a person's emotional, social, and financial well-being is their employment status. Not just having a job, but having a job that complements one's work personality, is critical to a feeling of satisfaction with one's state in life. Holland theorized that an individual's occupational choice is a reflection of one's personality. For example, a person with an artistic-type personality would be happiest in a work environment that allowed them full expression of their talent. Where jobs are scarce, people with disabilities are often steered into available jobs versus jobs that suit their individual work personality type. If job satisfaction is directly linked to the closeness of fit between work personality type and work environment, then dissatisfaction with one's job could lead to poor performance and failure to retain employment. In West Virginia, employment options for people with disabilities are often limited to sheltered workshops or part-time, low-paying jobs. Yet, supported employment options and a move to competitive employment may offer a wider range of career choices for people with disabilities.

As employment fosters the mental, social, and financial well-being of adults, educational placement opportunities with non-disabled peers have been shown to build social skills, produce long-term employment options, and promote mental health and self-esteem for school-age children with disabilities. Statistics provided by the West Virginia Department of Education (WVDOE) indicate that, in fiscal year 1999, 20% of students receiving special

education services participated in full-time regular classroom placements and 60% were in part-time regular education services. This corresponds to similar numbers nationwide. Both the state traumatic brain injury and spinal cord injury model plans call for promoting participation in regular educational programs. A statewide commitment to making rural schools more accessible and the WV Office of Special Education's strategic improvement plan will impact the number of children participating in regular education.

Survey research has identified a variety of barriers to the health and well-being of people with disabilities in West Virginia. These include (a) physical barriers that prevent access to work, education, recreation, and community participation; (b) informational barriers in rural communities that limit the amount of health care and other information for people with disabilities; (c) transportation barriers that limit access to health care and social interaction; (d) lack of access to assistive technologies and specialized curricula that would promote independence at work, home, and school; and (e) governmental policies that limit health care services and supports.

The U.S. Department of Health and Human Services has designated areas in 40 West Virginia counties as all/part Health Professional Shortage Areas and 50 counties as all/part Medically Underserved Areas. This severely impacts people with disabilities because of their special health care needs. A recent survey conducted by the West Virginia University Affiliated Center for Developmental Disabilities (UACDD) questioned clients of WV Children with Special Health Care Needs and found that 57% of children with seizure

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disorders, 50% with myelomeningocele, 48% with orthopedic issues, and 25% with cardiac problems were in need of feeding and nutrition intervention.

Mental Health: A Report of the Surgeon General, 1999 stresses that mental health is a critical public health problem. Annually, approximately 40 million Americans are reported as having some type of mental illness. Based on figures published in the Federal Register, approximately 2.6% (35,099) of the adult population and 13% (54,847) of the child population of West Virginia experience serious mental illness or emotional disturbance. Treatment for such disorders is often dependent on the individual's financial status. As Dr. David Satcher, United States Surgeon General, notes, "...formidable financial barriers block off needed mental health care from too many people regardless of whether one has health insurance with inadequate mental health benefits, or is one of the 44 million Americans who lack any insurance."

Leisure, respite, and recreational activities are known to improve satisfaction with life, increase the number of health days, and promote personal and emotional support. According to both the traumatic brain and spinal cord injury surveys conducted in 1998 and 1999, the lack of recreational and leisure opportunities for people with disabilities limits their ability to integrate successfully in their communities and ease pressures associated with disability. Specific needs are indicated in the areas of family and emotional support systems enhanced by leisure and recreational opportunity.

The Objectives

OBJECTIVE 6.1. (Developmental) Include a comparable core set of items to identify people with disabilities in data sets used for Healthy People 2010. People with disabilities should be part of the overall collection of data. (Baseline data available in 2001)

Data Sources: West Virginia Developmental Disabilities Council (DDC); UACDD; Office of Behavioral Health Services; Traumatic Brain Injury (TBI) Registry

The last statewide collection of information regarding the incidence and prevalence of disability in West Virginia was conducted by Lindberg and Putnam in 1979. Several small sample surveys have subsequently assessed the needs of people with developmental and other disabilities. These surveys provide some information for the current objectives but, as indicated in the national Healthy People 2010 draft, "the elements...that explicitly call for improvement for people with disabilities are limited by the availability of data with which to set targets." As with national data, approaches to include a demographic-like variable identifying people with disabilities is yet to emerge in West Virginia. The addition of disability questions to ongoing data assessments would more successfully include the same type of health care status information for people with disabilities as information available regarding the general public.

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OBJECTIVE 6.2. (Developmental) *Increase employment rates among people with disabilities to reflect equal percentages of employment opportunities for people who want to work both with and without disabilities.* (Baseline data available in 2000)

Data Sources: West Virginia Division of Rehabilitation Services (WVDRS), Spinal Cord Injury Survey; Job Accommodations Network; DDC

Employment promotes the inclusion of people with disabilities in the mainstream of adult life, identifies them as valuable contributors to their community, and enhances their self-esteem. However, according to national data, the unemployment rate is 70% among adults with severe disabilities. In a recent survey of people with spinal cord injury in West Virginia, of the 70% of adults employed prior to injury, only 24% remained employed after their injury. Furthermore, according to the 1990 census, only 21% of West Virginians with disabilities between the ages of 21 to 64 are employed. Data from a National Organization on Disability (NOD)/Harris Survey of Americans with Disabilities reports that “(a) only three in 10 working-age (18-64) people are employed full or part-time, compared to eight in 10 working-age people without disabilities (32% versus 81%); (b) two out of three unemployed people with disabilities would prefer to be working; and (c) fully 56% of people with disabilities who say they are able to work are working today, compared to 46% in 1986.”

There are major disincentives to employment for people with disabilities. These include the fear of losing Medicaid or other

health care benefits and the need for accommodations at the work place. The total number of persons (working and nonworking) with a work disability within West Virginia is 143,379. According to a March 2000 the Social Security Administration report, West Virginia has 1,954 working recipients. This represents 3% of all WV SSI-disabled recipients. New work incentives at the national level should have a positive impact on eliminating these barriers over the next 10 years. The Job Accommodations Network confirms that accommodations needed for employment supports are generally low-cost and low-tech.

OBJECTIVE 6.3. Increase to 87% the proportion of children with disabilities included in regular education programs with appropriate supports. (Baseline: 82% in 1999)

Data Source: WVDOE, Exceptional Students in West Virginia’s County School Districts: Selected Child Count and Financial Data

As reported in fiscal year 1999, currently 80% of school-age children in West Virginia are being served through a combination of full- or part-time participation in regular education classrooms.

OBJECTIVE 6.4. (Developmental) Ensure that environmental factors are identified as barriers to participation at home, work, and in the community by equal proportions of people with and without disabilities. These factors include:

6.4a. Access to buildings (Baseline data available in 2000);

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6.4b. Access to information, communications, devices, and technology (Baseline data available in 2000);

6.4c. Transportation (Baseline data available in 2000); and

6.4d. Governmental policies (Baseline data available in 2000)

Data Sources: West Virginia Assistive Technology System (WVATS); WVDRS, Spinal Cord Injury Survey; DDC; WV's Americans with Disabilities Act Office

OBJECTIVE 6.5. (Developmental) Increase the number of service providers offering appropriate health care with special emphasis on dental, nutritional, and mental health care needs. (Baseline data available in 2003)

Data Sources: U.S. Department of Health and Human Resources, Bureau of Health Professions; West Virginia Bureau for Public Health (WVBPH), Office of Maternal, Child & Family Health, Children's Dentistry Services

Although children with disabilities can receive dental care through Children with Special Health Care Needs, adults with disabilities have few or no supports for dental services. Recently a new program, Donated Dental Services, has offered a limited number of West Virginians with disabilities the opportunity for dental care.

OBJECTIVE 6.6. (Developmental) Increase the accessibility of leisure and recreational opportunities for people with disabilities. (Baseline data available in 2002)

Data Sources: WVATS; TBI; WVDRS, Spinal Cord Injury Survey

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

Wksites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

West Virginia offers a number of agencies that provide services to people with disabilities as the cornerstone of their mission. Their missions are consistent with meeting the previous six objectives. These include, but are not limited to:

Developmental Disabilities Council
University Affiliated Center for Developmental Disabilities:
Parent Network Specialists
State Program for TBI/SCI
Maternal and Child Health/LEAD Grant
Rural Education for Appalachian Community Health (REACH) Grant
West Virginia Assistive Technology System (WVATS)
West Virginia Advisory Council for the Education of Exceptional Children
W.G. Klingberg Center for Child Development
West Virginia Department of Education
West Virginia Division of Rehabilitation Services
West Virginia Office of Behavioral Health Services

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Background

National Overview. In the past century we have witnessed a shift from infectious disease to chronic, lifestyle-related illness as the major antecedent to mortality and morbidity in the United States. In the past few decades alone, the paradigm shift from infectious disease to chronic disease has resulted in the knowledge that the health of a community does not solely rest on an individual's health status, but also on the social, educational, and physical resources available that are conducive to improving health status. Today, an increasing number of communities across the nation have adopted various community planning processes to reduce the negative poor health choices and replace them with positive health behaviors through education of the community.

The settings/channels in which educational and community-based programs prosper are as diverse as our nation's population. The most successful communities

7 EDUCATIONAL AND COMMUNITY-BASED PROGRAMS

have involved multiple sectors of the community: public health, health care, businesses, local government, schools, civic organizations, voluntary health organizations, faith organizations, and many other groups and private citizens who are interested in improving the health status of their community.

Over the next decade, it is projected that the composition of the nation's population will become more racially and ethnically diverse. For us to continue to make progress in reducing health disparities and increase access to care for ethnic and cultural minorities and for the elderly, educational and community-based programs must be culturally competent, age appropriate, and gender specific.

State Overview. The West Virginia Bureau for Public Health (WVBPH) has responded to the shift from infectious to chronic disease by placing a greater emphasis on preventing chronic disease through promoting more healthful behaviors. Preventive approaches that hold the greatest promise for changing behaviors are

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community-based efforts that focus on both individual and societal influences. The Division of Health Promotion has numerous programs and networks aimed at increasing the capacity of local community groups to promote health. The three channels that will be addressed in the Educational and Community-Based Objectives are community, schools, and worksites.

Community Health Promotion.

Community health promotion focuses on the community to promote informed decision-making on health issues. Health behavior change occurs more often, is more successful, and is longer lasting when the need for such a change is decided upon by the community members themselves. Many health problems cannot be solved by individuals alone, nor do they exist in a vacuum. Community health promotion programs must therefore use broader approaches, drawing upon as many facets of community life as possible.

With limited resources available, the need exists for increased coordination and collaboration among the various county, regional, and statewide initiatives. The West Virginia Health Promotion Program within the WVBPH has addressed this need through the network of West Virginia Health Promotion Specialists (WVHPS). The WVHPS provide locally based technical assistance to support communities in their community health promotion endeavors. This, in turn, enables the Community Health Promotion Program, through the WVHPS network, to establish and support community health promotion at a local/county level as well as accomplishing West Virginia Healthy People 2010 Objectives.

_____ ***School Health Promotion.*** Two strategies are currently being implemented in West Virginia to improve the health status of West Virginia's children: activities of the Governor's Cabinet on Children and Families and the WV Department of Education working with the WV Bureau for Public Health. In 1990, the legislature created the Governor's Cabinet on Children and Families. The Cabinet brings together state agency leaders to oversee the delivery of services to children and families, including the elimination of barriers to access. The mission is to enhance the ability of families to protect, nurture, educate, and support the development of their children so that each child's full potential is achieved. The overall goal of the strategy is to shift from an illness/treatment model to one that promotes health, development, and well-being.

_____ ***Family Resource Network.*** One aspect of the Governor's Cabinet on Children is the statewide system of Family Resource Networks (FRNs). The intent of establishing the FRNs was to develop a family-centered, comprehensive, community-based system for the provision of social services, programs, and facilities for families and children. At this time, there are 45 Family Resource Networks covering the 55 counties. The common mission of the 45 FRNs is to facilitate a system of prevention, education, and early intervention activities aimed at enabling families, children, and their communities to reach their fullest potential through community-based planning activities. The various FRNs do not accomplish this charge alone; all persons, organizations, and community groups, especially consumers of services, are invited to become active members.

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West Virginia Children's Health Insurance Program. Another accomplishment of the Governor's Cabinet on Children and Families is the West Virginia Children's Health Insurance Program. On April 9, 1998, Governor Cecil Underwood signed into law the West Virginia Children's Health Insurance Program (WVCHIP). This new program can help all children get the necessary and preventative health care they need to grow into strong, healthy adults. Phase I gives health care coverage to children through age five years whose household income does not exceed 150% of the Federal Poverty Level (FPL). There are about 1,700 children eligible for Phase I of WVCHIP. Children in this phase are provided services from the WV Medicaid Program. Phase II may help more than 20,000 children between the ages of six and 19. Since the WVCHIP first reviews children to see if they may be eligible for Medicaid, there maybe another 20,000 children who qualify for Medicaid but are not enrolled.

West Virginia Healthy Schools Program. The second strategy is the state's Healthy Schools Program. In a collaborative effort, the WV Department of Education and the WV Bureau for Public Health are working together to facilitate the bridging of school health programs with prevention programs from health care institutions and the community at large. The purpose of the WV Healthy Schools Program is to develop and strengthen school health programs designed to prevent important health problems and improve educational outcomes. The WV Department of Education and the WV Bureau for Public Health are dedicated to extending this program to all county school systems through continued professional development

opportunities. The Healthy Schools Program has three areas of emphasis: building the state education agency and the state health agency infrastructure for school health programs, strengthening school health education to prevent important health-risk behaviors and health problems, and development of national training and demonstration centers for school health programs. Healthy Schools focuses on the following areas: school health education, school health services, school health environment, child nutrition services, physical education, counseling, school/community collaboration, and teacher/staff wellness.

Worksite Health Promotion. The worksite is one of the best arenas for reaching working-age adults. Worksite health promotion programs can provide the social support and cultural change initiatives for modifying behavioral norms. There are three basic categories of worksite health promotion and wellness programs: awareness and education, individual behavior change programs, and initiatives that strive toward creating a healthy and supportive environment at the workplace. The WV Bureau for Public Health partners with the two leading forces in worksite health promotion in the state - the Wellness Council of West Virginia and the Public Employees Insurance Agency's (PEIA) "Pathways to Wellness" program.

Wellness Council of West Virginia. The Wellness Council of West Virginia (WCWV) is dedicated to the provision of services and programs for employers seeking to establish and sustain results-oriented worksite wellness programs that impact the health status of employees and their families. As a charter member of the Wellness Council of America, the nation's premier resource in

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worksite health promotion, WCWV is able to provide a vast array of services and resources to state organizations and their employees.

PEIA Wellness Program. An extension of PEIA's coverage, Pathways to Wellness is a free wellness program available to all state employees. Pathways is dedicated to helping people live healthier lives through health promotion and education. Their website contains information on the many programs offered, low-fat recipes, health-related facts, and an online program to help users get motivated for daily exercise. The wellness interventions that Pathways provides to its members include health risk appraisals, health screenings, newsletters, brochures, incentive-based behavioral modification programs, and nutrition/weight-loss programs.

Previously offering services on a regional basis, the Pathways program expanded statewide at the end of 1998. There are currently 53 public worksites enrolled in the program, with that number expected to increase to 110 in the year 2000. Along with the worksite-based program, PEIA-insured individuals receive a comprehensive bimonthly health newsletter mailed directly to their homes, as well as access to information via the Internet through the program's web site.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 7.1. Increase the high school completion rate of those under the age of 25 in West Virginia to at least 95%. (Baseline: 90% in 1998)

Data Source: West Virginia Department of Education (WVDOE)

OBJECTIVE 7.2. Increase to 50% the proportion of West Virginia school districts that have a school nurse-to-student ratio of at least 1:1,000. (Baseline: 1:1,700 reported in the 1998-99 school year; state law mandates 1:1,500 for K-7th grade)

Data Source: WVDOE

OBJECTIVE 7.3. Increase to 66 the number of worksites in West Virginia that are "Well Workplace" designees. (Baseline: 44 in 1999)

Data Source: Wellness Councils of America

OBJECTIVE 7.4. Ensure that at least 80% of local health departments will collaborate within their respective districts to assure the establishment of at least one ongoing health promotion initiative for people aged 65 and older. (Baseline: 59.1% in 2000)

Data Source: Local Health Department Annual Program Plan

Meeting the Objectives

_____***Community Health Promotion.*** It cannot be stressed enough that to increase the success of a community-wide intervention the community must be the leading force in the entire process, from needs assessment to implementation and evaluation. People are more receptive to change if they are invited to be involved versus a governmental agency stating what they are going to do. A

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community effort involving all stakeholders will be required to increase the high school completion rate of West Virginia's adolescents and young adults. The WVHPS provide locally-based technical assistance to support communities in their community health promotion endeavors. This, in turn, enables the WV Health Promotion Program, through the WVHPS network, to establish and support community health promotion at a local/county level as well as accomplishing West Virginia Healthy People 2010 Objectives. The WVHPS network can also assist a community group by linking them with other statewide networks such as the Adolescent Health Coordinators, Community Development Specialists for Substance Abuse Prevention, regional FRN directors, PATCH groups, local health departments, and other networks that have contact with the school system as well as the worksite environment. With this wealth of various networks, a community group has the technical assistance resources to achieve this important objective.

The mission statement of the Bureau for Public Health in West Virginia is "To transform and strengthen state and community capacity to protect, promote, and improve the health of the public in West Virginia into the 21st century." One of the basic public health services that is ensured by state code is community health promotion. Currently, local health departments across the state are collaborating with various community groups and statewide networks to assess the needs of the communities they serve. Many of the identified needs that have surfaced as a result of this process can and will be targeted at the populations mentioned in this chapter.

School Health Promotion. The state and county educational systems are the primary groups that can make the objectives a reality. They have the ability to survey and assess the needs and perceptions of the students currently enrolled in the public school system. The state and county educational officials can make any needed improvements in the services and programs they offer to all students to improve the high school completion rate. One important caveat is that state and county officials cannot address this objective alone, but need feedback and active participation from the community. Current models of school health services reflect an understanding that children's physical and mental health are linked to their abilities to succeed academically and socially in a school setting.

Because school systems often partner with businesses in other endeavors, wellness activities should be included in this process. For example, a "Well Workplace" designee could elect to provide health education instruction (after appropriate training) to a partner elementary, junior/middle, or high school within their community. Health education and community-based programs delivered through personal involvement of working men and women will benefit tomorrow's work force as they participate in today's classrooms.

The school setting can provide two different opportunities to achieve Objective 4: community service provided by students and volunteer opportunities for those who are 65 and older. High school students must complete a certain amount of community service before they graduate from public schools -- this creates an excellent opportunity

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to provide at least one ongoing health promotion initiative for people aged 65+ by collaborating with the local health department.

Worksite Health Promotion. The women and men who compose West Virginia's work force can become the most important group to realize the objective of a 90% high school completion rate. These women and men would not be a part of the work force if they had not at least completed high school or a GED program. Even though there are a few exceptions to this, many successful people have risen to influential positions through hard work, dedication, work experience, and, most importantly, a high school diploma. Those who are interested in the worksite setting could serve as mentors to youth who are at risk of not completing high school.

Worksites can serve as the link between the need for additional school health nurses and the professionals who can meet this need. Worksites can link state and county educational officials with nursing professionals who may be interested in donating time and skills to school health needs in West Virginia.

Worksite wellness programs should extend membership to retirees in addition to those currently employed. If the resources are not available, companies can look to the various networks and the Wellness Council of West Virginia for technical and grant-writing assistance. These types of actions will make this objective obtainable by 2010.

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Background

Many environmental factors have been identified that impact human health in West Virginia. In choosing environmental objectives for the year 2010, the environmental health work group concentrated on eight areas of concern. Of these eight broad areas, childhood lead poisoning was chosen as the highest priority. The blood lead levels of children up to five years of age must be reduced to the lowest possible levels to prevent the consequences of this environmental contaminant.

The citizens of West Virginia must also be provided with safe drinking water. Directly or indirectly, four of the 14 objectives address safe drinking water needs. Of the 1.8 million citizens of West Virginia, 1.3 million are currently served by public water. Unfortunately, all of these public water supplies do not meet the current water quality standards. It has been estimated that \$868 million will be needed within the next five years to bring these public water systems into

8 **ENVIRONMENTAL HEALTH**

compliance and to provide new or extended services to the state's citizens. An additional \$2 billion is needed to address wastewater problems, which only compound the state's water quality problems. Discharge from intensive livestock production areas is causing great concern. The increase of livestock production in West Virginia's Eastern Panhandle has a potential for impacting water quality there.

Indoor air quality is associated with three of the 2010 objectives. Radon gas, which is undetectable without specific tests, has been linked to lung cancer in nonsmokers. Only 3% of West Virginia homes have been tested for radon gas to date. Testing of many more homes must be accomplished within the next 10 years so that homeowners and their families are protected from radon and its harmful consequences.

Secondhand tobacco smoke exposes the nonsmoker to tobacco's constituents, which are responsible for respiratory disease, cardiovascular disease, and lung cancer. The passage of clean indoor air regulations by all counties in West Virginia can provide protection from such exposure.

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Preserving the quality of the air we breathe is of great concern. Maintaining or surpassing the national air quality standards is the only way we can guarantee a safe atmosphere to breathe. Many West Virginia residents suffer from chronic obstructive pulmonary disease. It is hard for them to breathe even when the air meets national standards. We must insure that our air remains at the current quality or improves.

Every year several West Virginians are treated or die as a result of carbon monoxide poisoning. We must educate the public concerning carbon monoxide to reduce these deaths and poisonings.

These environmental health issues have been receiving increased scrutiny throughout the past several years. Many agencies from separate segments of state government, environmental groups, and private citizens are involved in the business of protecting the public from environmental hazards. Only through cooperation will goals be achieved.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 8.1. Reduce the number of West Virginia children between the ages of one to five with blood lead levels of 10 $\mu\text{g}/\text{dL}$ or greater to 0. (**Baseline:** an estimated 2,262 in 1999)

Data Sources: Centers for Disease Control and Prevention (CDC), National Health and Nutrition Examination Survey (NHANES); West Virginia Bureau for Public Health (WVBPH), Office of Maternal, Child, and Family Health (OMCFH), reportable

childhood disease data; WVBPH, Office of Epidemiology and Health Promotion (OEHP), Health Statistics Center (HSC)

Lead poses a serious environmental threat because of its toxic effect on the various body systems. This hazard is greatly magnified in children, especially those aged one to five. At these ages, the child's rapidly developing body systems are more susceptible to the toxic effects produced by an exposure to lead. The prevalence of blood lead levels in the one to five age group has been reduced over the past few years, according to the CDC's National Health and Nutrition Examination Survey. The NHANES III survey estimates that 2.2% of all children aged one to five have blood lead levels of 10 $\mu\text{g}/\text{dL}$ or greater. Using statistics provided by the WVBPH's Health Statistics Center (HSC), an estimated 102,825 children in the state have a potential for exposure, with approximately 2,262 having blood lead levels of 10 $\mu\text{g}/\text{dL}$ or greater.

OBJECTIVE 8.2. Increase to 50% the number of homes built before 1950 in which testing for lead-based paint has been performed as a means to reducing childhood lead poisoning. (**Baseline:** 9% of homes tested in 1993)

Data Source: CDC, National Center for Health Statistics (NCHS), National Health Interview Survey (NHIS); WVBPH, Office of Environmental Health Services (OEHS)

Lead paint found in older housing is believed to be the main source of environmental lead exposure for children in the home. The incidence of high blood lead levels disproportionately affects the lower income families who occupy the older homes, with

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minority children at high risk. Older homes must be tested to identify sources of lead to mitigate the health hazard. Testing for lead-based paint in these homes will require an increase in manpower. As of 1993, 9% of the homes had been tested.

OBJECTIVE 8.3. Reduce water-related adverse health effects by increasing to at least 95% the proportion of people served by community water systems who receive a supply of drinking water that meets the Safe Drinking Water Act regulations. (Baseline: Of the 1.8 million state residents, 1.3 million were served by public water in 1999, with an estimated 90% operating in full compliance with the Safe Water Drinking Act.)

Data Sources: Existing EPA Potable Water Surveillance System (PWSS)/Safe Drinking Water Information System (SDWIS); WVPBH, Office of Environmental Health Services (OEHS), Division of Environmental Engineering

The 1.8 million residents of West Virginia must have potable drinking water to remain healthy. The Safe Drinking Water Act mandates that all public water systems, whether obtained from ground or surface supplies, must provide potable water to their customers. Approximately 1.3 million West Virginians are currently served by public water systems. Of these, not all are providing water that meets the standards established under the Safe Drinking Water Act. These systems need to be upgraded to the minimum standards to protect the public health. Additional citizens who lack a source of potable water need to gain access to public supplies or attach to new systems to meet their lack of service.

OBJECTIVE 8.4. (Developmental) Reduce the threat to human health and the environment by controlling discharge from intense livestock production operations. Note: Intense livestock production includes raising in a limited space large numbers of cattle (dairy and beef), swine, or birds (chickens, turkeys) for food or food products. (Baseline data available in 2001)

Data Sources: Clean Water Act Reports, Environmental Protection Agency (EPA); U.S. Department of Agriculture.

Intense livestock production has been implicated in the creation of a problem with pyteria in the Eastern Panhandle streams. Control of runoff from these livestock areas will be necessary to maintain the water quality in this area of the state.

OBJECTIVE 8.5. Reduce infectious and parasitic diseases caused by poor water quality by providing overall environmental services such as sewer service, wastewater treatment service, and potable drinking water to an additional 10% of the total population in West Virginia. (Baseline: 72% of West Virginians had adequate sewage disposal systems in 1999.)

Data Sources: Infrastructure Council, West Virginia Division of Environmental Protection (WVDEP) data, sewer construction grants program

Seventy-two percent (72%) of West Virginia residents were served by approved sewage disposal systems in 1999. It has been estimated that it will take \$2 billion to make all necessary improvements to serve all state residents. The reduction of infectious and

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parasitic diseases can be enhanced by increasing the number of citizens who have approved sewage disposal. In addition, wastewater from population areas, industries, and intense livestock production operations are creating a deleterious effect on water use for recreational as well as surface supplies downstream from their discharge. These discharges greatly increase the potential for disease if the effluents are not properly treated.

OBJECTIVE 8.6. Maintain the average number of outbreaks of waterborne disease arising from water intended for drinking to no more than .5 per year

8.6a. Maintain the average number of outbreaks of waterborne disease among people served by community water systems to no more than .25 per year. Note: Includes only outbreaks from infectious agents and chemical poisoning from water intended for drinking. Community water systems are public or investor-owned water systems that serve large or small communities, subdivisions, or trailer parks with at least 15 service connections or 25 year-round residents. (Baseline: 0 in 1999)

Data Sources: CDC; NCHS; SDWIS

OBJECTIVE 8.7. (Developmental) Maintain an average number of beach closings and water recreational use restrictions due to harmful bacteria at 1 or less.

8.7a. Beach closings (Baseline data available in 2001)

8.7b. Water recreational use restrictions (Baseline data available in 2001)

Data Sources: EPA,Clean Water Act reports; WVBPH, OEHS, sanitarian monthly reports

OBJECTIVE 8.8. (Developmental) Reduce by 25% the potential human exposure to toxic chemicals by reducing the number of watersheds with contaminant problems.
(Baseline data available in 2001)

Data Sources: National Water Quality Monitoring Program; contaminant data in fish, sediment, and water, fish health, or biomarker metrics (U.S. Geologic Survey, Water Resources Division); state fish contamination survey data sets; States and Regional Agency assessment data, WVDEP Tri database.

Watersheds within the state have been contaminated by wastes from industry discharges and waste disposal sites. The chemical industry has in the past disposed of waste in landfills across the area. These disposal sites are now leaking chemicals into the watershed. One of the main concerns for the West Virginia Division of Environmental Protection involves dioxins and furans, long-lived chemicals that have been associated with cancer at extremely low concentrations. The exposure to these chemicals should be minimized. Fish consumption advisories have been issued in the past for the Kanawha River. Anglers have been warned not to eat bottom dwelling fish because these fish bio-accumulate contaminants such as dioxins.

OBJECTIVE 8.9. Increase to at least 40% the proportion of homes in which homeowners/occupants have tested for radon concentrations and that have been found to pose minimal risk or have been modified to reduce risk to health, as a means to reduce the incidence of lung cancer. (Baseline: 3% or 17,000 homes in WV in 1999)

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Data Source: WVBPH, OEHS, Radon Program database

Radon gas, a natural decay product of uranium found in most soils, is believed to cause several thousand cases of lung cancer annually in nonsmokers across the nation. This colorless and odorless gas can remain undetected, especially during the heating season. It gains entrance into structures via minute cracks in basements or from wells in the soil under the home. Several areas in West Virginia have been identified as hot spots for radon. With only 3% of the homes in West Virginia tested for radon to date, however, few citizens know if they are at risk for exposure. All residences in the state need be tested to prevent the occupants from exposure to this potential carcinogen.

A recent law makes it mandatory for all laboratories doing radon testing to report to the Radiation, Toxics, and Indoor Air Division of the Office of Environmental Health. This law will greatly increase the data available to this division.

OBJECTIVE 8.10. Reduce the prevalence of respiratory disease, cardiovascular disease, and cancer resulting from exposure to tobacco smoke by increasing to 100% the number of counties with clean indoor air regulations. (Baseline: 41 of 55 counties had regulations in 1999)

Data Sources: WVBPH, OEHP, West Virginia Tobacco Prevention Program; Coalition for a Tobacco-Free WV

According to the Coalition for a Tobacco-Free West Virginia, exposure to secondhand smoke in public buildings poses a

serious threat to human health. As of 1999, 41 of West Virginia's 55 counties had clean indoor air regulations to protect the nonsmoking public.

OBJECTIVE 8.11. Reduce deaths and nonfatal poisonings from carbon monoxide.

8.11a. Decrease by 15% the number of nonfatal cases of carbon monoxide poisoning in West Virginia. (Baseline: 35 nonfatal cases in 1997)

8.11b. Decrease by 25% the number of deaths due to unintentional carbon monoxide poisonings in West Virginia. (Baseline: 5 deaths in 1997)

Data Source: National Vital Statistics System (NVSS), CDC; NCHS; Hospital discharge reports; WVBPH, OEHP, HSC

Carbon monoxide is another toxic gas that causes 200 deaths and about 5,000 injuries per year across the United States. The incidence of carbon monoxide poisonings in the home must be reduced to the minimum, if not eliminated.

OBJECTIVE 8.12. Improve the state's health and air quality by reducing emissions.

8.12a. Increase to 10.8 the percentage of trips made by bicycling. (Baseline: 0.9% in 1995)

8.12b. Increase to 10.8 the percentage of trips made by walking. (Baseline: 5.4% in 1995)

8.12c. Increase to 3.6 the percentage of trips made by transit. (Baseline: 1.8%)

8.12d. Increase by 150% the number of Americans who telecommute. (Baseline data available from the Federal Highway Administration [FHA] in 2000)

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Data Sources: Bicycle Federation of America, FHA; National Personal Transportation Survey (NPTS) conducted every 5 years, U.S. Census.

Improving the air quality in West Virginia is an effort to which every citizen can contribute. By becoming less dependant on vehicles for short trips, we can eliminate emissions. Bicycling, walking, and using mass transit systems will all reduce nitrous oxide discharges. Increasing the use of the computer can also help reduce emissions. Telecommuting allows one to work at home instead of driving to a workplace. The incorporation of these ideas can go a long way to improving our air quality.

OBJECTIVE 8.13. *Maintain or surpass national air quality standards so that the air will remain safer to breathe for 100% of the people living in all areas of West Virginia.* (**Baseline:** All areas of WV were meeting national Air Quality Standards as of 1999.)

Data Source: WVDEP, Office of Air Quality

All West Virginians must have clean air that meets or exceeds the minimum federal air quality standards. Sources of air pollution must be minimized. Stationary sources must employ technologies to minimize impact on this vital resource. Many state citizens suffer from chronic obstructive pulmonary disease and can detect even minute changes in the quality of the air they breathe.

OBJECTIVE 8.14. *Reduce environmentally related respiratory and other health effects by maintaining the generation of municipal solid waste to the 1996 level of 4.0 pounds*

per person per day or less. (**Baseline:** 4.0 pounds per day in 1996)

Data Sources: EPA; WVDEP, Office of Waste Management; WVDEP Office of Public Information, tonnage reports.

The reduction of solid waste disposed of in our landfills will benefit us all. Not only will we lengthen the life of our landfills but we will reduce energy costs and pollution by requiring fewer trips by the waste collectors. We will also reduce any future need to export waste where it may be incinerated. The average amount of solid waste generated in West Virginia is 4.0 pounds per person per day, below the national average. We need to maintain this level or try to reduce it; more recycling could assist in this area. The challenge, however, is to make recycling affordable. Approximately 45% of the waste (paper, glass, plastics, and metals) currently going into our landfills could be recycled. Recycling saves energy, which reduces the need for additional generation that contributes to air pollution.

Meeting the Objectives

<p>Health Promotion Channels for Achieving Objectives:</p> <ul style="list-style-type: none">WorskitesSchoolsPublic Health ProgramsNetworksHealth Care SystemHigher Education

WEST VIRGINIA HEALTHY PEOPLE 2010

Meeting the environmental objectives in this document will require the cooperation of many agencies, groups, and individuals. The regulation and protection of environmental resources are fragmented between several state agencies and offices within West Virginia. All agencies involved must coordinate their efforts toward these common goals for them to be reached or maintained. The West Virginia Division of Environmental Protection has primary responsibility for solid waste, hazardous waste, air quality, and wastewater issues. The West Virginia Bureau for Public Health has primary responsibility for drinking water, indoor air, childhood lead poisoning, radon, recreational water use, healthy behaviors, and clean indoor air. The Department of Agriculture has the lead in issues related to intense livestock production.

We must employ all resources at our disposal to work toward our objectives. One resource, which is just now becoming readily available, is the Geographical Information Systems (GIS) employed by the Office of Environmental Health and the Division of Environmental Protection. Using GIS technology to layer information concerning sewage discharges, water intakes, well locations, disease outbreaks, high childhood blood lead levels, pollution sources, areas served by public sewage and water systems, radon testing, homes tested for lead paint, contaminated watersheds, hazardous waste sites, and many more, we can for the first time see the big picture. This could enable us to foresee the future, preventing disease with better efficiency and conserving our natural resources for future generations.

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Background

Since 1970, the West Virginia Bureau for Public Health (WVBPH), Office of Maternal, Child & Family Health (OMCFH), Family Planning Program has received Federal Title X funding to support the mission of providing education, medical, social, and referral services to assist individuals in determining the number and spacing of their children. To achieve this mission, the Family Planning Program supports 143 health centers that provide quality comprehensive medical, educational, and contraceptive services to low-income women, men, and adolescents.

A 1998 report from the Alan Guttmacher Institute identified the United States as having one of the highest rates of unintended pregnancies found in Western nations. The legal abortion rate in the U.S. is similar to that of many countries in Latin America where abortion is illegal and contraceptives are not widely available. Additionally, in the United States, 9 in 10 women who are sexually active, fertile, and do not wish to become pregnant report

9 FAMILY PLANNING

that they use a contraceptive method, yet half of the six million pregnancies in the United States are accidental, unplanned, and often unwanted. Among teenagers, 8 in 10 pregnancies are unintended.

In 1998 West Virginia had 78 pregnancies occur per 1,000 women ages 15-44 compared to 111 per 1,000 in the United States. Of these pregnancies, 62% result in live births, 23% in abortions, and the remaining in miscarriages. Annually, 85 pregnancies occur per every 1,000 women aged 15-19 in West Virginia, compared to 112 pregnancies per 1,000 women of these ages in the United States. Of these 85 pregnancies, 66% result in live births and 19% in abortions. West Virginia ranks 36th in the nation in teenage pregnancies. Thirty-one percent (31%) of total West Virginia births were to unmarried women.

In 1998, 33.2 million women across the nation, including 4.9 million teenagers, are in need of contraceptive services and supplies. In West Virginia, 188,280 women, including 36,300 teenagers, are in need of these services. Of these totals, 15% of the women ages 15-44 in the United States are living in poverty and 17% are without private health insurance or Medicaid; in West Virginia, 19% of the

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women ages 15-44 are living in poverty and 19% are without health insurance or Medicaid.

West Virginia ranks second in the nation in providing contraceptive services to women in need, serving 73,710 women and 24,310 teenagers in 1998. This, however, represents only 63% of all women and 67% of all teenagers in need of such services. These numbers identify the need to expand state efforts to increase access to contraceptive services and education and to increase funding to avert unintended pregnancies among the young, the unmarried, and the poor.

The Adolescent Pregnancy Prevention Initiative is a focus area of the Family Planning Program, targeted to reduce the number of pregnancies among adolescents through improved decision making skills, abstinence, or access to contraceptive services.

Separate from contraceptive issues is the focus on increased efforts to support Abstinence Only educational programs. The purpose of these programs is to support education and activities designed to encourage self-esteem building and decision-making, with the goal of postponing sexual activities among teenagers. According to the 1999 Youth Risk Behavior Survey, in the United States, 47.6% of female students and 52.2% of male students in grades 9-12 reported having engaged in sexual intercourse; in West Virginia, 51.3% of females and 57.9% of males reported having engaged in sexual intercourse. Besides the risk of unintended pregnancies is the risk of STD's, sexual abuse, loss of educational opportunities to teen parents, and increased numbers of families in poverty.

The Healthy People 2010 Family Planning objectives identified for West Virginia support ongoing national efforts to improve the health and future for families by assuring their ability to avoid unintended pregnancies.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 9.1. Increase to at least 70% the proportion of all pregnancies among women 15-44 that are planned (i.e., intended). (Baseline: 54.8% in 1995)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Maternal, Child & Family Health (OMCFH), Pregnancy Risk Monitoring System (PRAMS)

In 1995, approximately 45% of all pregnancies in WV were unintended (women wanting to be pregnant later or not at all). By providing confidential information, services, and contraceptive methods, women, men, and adolescents are able to determine the timing and spacing of their children. Unintended pregnancy is associated with insufficient participation in prenatal care, smoking and substance abuse during pregnancy, and low birthweight infants.

OBJECTIVE 9.2. Reduce pregnancies among females ages 15-17 to no more than 40 per 1,000 adolescents. (Baseline: 43 in 1996)

Data Source: National Campaign to Prevent Teen Pregnancy

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The vast majority (85%) of pregnancies among teens are not fully planned or intended. Rather, they result from accidents or the teen's ambivalence about pregnancy, confusion about preventing it, and sometimes failure to make any clear decisions about abstinence, sexual activity, or contraception. Adolescent pregnancy occurs as a result of a number of combined factors, including family background and values, low self-esteem, pressures to have sex, lack of communication skills, lack of perceived risk, lack of a supportive environment to delay sex, and lack of strong intentions to avoid pregnancy.

OBJECTIVE 9.3. Reduce to no more than 12% the proportion of individuals aged 15-19 who have engaged in sexual intercourse before the age of 15. (Baseline: 15.3% in 1997)

Data Sources: Kids Count, Special Report, When Teens Have Sex: Issues and Trends; WV Department of Education (WVDOE), Office of Healthy Schools (OHS), Youth Risk Behavior Survey (YRBS); West Virginia Kids Count

Early sexual activity is directly related to adolescent birth rates and sexually transmitted infections. The younger the teen, the less likely he or she will be to use contraception or to use it effectively. Sexual activity has risen slightly among those younger than 15, the group least likely to use contraception.

OBJECTIVE 9.4. Increase the number of schools doing surveys and reporting data related to abstinence and contraception. (Baseline: 29 schools in 1999)

Data Source: WVDOE

Additional information pertaining to important health-risk behaviors could be collected if additional questions related to abstinence and contraceptive use were added to surveys and if the number of high schools surveyed was expanded.

The results of the YRBS administrated to West Virginia students in grades 9-12 was designed to monitor priority health-risk behaviors that contribute to the leading causes of disease, death, and social problems among youth. These behaviors fall into six categories:

1. behaviors that result in unintentional and intentional injuries
2. tobacco use
3. alcohol and other drug use
4. sexual behaviors that result in HIV infection, other sexually transmitted diseases (STDs), and unintended pregnancy
5. dietary behaviors
6. physical activity

Results have been used by the Department of Education, local school districts, and numerous other state agencies and groups to: (1) support the need for statewide expansion of the West Virginia Healthy Schools Program; (2) focus school health teacher training and instructional programs; and (3) monitor progress in achieving state and national education goals. It is imperative that efforts to reduce teen pregnancy be based on an accurate understanding of patterns and trends in the sexual behaviors of both teen girls and teen boys.

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OBJECTIVE 9.5. Increase by 5% the proportion of sexually active, unmarried individuals aged 15-19 who use contraception that both effectively prevents pregnancy and provides barrier protection against disease:

9.5 Use condom (**Baseline:** 58.9% in 1997)

9.5b. Use contraception (**Baseline:** 41.3% in 1997)

Data Sources: Kids Count, Special Report, When Teens Have Sex: Issues and Trends; NSFG Family Planning data

Sexual intercourse without contraception puts a teen at risk of unintended pregnancy and of contracting STDs, including HIV/AIDS. Being a successful user of contraception is difficult, even for adults. It requires motivation, attention to detail, a clear understanding of consequences, and an eye on the future – qualities not always associated with adolescents. A sexually active teen who does not use contraception at all has a 90% chance of pregnancy within one year. All teens should be educated about contraception even if they are firmly committed to abstinence. Teens who are sexually active should have access to and use contraception.

OBJECTIVE 9.6. Decrease number of teens aged 15-19 who report being sexually active. (**Baseline:** 40.4% in 1999)

Data Sources: Kids Count, Special Report, When Teens Have Sex: Issues and Trends; WVDOE, OHS, YRBS; Kids Count Special Report

Teens lack the developmental maturity to consider and act upon the possible

consequences of their actions, for themselves or others. Instead, they are prone to be risk-takers who perceive themselves as operating behind a shield of assumed invulnerability. Teens need factual information and detailed instructions on how to avoid pregnancy and sexually transmitted disease through contraception. Teens must have more education about human sexuality that includes a basic acceptance of self-worth, a greater sense of dignity and future.

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

Wksites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

Some of the organizations that will be leading the initiatives to reach the 2010 objectives include:

- WV Family Planning Program/Office of Maternal, Child & Family Health (OMCFH)
- WV Adolescent Pregnancy Prevention Initiative/OMCFH
- WV Department of Education, Office of Healthy Schools
- West Virginia State Task Force on Adolescent Pregnancy and Parenting
- WV Abstinence Only Education/OMCFH
- Adolescent Health Initiative/OMCFH
- Right From The Start/OMCFH

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WEST VIRGINIA HEALTHY PEOPLE 2010

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Background

The number of illnesses due to common and emerging food-borne pathogens reported annually is on the rise. The Centers for Disease Control and Prevention (CDC) receive confirmed reports of thousands of food-borne illnesses each year, including many deaths. However, it is estimated that tens of millions of individuals become ill from consuming contaminated food, and of these thousands die. West Virginia is no different than the rest of the nation. While the number of illnesses reported annually in the state is only in the hundreds, it is recognized that only a small percentage of the cases is actually reported.

For most individuals, a case of food-borne illness may mean only minor symptoms, inconvenience, and a couple days away from work or school. These people may never seek medical attention and never receive a diagnosis nor have this illness reported. For others, more severe symptoms may lead them to their family doctor or the local emergency department. There a diagnosis may be

10 FOOD SAFETY

provided, but without laboratory specimens and results no report is ever made. In West Virginia, while strides are being made, accessibility to health care may contribute to a lower reporting rate.

While normally healthy individuals may fall victim to foodborne illness from heavily contaminated foods, some individuals may be stricken by foods contaminated to a lesser degree. The very young, the elderly, and the immuno-compromised are at a higher risk of illnesses from all sources, including foodstuff. As West Virginia's population ages, and chronic diseases continue their prevalence, foodborne illness is likely to grow as a concern.

Many factors combine to make food-borne illness a growing problem in West Virginia and across the nation. As noted above, an increased number of people are at greater risk due to increased age and compromised immune systems for other reasons. The general population is less likely to follow safe food preparation practices in the home. This may be due to a belief that the United States food supply is innately safe and/or the lack of training in safe food preparation practices in school and at home. There is an increasingly diverse food industry.

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Employees of the food service industry are a large and very diverse group. There is generally a high turnover rate and there may be language barriers and literacy issues. In addition, there is no standard system for worker training or certification among states or even across counties in the State of West Virginia. Food supplies are no longer only locally grown and produced. Many foods found in the grocery store are just as likely to have been produced outside the country as within. Growing methods and food handling practices, as well as illness in food handlers, increases the chances of food contamination. We are also seeing new and emerging pathogens. As microorganisms grow, they adapt and evolve in their environments. Organisms not previously known to cause illness in humans are now identified as the cause of illnesses and outbreaks. We are also seeing unexpected organisms in foods that may be resistant to previously effective antibiotics.

Food-borne illness is a result of many factors coming together at one point in time. If no pathogens are present in food, then subjecting that food to temperatures favorable to organism growth and toxin production will not result in illness. However, just because pathogenic organisms are present does not mean illness is inevitable. If food is handled properly; kept refrigerated to prevent pathogen growth, cooked to destroy pathogens, and separated to prevent contamination of other foods, food-borne illness is unlikely. But each pathogen is different. Some require large numbers of organisms to cause illness, while others require only small numbers. Just as people differ in their susceptibility to illness, organisms differ in their ability to cause illness. Preventing

food-borne illnesses requires due diligence on everyone's part. Proper food handling can reduce contamination, prevent pathogen growth, and prevent toxin production, thereby preventing food-borne illness.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 10.1. Reduce by 20% for bacteria and 10% for parasites the number of illnesses/infections caused by common and emerging human food-borne pathogens including the following: (Note: Toxoplasma gondii is not reportable in West Virginia; therefore it is not included in the state objective.)

- 10.1a. *Salmonella* species***
- 10.1b. *Campylobacter jejuni****
- 10.1c. *Escherichia coli O157:H7*****
- 10.1d. *Cryptosporidium parvum*****
- 10.1e. *Cyclospora cayetanensis*****

* These diseases did not become officially reportable until August 3, 1998.

Data Sources: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Division of Surveillance and Disease Control (DSDC)

OBJECTIVE 10.2. Maintain the number of deaths due to infections from *Listeria monocytogenes* at or below one per year.
(Baseline: 1 from 1994-98)

Data Source: WVBPH, OEHP, Health Statistics Center (HSC)

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OBJECTIVE 10.3. Reduce the number of food-borne outbreaks of Hepatitis A and Norwalk virus. (Note: Norwalk virus is not reportable in West Virginia; therefore our only data on this pathogen would be from investigations of outbreaks of illness.) (Baseline: 9 cases of Hepatitis A in 1998)

Data Source: WVBPH, OEHP, DSDC

OBJECTIVE 10.4. (Developmental) Reduce the occurrences of the following factors in retail food establishments:

- 10.4a. improper holding temperatures;**
- 10.4b. inadequate cooking;**
- 10.4c. poor personal hygiene;**
- 10.4d. contaminated equipment, and**
- 10.4e. foods from unsafe sources.**

(Baseline data available in 2000)

Data Sources: Local health department inspection reports; WVBPH - Division of Public Health Sanitation food surveys conducted at local health departments. (The current inspection system would not separate improper holding temperatures and inadequate cooking; in fact, inadequate cooking would most likely not be documented. However, the 2000 legislature is expected to consider and pass the adoption of the 1999 FDA model Food Code that would provide this information.)

OBJECTIVE 10.5. Maintain the number of deaths from food-induced anaphylaxis at or below one per year. (Baseline: 1 in 1997)

Data Source: WVBPH, OEHP, HSC

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

- Worskites
- Schools
- Public Health Programs
- Networks
- Health Care System
- Higher Education

In order to reduce the incidence of food-borne illness, all food handlers, whether producers, wholesalers, or retailers, must understand and employ proper food-handling and preparation practices. Regulators and the food industry must work together to educate workers about proper methods of growing, harvesting, preparing, and packaging foods to prevent contamination. We must insure that workers entering the food industry have knowledge of safe food handling techniques and practices. Outbreaks of illness may spread rapidly if no action is taken to halt them, and action requires timely information. Health care providers must understand the importance of reporting suspected and confirmed cases of food-borne illness quickly.

Many agencies are involved in insuring safe food for consumers. The West Virginia Departments of Health and Human Resources and Agriculture are lead agencies. In addition, the West Virginia University (WVU) Extension Service can provide educational information to both industry and consumers. Our schools, both K-12 and higher education institutions, can provide food industry workers who enter the job market with knowledge and skills necessary to help insure safe food.

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References/Resources

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1999 Food Code.



Background

The broad scope of the Healthy People 2010 initiative reaches across demographic and geographic boundaries. A wide variety of diseases and lifestyle behaviors are addressed. Intended to influence institutions, policies, programs, and individuals, Healthy People 2010 represents the most comprehensive, categorical approach to initiating positive change in health behaviors ever undertaken.

It has been recognized that the establishment of effective communication methods and practices is vital to the success of any health promotion or disease prevention campaign.

The mission of public health in West Virginia involves creating the environment, or “context,” in which people can be healthy. Advancing healthy lifestyle education to the public involves the employment of effective communication strategies. Likewise, communicating data and information to policymakers, stakeholders, and public health practitioners is essential to creating the desired context.

11 HEALTH COMMUNICATION

Due to geographic and demographic realities, West Virginia faces significant challenges in certain areas of communications. West Virginia is a very rural state with a relatively small population; therefore, our mass media outlets are fewer than urban areas. The population in the state is also aging and the per capita income lags behind the rest of the country. These two factors, income and age, combine to contribute to the low percentage of homes in West Virginia with access to the Internet. Yet, as our population becomes older, they become more interested in health-related issues. They represent an audience waiting to be served.

In addition, some behavioral risk factors are more pronounced at lower income or education levels. The public system already has some channels in place to reach this population. These channels can be utilized to assist in mounting an organized communications campaign.

Clearly, the audience for public health messages is growing, and our ability to develop and disseminate those messages effectively needs to grow proportionately.

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Rapidly developing advances in science, technology, and medicine draw more attention daily from the mass media. Our capacity to meet that opportunity with credible, helpful information needs to be able to increase as well.

The audiences for health communications messages are varied, from policymakers, to public health and health care workers, and ultimately to the general population, to whom we hope to provide access to better health strategies.

Developing our capacity to use a variety of traditional and emerging mediums to reach the public health community and the general public are the critical goals of these objectives.

The Objectives

OBJECTIVE 11.1. Increase to 75% the percentage of local and statewide media outlets within West Virginia that have the capability to receive electronic press releases via the Internet. (Baseline: 38% in 2000)

Data Source: West Virginia On-Line Media Guide

Establishing methods of distributing information to the variety of media outlets in West Virginia more equitably would assist public health communications in providing a more consistent format and instant accessibility to public health messages.

OBJECTIVE 11.2. (Developmental) Increase by 100% the number of local health departments within West Virginia that have

established an electronic Internet link with local media outlets for press releases and news alerts. (Baseline data available in 2001)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Community and Rural Health Services (OCRHS), Local Health Department Annual Program Plans

A reliable electronic communications network for all state and local health department entities is vital to establishing and maintaining the credibility of emergency public health communications, particularly in dealing with emerging issues such as bioterrorism. Internet communications channels can also be extremely useful in disease reporting, accessing databases, and disseminating public health alerts and messages.

FLAGSHIP OBJECTIVE

OBJECTIVE 11.3. (Developmental) Increase by 100% the number of local health departments within West Virginia that have developed a long-range comprehensive strategic communications plan focusing on key public health issues. (Baseline data available in 2001)

Data Source: WVBPH, OCRHS, Local Health Department Annual Program Plans

The public health arena encompasses a wide variety of issues and disciplines. The West Virginia Bureau for Public Health administers over 100 programs. Some of the public health messages of these programs and initiatives have become annual or even seasonal. In the winter we tell people about the importance of flu shots. During a flood we talk about water safety. In the summer we might talk about how to recognize and prevent heat

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stroke. Some issues, such as bioterrorism preparedness or emerging diseases like the West Nile virus, are less traditional and require constant updating and revising. Developing a central “warehouse” of information on a wide variety of issues and public health initiatives would be the cornerstone of a comprehensive strategic communications plan at both the state and local level.

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:
Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

The West Virginia Bureau for Public Health will be the lead agency in advancing Healthy People 2010 Communications Objectives. The Bureau will facilitate this collaborative effort, which will be centralized in the Division of Health Promotion and coordinated through the Commissioner's Office.

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WEST VIRGINIA HEALTHY PEOPLE 2010



Background

Heart disease has not been conquered. Although we've won a few battles against heart disease, we are still losing the war. Dramatic technological and medical advances are saving and extending the lives of people with heart disease, but not curing them of it. As a result, more people are living with heart disease than ever before. While medical intervention is important in managing heart disease, a more effective strategy would be preventing heart disease in the first place.

Heart disease continues to be the leading cause of death in both the United States and West Virginia, while stroke continues as the third leading cause of death. Together they account for approximately 40% of all deaths.

Population-based prevention is the next strategy to win the war against heart disease. Prevention includes widely promoting heart-healthy lifestyle changes to the total community and creating social,

12 HEART DISEASE AND STROKE

environmental, and policy changes that support heart health.

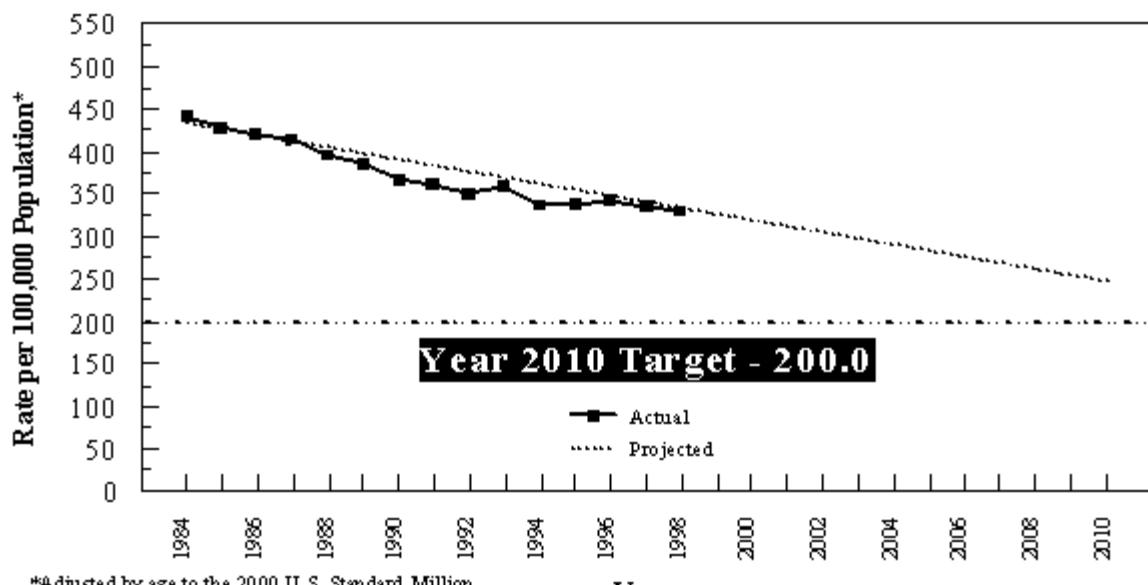
People's individual lifestyle choices are partly mediated by their environments, including policies that help shape their environments. Access to safe walking areas, open recreation facilities in every community, clean indoor air policies, and the availability of low-cost, healthy, good-tasting foods are critical to helping people make the decision to embrace physical activity, a tobacco-free lifestyle, and a heart-healthy diet. In addition, ensuring that preventive health protocols are established and reimbursed through third party payers is instrumental to the prevention of cardiovascular disease. We must increase opportunities for healthy behaviors by creating policies in our community systems, health care systems, and other systems that support the promotion of health.

The Objectives

FLAGSHIP OBJECTIVE
OBJECTIVE 12.1. Reduce heart disease mortality to no more than 200 deaths per 100,000 population. (Age-adjusted Baseline: 323.5 in 1998)

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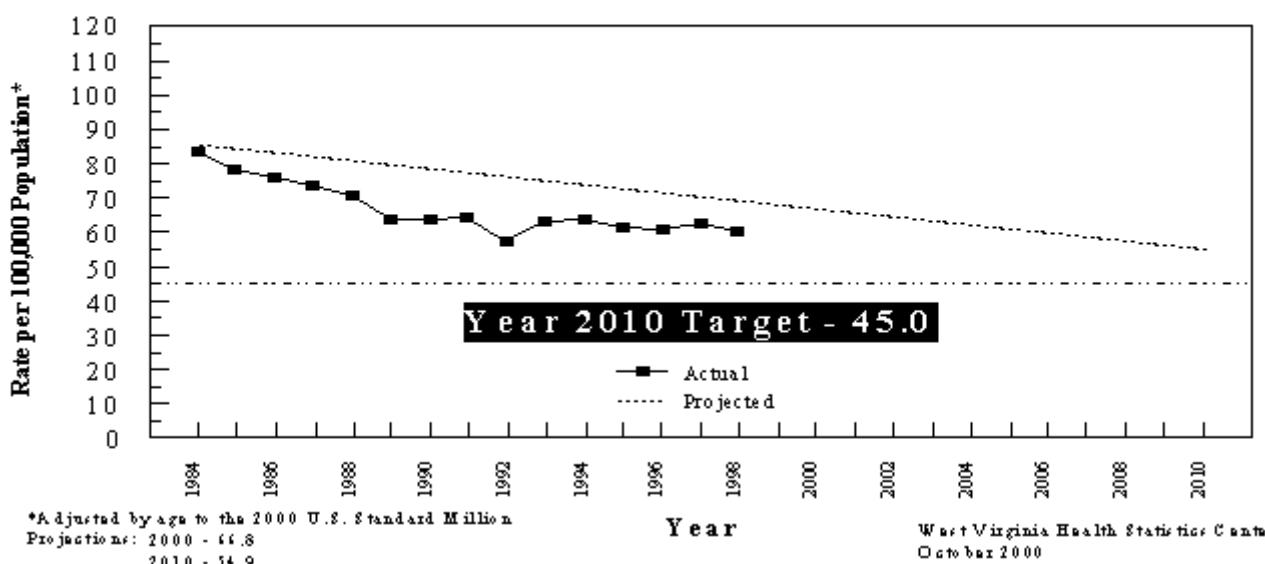
Heart Disease Mortality
West Virginia Actual 1984-1998; Projected 1999-2010



*Adjusted by age to the 2000 U.S. Standard Million
Projections: 2000 - 306.3
2010 - 252.0

West Virginia Health Statistics Center
October 2000

Stroke Mortality
West Virginia Actual 1984-1998; Projected 1999-2010



*Adjusted by age to the 2000 U.S. Standard Million
Projections: 2000 - 44.8
2010 - 34.9

West Virginia Health Statistics Center
October 2000

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Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Health Statistics Center (HSC)

Since 1950, age-adjusted death rates from cardiovascular disease (CVD) have declined 60%. However, the overall decline masks important differences in death rates by race/ethnicity, sex, socioeconomic status, and geographic region. In addition, risk factors for heart disease such as obesity and physical inactivity are at an all-time high (see Chapter 19: Nutrition & Overweight and Chapter 22: Physical Activity & Fitness).

OBJECTIVE 12.2. *Reduce stroke deaths to no more than 45 per 100,000 population.* (Age-adjusted Baseline: 59.1 in 1998)

Data Source: WVBPH, OEHP, HSC

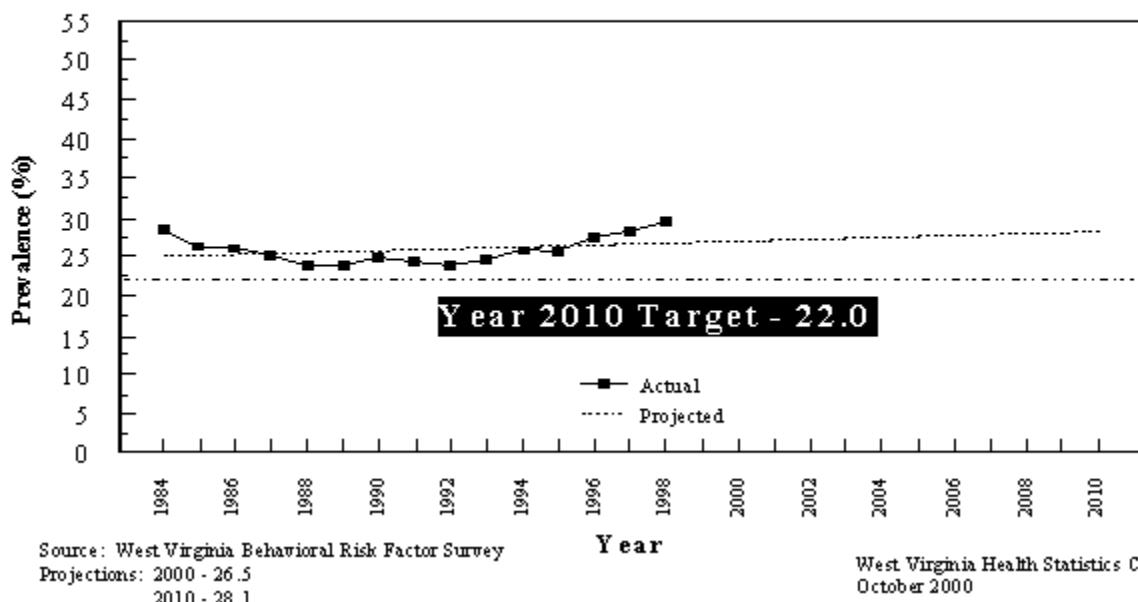
Stroke is a cardiovascular disease that affects the blood vessels supplying blood to the brain. It is one of the leading causes of serious, long-term disability. Death rates for heart disease and stroke from 1986-95 were higher among African Americans in West Virginia than among Caucasians.

OBJECTIVE 12.3. *Decrease the proportion of adults who have high blood pressure to no more than 22%.* (Baseline: 28.3% in 1997)

Data Source: WVBPH, OEHP, Behavioral Risk Factor Surveillance System (BRFSS)

High blood pressure, or hypertension, affects more than 50 million Americans and is a major cause of heart disease, stroke, complications of diabetes, and heart and kidney failure. Hypertension is a complex mix of environmental and genetic factors. It is not known exactly how many causal factors there

Hypertension Awareness Prevalence West Virginia Actual 1984-1998; Projected 1999-2010



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are or how they interact with each other. However, based on present knowledge, high blood pressure and its sequelae can be controlled effectively.

African-American Behavioral Risk Factor Survey respondents interviewed from 1992-96 in West Virginia were more likely (40.5%) to report having high blood pressure than either Caucasians in West Virginia (26.7%) or African Americans in the nation as a whole (31.0%).

OBJECTIVE 12.4. Increase to at least 75% the proportion of adults who have had their blood cholesterol checked within the preceding 5 years. (Baseline: 67.2% in 1997)

Data Source: WVBPH, OEHP, BRFSS

At least 39% of the coronary heart disease in the United States is attributable to elevated total cholesterol (or hypercholesterolemia). Hypercholesterolemia is a major risk factor for coronary heart disease, which leads to heart attack.

OBJECTIVE 12.5. Reduce the mean serum cholesterol level among adults to no more than 193 mg/dl. (Baseline: 202.56 mg/dl in 1999)

Data Source: PEIA Pathways to Wellness Program

The Public Employees Insurance Agency (PEIA) Pathways to Wellness Program is working to promote healthier lifestyles for every PEIA member. There are currently over 100 public worksites enrolled.

Health risk assessments are offered voluntarily and include cholesterol screenings.

OBJECTIVE 12.6. (Developmental)
Increase by 100% from baseline the proportion of females who are aware that cardiovascular disease (heart disease and stroke) is the leading cause of death for all females. (Baseline data available from the BRFSS in 2000)

Data Source: WVBPH, OEHP, BRFSS

Cardiovascular disease, particularly coronary heart disease and stroke, remains the leading killer of women in America and most developed countries. In 1994, CVD claimed the lives of more than one-half million women and accounted for 45.2% of all deaths among women, more than all forms of cancer combined. Misperceptions still exist that CVD is not a real problem for women, although it is estimated that one in two women will eventually die of heart disease or stroke, compared with one in 25 who will eventually die of breast cancer.

In February, a report released by West Virginia University and the Centers for Disease Control and Prevention (CDC) stated that West Virginia women suffer from far higher rates of heart disease deaths than women in other parts of the country. West Virginia ranked 49th out of the 50 states and the District of Columbia for heart disease mortality among women - only New York and Mississippi suffered higher death rates than West Virginia.

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Meeting the Objectives

Health Promotion Channels for Achieving Objectives:
Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

As of July 1, 1999, the West Virginia Bureau for Public Health received a Core Capacity Grant for Cardiovascular Health from the CDC. This grant will allow the Bureau to expand its program and begin to build capacity to address cardiovascular health for West Virginia. This grant is a cooperative agreement and continued funding will be contingent on federal appropriations.

Members of the Cardiovascular Health Steering Committee came together on November 3, 1999, and agreed to provide leadership for state efforts, develop and endorse the state plan, coordinate statewide activities, and assist in building public and legislative support for cardiovascular disease prevention and control efforts. Organizations represented on this Steering Committee include:

American Heart Association
Coalition for a Tobacco-Free West Virginia
Healthy People 2010 Heart Disease & Stroke
Work Group
St. Mary's Regional Heart Center
West Virginia Coalition for Minority Health
West Virginia Coalition for Physical Activity
West Virginia Department of Education

West Virginia Nutrition and Chronic Disease Coalition
West Virginia University (WVU) School of Medicine
West Virginia Bureau for Public Health.

To address the racial and ethnic disparities in heart disease mortality, the WV Bureau for Public Health and the West Virginia Coalition for Minority Health (comprised of individuals who live and work in the African-American community) collaborate to develop culturally appropriate strategies. This partnership has resulted in several church and community-based interventions promoting increased physical activity, good nutrition, and the elimination of tobacco use.

As systems for cardiovascular health surveillance are developed, further assessments of cardiovascular health in our state will be identified. This will enable us to assess our target audiences, develop inventories of policies and environments that promote cardiovascular health, and allow our partners to develop appropriate strategies to intervene. West Virginia's Cardiovascular Health Plan will be developed to meet the Healthy People 2010 Objectives related to the promotion of heart health. Release of the Cardiovascular Health Plan is scheduled for June 2001.

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WEST VIRGINIA HEALTHY PEOPLE 2010

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Langer R et al. *Cardiovascular Disease in Women: A Statement for Health Care Professionals from the American Heart Association*. Dallas, TX: American Heart Association, 1997.

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American Heart Association. *High Blood Pressure Statistics*. Dallas, TX: 1998.

Barnett E et al. *Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality*. Morgantown, WV: Office for Social Environment and Health Research, West Virginia University, December 1999.



Background

The HIV/AIDS epidemic was first recognized in the states of New York and California in 1981. In the early years of the epidemic, the majority of cases occurred in white men who have sex with men. However, as time has passed, cases have appeared among persons who inject illegal drugs, heterosexuals, and racial minorities. West Virginia first required AIDS reporting in 1984. Since then, 87% of West Virginia's cases have occurred in men and 13% in women. West Virginia was five years into the epidemic before females accounted for more than 10% of the reported cases. When observing the risk behaviors for acquiring AIDS among males, just as observed nationally, men who have sex with men account for the majority of cases (65%), followed by injecting drug users (14%). Injecting drug use was observed with even greater frequency among females (38%), following heterosexual contact (44%) as a major risk behavior. Injecting drug use was the most common risk factor reported by African American females.

13 HIV

By the 1990s many changes began to occur in the epidemic. In 1992, AIDS became a leading cause of death among Americans aged 25-44 years of age. By the end of 1999, a total of 733,374 AIDS cases had been reported in the United States, of which 1,008 were reported in West Virginia. By 1998, nationally, as well as statewide, the number of new cases began to decline. These declines can be attributed to advances in antiretroviral therapies(CDC, 1999 HIV/AIDS Surveillance Report) and to the many HIV prevention efforts implemented across the country.

West Virginia made HIV a required reportable condition in 1989. Active surveillance activities continue to monitor the status of reported cases to determine if a change from HIV to AIDS has occurred. With the introduction of new medications to treat HIV disease, these data will increase in importance as an indicator of progression of HIV-related infection to disease. It is speculated that the period of time from HIV to AIDS will widen, as has been shown with the use of protease inhibitors and other new therapies that promise to lengthen the life span of individuals living with HIV.

In spite of the many successes in HIV/AIDS surveillance, prevention, and care

WEST VIRGINIA HEALTHY PEOPLE 2010

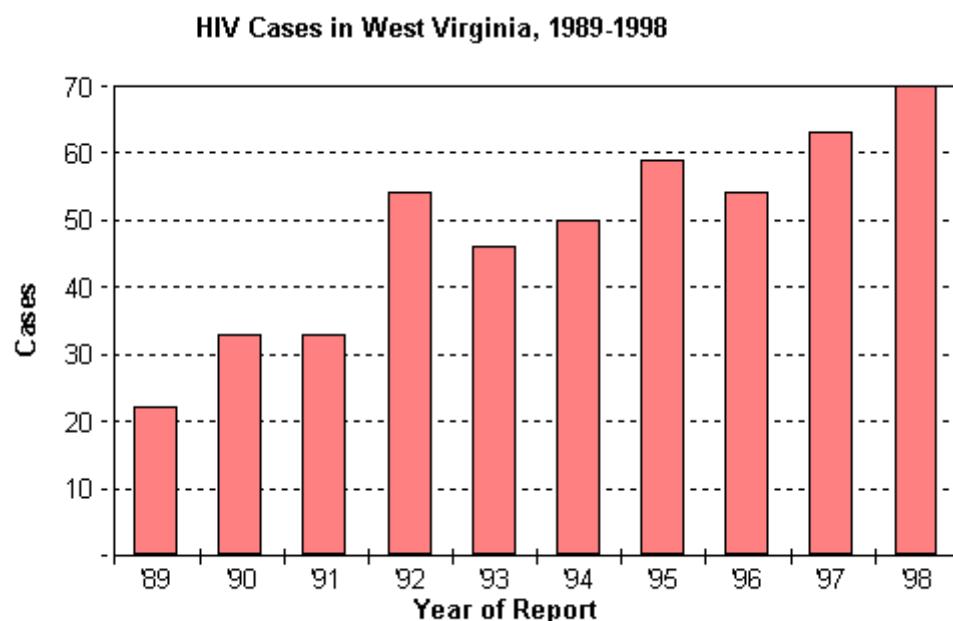
activities, there are still many challenges facing the West Virginia AIDS Program with this epidemic. The demographics of the people who need to be reached by prevention efforts have changed. Women, youth, and racial minorities account for a growing proportion of new HIV cases. The face of the HIV data is constantly changing. When individuals reported with HIV are diagnosed with AIDS, the case is removed from the HIV data set and added as an AIDS case. There are many differences in HIV and AIDS reported cases. Women are 28% of the HIV reported cases but only 13% of the AIDS cases. The 20-29 age group represents the largest proportion of reported HIV infection cases, with 39% of the reported cases, but only account for 18% of AIDS cases. African Americans represent 37%

of the HIV reported cases and 18% of AIDS cases. This is an alarming statistic since African Americans account for only 3% of West Virginia's population.

The objectives selected for West Virginia in this chapter were identified to address the areas of greatest potential for preventing HIV-related disease.

The Objectives

OBJECTIVE 13.1. Confine annual number of diagnosed HIV infection in adolescents and adults to no more than 50 cases.
(Baseline: 70 cases in 1998)



Source: 1999 Epidemiologic Profile of HIV/AIDS in West Virginia

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Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), AIDS Program

The epidemic curve of reported HIV infection cases by year of report 1989 through 1998 is displayed in the chart on the previous page. Four hundred eighty-four cases are displayed during this time period. HIV cases have gradually increased in the last six years with a slight decline in 1996. (Annual rates are not routinely calculated for HIV in West Virginia because case counts are believed to be less complete than reported cases of AIDS. This can result from persons not knowing that he or she is HIV positive, or he or she may be asymptomatic and may not have been tested for HIV. The data cited in the Background

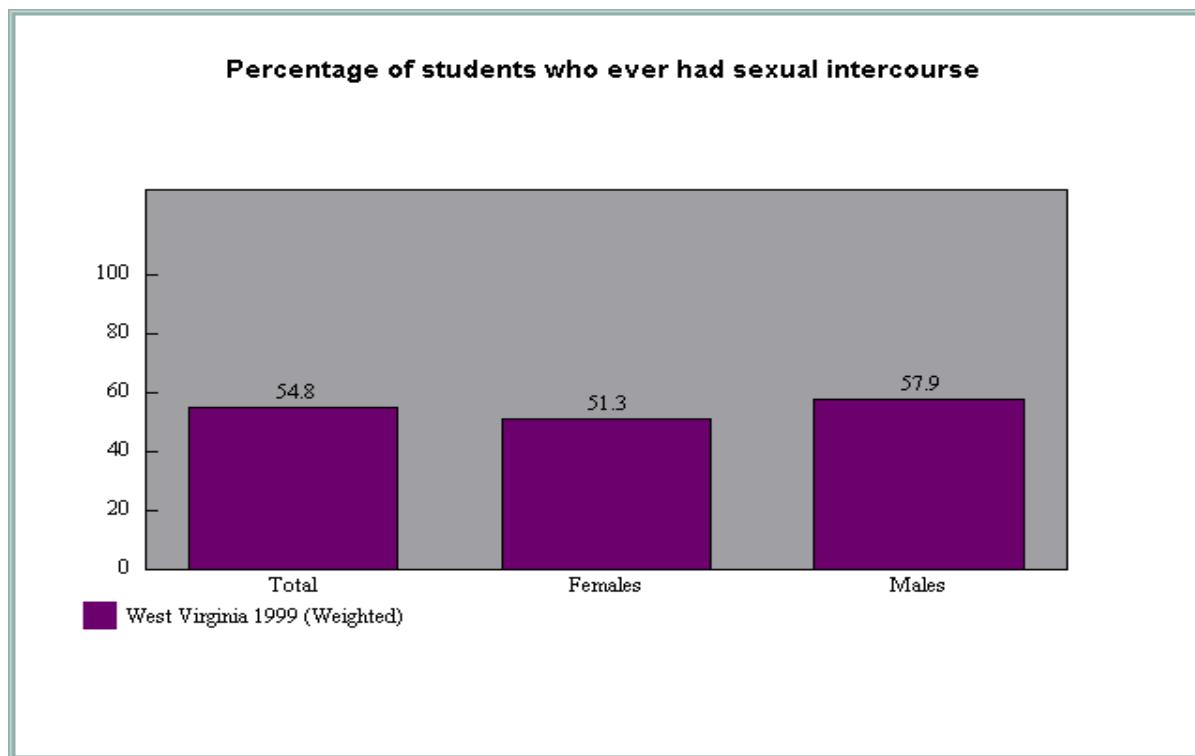
section of this chapter are cumulative due to the small numbers of annual reported HIV cases.) Continual efforts are being made to encourage HIV testing among persons engaged in high risk behaviors.

OBJECTIVE 13.2.

13.2a. Decrease the number of high school students who are sexually active to less than 45%. (Baseline: 54.8% in 1999)

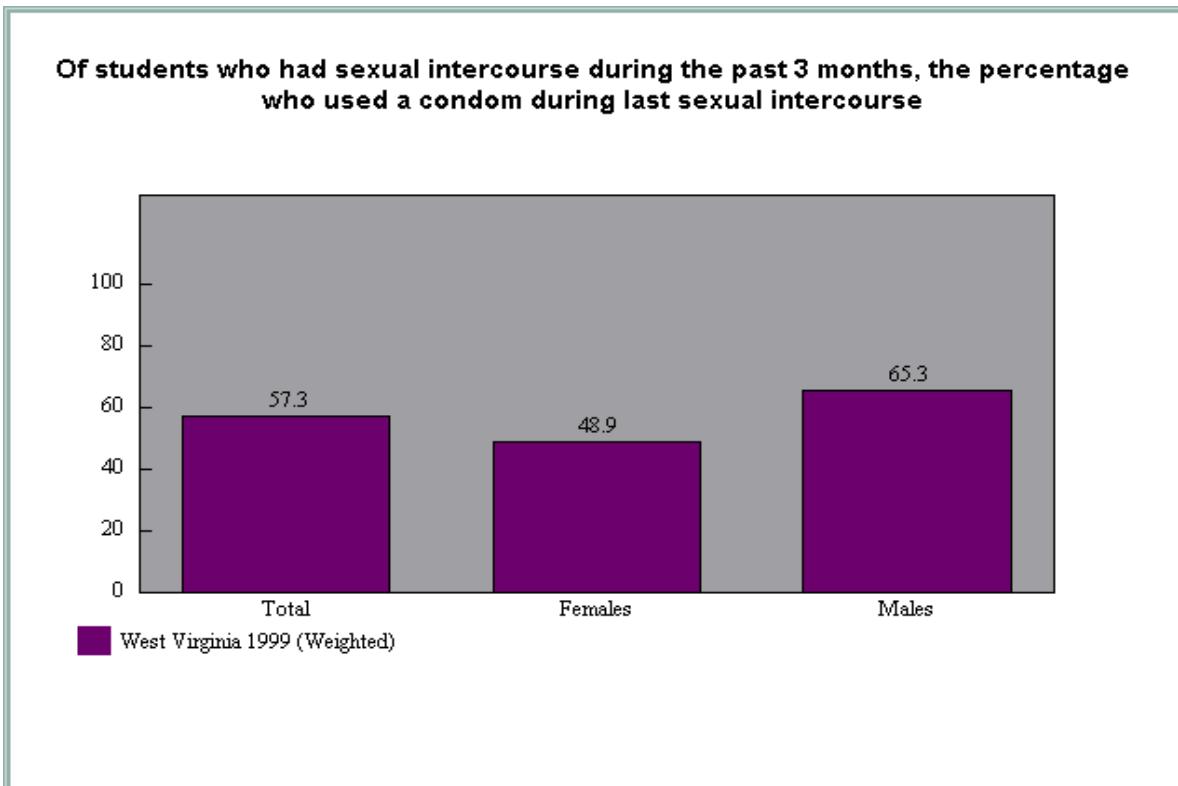
13.2b. Of high school students who are sexually active, increase the percentage reporting condom usage to 65%. (Baseline: 57.5% in 1999)

Data Source: WV Department of Education (WVDOE), Youth Risk Behavior Survey (YRBS)



Source: 1999 Youth Risk Behavior Survey

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Source: 1999 Epidemiologic Profile of HIV/AIDS in West Virginia

The preceding two graphs display the results of the 1999 West Virginia Youth Risk Behavior Survey. Sexual intercourse was reported more frequently in males (57.9%) than females (51.3%). Not shown is that sexual activity increases with age when observing the trend from 9th to 12th grade. The West Virginia AIDS Program works very closely with the West Virginia Department of Education, Office of Healthy Schools, to address this growing problem among high school students. WV HIV data indicate that disease is occurring in this population and the risk of transmission continues to be a concern with the increase of sexual activity. When reviewing sexually transmitted disease (STD) data, 41% of all reported cases of chlamydia and over 30% of gonorrhea cases were among

the 15-19 age group. These data document that high school students are sexually active and acquiring STDs, including HIV. Educating this population to protect themselves by consistently using condoms and not engaging in high risk behaviors is a priority for the AIDS and Healthy Schools Programs.

OBJECTIVE 13.3. Increase the number of injecting drug users (IDUs) tested for HIV to 250 per year. (Baseline: 109 in 1999)

Data Source: WVBPH, OEHP, AIDS Program, AIDS Prevention Center (APC) HIV testing database

The AIDS Program is initiating a new project to increase HIV testing and counseling

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of injection drug users (IDUs) and other high risk populations who are not currently coming to AIDS Prevention Centers. The method being used is an outreach approach for counseling and a non-invasive HIV test, Ora-Sure. Guidelines have been developed by a work group including the AIDS Program, community planning groups, and community-based organizations (CBOs). A request for proposals was mailed to all CBOs; six responded. The six CBOs are diversely located throughout the state, and all should receive funding to be included in this project. IDUs have been a very difficult risk behavior group to reach and this new Street Outreach HIV Counseling and Testing Project will help address that need.

FLAGSHIP OBJECTIVE

OBJECTIVE 13.4. Increase to 60% the proportion of correctional facilities offering HIV counseling and testing to inmates exiting the correctional system. (Baseline: 20% in 2000)

Data Source: WVBPH, OEHP, AIDS Program, HIV and Corrections Project

The correctional system in West Virginia includes 11 state prison facilities for adults (eight prisons, one DUI center and two work release centers), seven state juvenile detention centers, and seven regional jails (with two additional regional jails under construction and one with the site yet to be determined).

At present, inmate access to HIV counseling and testing in West Virginia correctional facilities is on a voluntary basis upon inmate request or clinical indication. The WV Bureau for Public Health is currently

(summer/fall 2000) in the process of implementing a pilot collaborative venture with the WV Division of Corrections to enhance HIV counseling, testing, and referral services for inmates in five adult (state prison) correctional facilities prior to their exit from the correctional system and back into the community. Inmates in the five pilot facilities, who are within 30 to 60 days of discharge, parole, or transfer to a work release center will be offered HIV counseling and testing, as well as testing for syphilis and hepatitis B. Inmates found to be HIV positive will be linked to HIV community case management services prior to their release.

The pilot program will be evaluated for effectiveness at the conclusion of the first year of operation for purposes of expanding this project to inmates in other WV correctional facilities.

OBJECTIVE 13.5. By 2010 all public health districts will have had at least six youth peer educators trained who will provide peer education programs designed to reduce risk among high school students. (Baseline: Two students trained per public health district in 1998)

Data Sources: WVDOE progress reports; WVBPH, OEHP, AIDS Program

West Virginia's youth peer education project began in 1997 as a collaborative project with the Department of Education and with a goal of training one school in every public health district. More than 100 students have been trained to date to conduct peer education training in the eight public health districts. Peer education training has focused

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on high risk youth populations in four different juvenile correctional centers.

OBJECTIVE 13.6.

13.6a. Increase the interval between the first positive HIV test and AIDS diagnosis to 48 months. (Baseline: median interval of 41.5 in 1995-1999)

13.6b. Increase the interval between AIDS diagnosis to death to 36 months. (Baseline: 21 months in 1995-1999)

13.6c. Decrease the percent of patients diagnosed with AIDS at first HIV diagnosis to less than 20%. (Baseline: 28.5% in 1995-1999)

Data Sources: WVBPH, OEHP, HIV/AIDS Reporting System and APC HIV counseling and testing database

The impact of the new combination drug therapies was first observed in West Virginia's data in 1998, when AIDS deaths declined for the first time since 1992. (There was a single year decline due to an artifact of reporting in 1994.) This decline has continued since then with deaths attributable to AIDS down 66% in 1999. These surveillance data indicate a delay in the progression to death from AIDS as well as a progression from HIV infection to AIDS. These three objectives will provide insight into population groups that are not receiving treatment. They will also assist with targeting HIV/AIDS prevention efforts in groups currently being impacted disproportionately by this epidemic (minorities, female injecting drug users, etc.).

Identifying HIV infection as early as possible and referring for HIV care improves the prognosis. This continues to be an objective that will depend on treatment

advances and access to care. West Virginia's counseling and testing activities will play a major role in the success of these objectives.

Meeting the Objectives

Health Promotion Channels for Achieving

Objectives:

- Worskites
- Schools
- Public Health Programs
- Networks
- Health Care System
- Higher Education

The following list includes some of the organizations that will be leading the initiatives to reach the 2010 objectives:

- HIV Community-Based Organizations
- HIV Community-Planning Organizations
- Schools
- Youth Peer Educators
- Public Health AIDS Prevention Centers
- Health Care System
- Higher Education-Office of Healthy Schools
- WV Department of Corrections
- WV AIDS Program
- WV HIV Care Consortia

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West Virginia Office of Healthy Schools. *West Virginia Youth Risk Behavior Survey*. Charleston, WV: West Virginia Department of Education, 1999.

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www.wvdhhr.org/bph/hp2010/



Background

Despite the progress that has been made in the fight against vaccine-preventable diseases and tuberculosis, new infectious diseases continue to arise. During the early 1990s, several major outbreaks called attention to the crumbling public health infrastructure in surveillance and disease control. In 1993, hamburgers contaminated with *Escherichia coli* O157:H7 caused a multi-state outbreak of hemorrhagic colitis (bloody diarrhea) and hemolytic uremic syndrome, resulting in the deaths of at least four children. That same year, contamination of a municipal water supply with *Cryptosporidium* caused an outbreak of diarrheal illness in an estimated 403,000 persons, with the hospitalization of 4,400. In the early part of the decade, other recognized threats included multi-drug-resistant pneumococcal disease, Influenza A/Beijing/32/92, and Hantavirus.

In response to these threats, the Centers for Disease Control and Prevention (CDC) launched an initiative to address emerging infectious diseases. Increased

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federal funding to states and localities followed in the form of the Epidemiology and Laboratory Capacity (ELC) grants. West Virginia has received funding through ELC grants since 1995. Since that time, West Virginia has begun surveillance for invasive pneumococcal disease and drug-resistant pneumococcal disease, *Cryptosporidium*, *Escherichia coli* O157:H7, hantavirus, invasive Group A Streptococcal disease, cyclosporiasis, and listeriosis. Through trainings for local and regional personnel, and grants to support regional epidemiologists, our public health infrastructure has improved.

Since the first CDC initiative, several new emerging infectious diseases have been recognized. It is known that 1.8% of people in the U.S. are infected with hepatitis C (2.7 million people). During the summer of 2000, West Nile virus spread across New York State and has been identified between Baltimore and Washington. This disease is very close to our borders. *Staphylococcus aureus* with intermediate resistance to Vancomycin has been isolated several times in the U.S., and methicillin-resistant *Staphylococcus aureus* is now recognized as a cause of infection in previously healthy teens and young children. *Cyclospora* caused outbreaks of

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gastrointestinal disease two summers in a row. Bat strain rabies has been recognized as the cause of 20 deaths in the U.S. during the 1990s, compared to two deaths the decade before. One of these occurred in West Virginia in 1994. Avian influenza in Hong Kong highlighted the potential for pandemic influenza. Disease outbreaks from bioterrorist acts have been recognized as a real possibility. Finally, infectious agents are increasingly recognized as the cause of chronic conditions, including peptic ulcer disease (*Helicobacter pylori*), cirrhosis and hepatocellular carcinoma (hepatitis B and C), Kaposi's sarcoma (human herpes virus 8), and cervical cancer (human papilloma virus).

The challenge of public health readiness remains. Only by successfully addressing threats we recognize and understand can we build our capacity to address the next emerging infectious disease. In efforts to help reach WV Healthy People 2010 goals, the importance of increasing resources for infants to adults cannot be overstated. Financing of immunization services will need the continued collaboration between the public and private sectors.

A report issued by the National Vaccine Advisory Committee (NVAC) identified cost as a barrier to children receiving timely immunization services. The Childhood Immunization Initiative (CII) was established as one of the recommendations from the NVAC report with a specific goal of removing barriers from immunizations. The implementation of the federal/state Vaccine for Children (VFC) Program in October 1994 has assisted the improvement of preschool immunization coverage in West Virginia's population by removing cost as a barrier.

During the past 20+ years, West Virginia, like the nation, has been successful in immunizing over 95% of its schoolchildren. However, the immunization coverage of preschool children remains a challenge at both the state and national levels. The measles outbreak between 1989-91, which resulted in over 130 deaths (predominately in young children), was a wake-up call that something was wrong with the country's vaccine delivery system to preschoolers. By the time they reach 15-18 months of age, children should have received 80% of the required vaccine doses. Preschool children, however, currently have much lower vaccination rates. National surveys indicate approximately 20% of the nation's and 18% of West Virginia's preschool children have not been fully immunized.

West Virginia's preschool immunization rates continue to improve, however, when compared to national measures. According to the National Immunization Survey (NIS), a composite measure of vaccination coverage most recently conducted between January and December of 1999, West Virginia's immunization coverage levels for children two years of age for the vaccine combination of 4:3:1 and 4:3:1:3 were 82.1% and 81%, respectively, compared to the United States averages of 79.9% and 78.4%.

Even though the state has made great progress in improving coverage in school-age and preschool children, the challenges of improving adult immunization coverage remain. For example, Behavioral Risk Factor Surveillance System (BRFSS) data from 1998 reveal that only 41.3% of persons 65 and older received pneumoccocal immunizations and 58.2% received an influenza vaccine. Influenza/pneumoccocal and its related

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complications is the sixth leading cause of death in West Virginia.

Activities to help improve immunization in adults range from designating a person on staff to specifically address this high-risk population to assisting in a statewide coalition. West Virginia's Immunization Network (WIN) was established in 1997 with an overall mission to help improve immunization rates across the life span. Within WIN, there is an established adult immunization work group. Additionally, members of WIN represent a cross section of local, state, and community organizations with a similar mission.

The Immunization Program continues to collaborate with West Virginia's Medical Institute (WVMI), which also serves as a Peer Review Organization (PRO) for Medicare. Both entities work closely with WIN and others in the overall effort to improve immunization coverage in the state's aging population. WVMI, in collaboration with the West Virginia Hospital Association and West Virginia Health Care Authority, developed an "In-Patient Immunization Took Kit," a collection of resources to help ensure that patients are vaccinated for influenza and pneumonia while they are hospitalized.

The Immunization Program and other stakeholders must continue to collaborate with non-traditional partners (pharmacists, school-based clinics, etc.) and others in the overall efforts to increase immunization coverage in the adult population in order to reduce the morbidity and mortality in this population. In addition, the program will plan and implement various activities focusing on senior citizens groups. From the private

sector, the main target group will be reached through hospital wellness groups for adults 65+ and through nutrition programs.

A recent report issued by WVMI indicated that in 1992-93 the average length of stay for flu and pneumonia among all Medicare populations in West Virginia was 9.2 days, with an average cost per stay of \$9,685 and a total cost of slightly more than \$75 million. When flu-related illnesses, such as congestive heart failure and other respiratory conditions, were considered, the total cost was more than \$215 million.

Even as progress and activities related to adults and preschool immunizations increase, there remains the challenge of improving immunization levels in adolescents.

Both traditional and non-traditional modes of delivering information to the public are used to help promote immunization: written news releases, public service announcements, printed literature, etc. All educational efforts focus on raising awareness among West Virginians that vaccine-preventable diseases still exist and are a threat to those who are not properly immunized. The Newborn Packet Program has been expanded to at least 90% of birthing centers and hospitals in West Virginia. The re-designed packet, entitled "Special Delivery for Baby," has received positive feedback from birthing facilities and county health departments.

Programmatic policies and procedural changes and the Advisory Committee on Immunization Practices (ACIP) recommendations are distributed and teleconference training opportunities are linked

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to health care professionals to help ensure a well-trained work force. The West Virginia Immunization Program facilitates provider and community links (e.g., local WIC agencies, religious, professional, and service organizations) as a means of persuading providers to check immunization records and bring children up to date with their vaccinations.

Immunizations against vaccine-preventable diseases is only one tool that is used to help eliminate and reduce infectious disease in West Virginia. An example of a critical infectious disease for which there is no vaccine is tuberculosis. The World Health Organization (WHO) released a report demonstrating that tuberculosis, the world's number one infectious cause of death, is threatening to become untreatable. Multi-drug resistant TB has emerged worldwide and is overwhelming national health systems in the former Soviet Union, India, Dominican Republic, Ivory Coast, and other countries.

The United States is by no means immune. With over 40% of U.S. patients diagnosed with TB from the foreign-born population, it is clear that the health of this country is linked with the rest of the world. With more than two million international travelers every single day, our borders cannot detain this airborne disease.

Many of the individuals treated at West Virginia's tuberculosis clinics are foreign born; however, the state has a larger number of patients who are homeless (12% of reported cases in 1999) and people who abuse alcohol (27% in 1999). By age, the largest number of cases of TB are among patients 65 and over (51% in 1999). Lack of jobs, decent housing,

good transportation, and adequate medical care combined with increasing age and substance abuse are all stressful life events, and persons under stress are more prone to illness, including tuberculosis.

Achievements have been made by West Virginia regarding tuberculosis. The goal of a TB incidence rate of 3.5 cases per 100,000 population by 2000 was reached in this state in 1996, and our present incidence rate is 2.3 (1999). In order to maintain the downward trend and meet the 2010 objective of 1 case per 100,000, a more aggressive approach in contact investigations and treatment of latent tuberculosis infection needs to occur. The goal of at least 90% of patients completing curative therapy within 12 months has not been met. In 1998, 67% of patients completed therapy within 12 months; 19% took medication longer than 12 months, with a total of 87% completing therapy. A very low percentage of patients are given directly observed therapy. Measures need to be taken to increase this percentage as the lifestyles of patients change and behavioral barriers to treatment increase.

The Objectives

FLAGSHIP OBJECTIVE
OBJECTIVE 14.1. Reduce hepatitis B rates in persons less than 25 years of age to zero cases per 100,000 (except perinatal infections). (**Baseline:** .33 per 100,000 in 1999)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Division of Surveillance and Disease Control (DSDC),

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West Virginia 1998 National Electronic Telecommunication System for Surveillance

OBJECTIVE 14.2. *Reduce estimated hepatitis B cases per 100,000 among adults older than 25 years of age.*

14.2a. *Reduce cases among adults aged 25-39 to 0.9 per 100,000.* (**Baseline:** 3.5 in 1999)

14.2b. *Reduce cases among adults aged 40 and older to 0.3 per 100,000.* (**Baseline:** 1.3 in 1999)

Data Source: WVBPH, OEHP, DSDC, West Virginia 1998 National Electronic Telecommunication System for Surveillance

OBJECTIVE 14.3. *Reduce newly acquired hepatitis C cases to an incidence of no more than 1 per 100,000 people.* (**Baseline:** 1.6 in 1998)

Data Source: WVBPH, OEHP, DSDC, West Virginia 1998 National Electronic Telecommunication System for Surveillance

Hepatitis C is the most common cause of chronic hepatitis in the U.S. The virus is spread predominantly through injection drug use. Transfusions and transplantation as vehicles of transmission are losing prominence as donors are screened with better tests. Persons on dialysis are also at risk, though transmission in that setting can be controlled with good infection control practices in dialysis units. Finally, education of at-risk individuals is increasing as the threat of hepatitis C is better understood. All these factors should reduce the incidence of new cases.

OBJECTIVE 14.4. *(Developmental) Increase the number of persons with chronic hepatitis C virus (HCV) infection who are identified by state and local health departments.* (**Baseline data available in 2003**)

Data Source: WVBPH, OEHP, DSDC, Infectious Disease Epidemiology Program

Persons with hepatitis C have improved outcomes if they cease or drastically reduce alcohol consumption. They should also receive hepatitis A vaccine to reduce the chances of liver failure if this form of hepatitis is contracted. Finally, improved treatments offer new hope to persons infected with hepatitis C. For all these reasons, persons at risk of hepatitis C should be identified and referred to medical care.

OBJECTIVE 14.5. *Reduce tuberculosis to an incidence of no more than 1.0 per 100,000.* (**Baseline:** 2.3 in 1999)

Data Source: WVBPH, OEHP, DSDC, Tuberculosis Program

OBJECTIVE 14.6. *Reach the goal of at least 95% for the proportion of all tuberculosis patients who complete curative therapy within 12 months.* (**Baseline:** 79% in 1997)

Data Source: Tuberculosis in the United States, CDC

It is imperative that a person with infectious tuberculosis disease complete an appropriate course of therapy. Inadequate treatment can lead to relapse, continued transmission, and the development of drug-

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resistant TB. Directly observed therapy helps to ensure that patients adhere to therapy.

OBJECTIVE 14.8. (Developmental)
Reduce the incidence of invasive pneumococcal infections and invasive penicillin-resistant pneumococcal infections in persons aged less than five and 65+.

14.8a. Reduce the incidence of invasive pneumococcal infections in persons less than five years to 46 per 100,000. (Baseline data available in 2003)

14.8b. Reduce the incidence of invasive pneumococcal infections in persons aged 65+ to 50 per 100,000. (Baseline data available in 2003)

14.8c. Reduce the incidence of invasive penicillin-resistant pneumococcal infections in persons less than five years to 9.4 per 100,000. (Baseline data available in 2003)

14.8d. Reduce the incidence of invasive penicillin-resistant pneumococcal infections in persons aged 65+ to 6.8 per 100,000. (Baseline data available in 2003)

Data Source: WVBPH, OEHP, DSDC, Infectious Disease Epidemiology Program

OBJECTIVE 14.9. (Developmental)
Decrease the incidence of invasive early-onset Group B Streptococcal disease to 0.5 cases per 1,000 births. (Baseline data available in 2005)

Data Source: WVBPH, OEHP, DSDC, Infectious Disease Epidemiology Program

Invasive Group B Streptococcal disease is a potentially serious disease of newborn infants in the first seven days of life. The disease is transmitted from mother to

infant during birth and may cause severe illness or death in the newborn. Fortunately, women can be screened for colonization with Group B Streptococcus, either by using a risk factor profile or by vaginal cultures. Mothers at risk for transmitting Group B Streptococcus can be treated prophylactically with penicillin to prevent transmission to the infant.

OBJECTIVE 14.10. (Developmental)
Reduce hospitalizations caused by peptic ulcer disease to 57 per 100,000 population. (Baseline data available by 2005)

Data Source: WV Health Care Authority

OBJECTIVE 14.11. Maintain or increase immunization coverage of at least 90% among children 19-35 months of age. (1998 baselines below)

14.11a. At least 3 doses of diphtheria-tetanus-pertussis (DTaP) vaccine. (Baseline: 90%)

14.11b. At least 3 doses of Hib vaccine. (Baseline: 97%)

14.11c. At least 1 dose of measles-mumps-rubella vaccine. (Baseline: 93%)

14.11d. At least 3 doses of hepatitis B vaccine. (Baseline: 90%)

14.11e. At least 1 dose of varicella vaccine. (Baseline: 43%)

14.11f. At least 3 doses of polio vaccine. (Baseline: 92%)

14.11g. A combination of at least four doses of DTaP, three doses of polio, one dose of measles-mumps-rubella (MMR), and three doses of Hib - series abbreviated as 4:3:1:3. (Baseline: 82.4%)

Data Sources: WVBPH, OEHP, DSDC, Immunization Program; CDC, National Immunization Survey

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Immunization	Head Start	Day Care	Kindergarten
3 DTP/DTaP	99.1	92.2	99.7
3 HIB	95.9	85	N/A
1 MMR	98.9	86.6	99.9
3 HepB	N/A	N/A	N/A
1 Varicella	N/A	N/A	N/A
3 Polio	98.7	90.3	99.3

Source: WVBPH, OEHP, DSDC, Immunization Program

OBJECTIVE 14.12. *Maintain immunization coverage at 95% for children in licensed day care facilities and children in kindergarten through the first grade.* (1998-99 baselines for recommended immunizations above)

Data Source: WVBPH, OEHP, DSDC, Immunization Program

OBJECTIVE 14.13. *Increase the proportion of adults 65 years of age or older and high-risk adults 18-64 years of age who are vaccinated against influenza and pneumococcal disease.*

14.13a. *Increase the proportion of noninstitutionalized adults 65 years+ who are vaccinated for:*

14.13a.1. *Influenza to 90%.*
(Baseline: 58% in 1997)

14.13a.2. *Pneumococcal disease to 90%.* **(Baseline:** 41% in 1997)

14.13b. *Increase the proportion of noninstitutionalized high-risk adults aged 18-64 who are vaccinated for:*

14.13b.1. *Influenza to 60%.*
(Baseline: 30% in 1995)

14.13b.2. *Pneumococcal disease to 60%.* **(Baseline:** 15% in 1995)

14.13c. *Increase the proportion of institutionalized adults (persons in long-term care or nursing homes) who have been vaccinated for:*

14.13c.1. *Influenza to 90%.*
(Baseline: 62% in 1995)

14.13c.2. *Pneumococcal disease to 90%.* **(Baseline:** 23% in 1995)

Data Sources: National Health Interview Survey, CDC; National Centers for Health Statistics, National Nursing Home Survey; WVBPH, OEHP, Behavior Risk Factor Surveillance System (BRFSS)

OBJECTIVE 14.14. *Increase to at least 85% the proportion of contacts, including other high-risk persons with tuberculosis infection, who complete courses of preventive therapy.*
(Baseline: 71% in 1998)

Data Source: WVBPH, OEHP, DSDC, Tuberculosis Program.

OBJECTIVE 14.15. *Increase the proportion of immunization providers who have systematically measured the immunization coverage levels in their*

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practice populations within the last two years to 90%.

14.15a. Public health providers

(Baseline: 40% in 1999 [provisional data])

14.15b. Private providers (Baseline:

5% in 1999 [provisional data])

Data Source: WVBPH, OEHP, DSDC, Immunization Program

OBJECTIVE 14.16. Increase the proportion of children enrolled in a fully functional state/community population-based immunization registry to at least 95%. (Baselines: Annual birth cohort - 99%; children birth through five - 28% in 2000)

Data Source: WVBPH, OEHP, DSDC, Immunization Program

Immunization registries, confidential, computerized information systems that contain information on the shots children receive, are proven tools for sustaining high immunization coverage. This system will allow West Virginia to monitor the immunization status of children, utilize data for outreach and follow-up activities, and assess coverage rates for providers and jurisdictions. The West Virginia Statewide Immunization Information System (WVSIIS) will compile information on every private immunization provider throughout the state.

The WVSIIS will help eliminate missed opportunities for immunization since all health care providers in West Virginia will have access to immunization histories of all West Virginia children less than six years of age. The WVSIIS will serve the basic functions of querying the system and entering new data, tracking and notification of children needing

immunizations, and using data for planning and evaluation purposes. Local health departments (LHDs) and providers will be able to perform outreach, follow-up activities for children requiring immunization services, and identification of populations at risk for delayed immunizations. Approximately 23,000 births occur in West Virginia each year; of these, 38% are immunized in LHDs and 62% in the private sector.

OBJECTIVE 14.17. (Developmental) Decrease the number of inappropriate rabies postexposure prophylaxis, as defined by the current Advisory Committee on Immunization Practices guidelines. (Baseline data available in 2005)

Data Source: WVBPH, OEHP, DSDC, Infectious Disease Epidemiology Program

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

Wksites
Schools
Public Health Programs
Networks
Health Care Systems
Higher Education

The following list includes some of the organizations that will be leading the initiatives to reach the 2010 objectives:

West Virginia Immunization Program
West Virginia Infectious Disease Epidemiology Program

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West Virginia Immunization Network (WIN)
Office of Epidemiology and Health
Promotion, WVBPH

The West Virginia Bureau for Public Health's Office of Epidemiology and Health Promotion is the coordinating agency for WIN. The coalition, in collaboration with others, will address the problem of immunization and infectious diseases in the state by using the six health promotion channels listed above.

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Visit the Healthy People website at:
www.wvdhhr.org/bph/hp2010/



Background

In 1997, over 149,691 Americans died from injuries sustained from a variety of causes such as motor vehicle crashes, falls, fires, drownings, poisonings, homicides, and suicides. This translates into over 390 people who die each day, of whom at least 50 are children. Overall, one death out of every 14 in the United States results from injury. Of these deaths, 65% were classified as unintentional and 35% as intentional in 1997. In that same year, West Virginia had a total of 20,835 deaths. Of these, unintentional injuries accounted for 788, and intentional injuries accounted for 355.

The age-specific death rates for injuries far surpass those for cancer and heart disease for ages 1 through 44. From ages 1 through 4, injuries cause almost half of all deaths and result in more than three times the number of deaths from congenital anomalies. Injury deaths exceed deaths from all other causes combined from ages 5 through 34 and are

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most prominent at ages 15 through 24, where they cause 78% of all deaths. From ages 35 through 44, they continue to outnumber deaths from any other single cause. After age 45, injuries account for fewer deaths than several other health problems, such as heart disease, cancer, and stroke. Despite the decrease in the proportion of deaths due to injury, the death rate from injuries is actually higher among the elderly than among younger people. In absolute numbers, injuries remain a significant cause of death throughout life.

Injury is a serious public health problem that is both preventable and predictable. However, this widespread human damage too often is taken for granted, in the erroneous belief that injuries happen by chance and are the result of unpreventable "accidents." Working together, the entities participating in the Healthy People 2010 process can effect a positive change in the toll taken annually by injury in West Virginia.

The Objectives

OBJECTIVE 15.1. Reduce intimate partner violence by reducing the rate of domestic violence related homicides to less than 1.3

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per 100,000 population. (**Baseline:** 1.6 per 100,000 West Virginia residents from 1993-97)

Data Source: Uniform Crime Reports (1993-97), West Virginia Department of Public Safety (WVDPS)

Violence is pervasive in our society and has the potential to change the quality of life. Intimate partner violence and sexual assault threaten women in all walks of life. On an average day in America, 70 people die from homicide, 87 people commit suicide, and a minimum of 18,000 people survive interpersonal assault. Intimate partner violence resulting in homicides is at a rate of 1.6 per 100,000 population in West Virginia. In 1995, 5,000 girls and women in the United States were murdered. In those cases for which the FBI has data on the relationship between the offender and the victim, 85% were killed by someone they knew. Nearly half of the women who knew the perpetrators were murdered by a husband, ex-husband, or boyfriend. A minimum of 16% of American couples experience assault during a year, and about 40% of these assaults involve severe violence, such as kicking, biting, punching, choking, and attacking with weapons.

The perpetration of intimate partner violence is most common in adults who, as children or adolescents, witnessed intimate partner violence or became the targets of violence from their caregivers. While West Virginia remains one of the safest states due to a low crime rate, the number of domestic violence related homicides has consistently remained approximately one-third of all homicides over the past five years. However, in 1998 there were 109 homicides; of these 48

(44%) were classified as domestic violence related. This represents only a small fraction of the West Virginia lives and families that are affected by violence in the home each year. Domestic violence not only affects individual lives and families but also the labor force, the cost of medical care, and society as a whole. As a state, community, and individuals, we need to work to protect everyone's right to be safe at home.

OBJECTIVE 15.2. Reduce the rate of forced sexual assault or attempted forced sexual assault to less than 16.1 per 100,000 population. (**Baseline:** 20.1 per 100,000 West Virginia residents from 1993-97)

Data Sources: Uniform Crime Reports, (1993-97), WVDPS; West Virginia Foundation for Rape Information and Services

Sexual assault is defined as any nonconsensual physical sexual activity including use of force, threats, intimidation, manipulation, coercion, or by taking advantage of physical helplessness or impaired mental and physical health of the victim. In 1994, the National Crime Victimization Survey (NCVS) reported that 407,190 females aged 12 and over were victims of rape, attempted rape, or sexual assault. Other surveys conducted in the past decade indicated that the NCVS underestimated the problem. The National Women's Study, in conjunction with estimates based on the U.S. census, suggests that 12.1 million American women have been victims of forcible rape at some time in their lives. The rate of forcible rape in West Virginia for the years 1993 through 1997 was 20.1 per 100,000 population. The national rate was 11.0 per 100,000 population.

WEST VIRGINIA HEALTHY PEOPLE 2010

OBJECTIVE 15.3. (Developmental)
Reduce the incidence of maltreatment of children younger than 18 to fewer than 6,438 cases annually. (Baseline: September 1997-1998/99 6,782 maltreated children per year)

Data Source: West Virginia Department of Health and Human Resources (WVDHHR)

Each year in the United States an estimated three million cases of suspected child abuse and neglect are reported by Child Protective Services (CPS) agencies, and almost three children a day die from child abuse and neglect. More than half of child abuse fatalities are typically unknown to CPS. In West Virginia, there were 16,349 reports of child abuse or neglect in 1998, which included reports of physical abuse, sexual abuse, emotional maltreatment, and neglect. Of those reported, 7,793 children were found to have already been maltreated or were at serious risk of maltreatment.

Child abuse and neglect can result in permanent and serious damage to the physical, emotional, and mental development of the child. The physical effects may include damage to the brain, vital organs, eyes, ears, arms, or legs. These injuries can result in mental retardation, blindness, deafness, or loss of a limb. Child abuse or neglect may also cause delays in development. The language, perceptual, and motor skills of maltreated children are often underdeveloped. At its most serious consequence, it may result in death.

Child maltreatment is often as damaging emotionally as it is physically. Maltreated children may be impaired in self-concept, ego competency, reality testing,

defensive functioning, and overall thought processes. They also have higher levels of aggression, anxiety, and self-destructiveness and low impulse control. These characteristics can cause maltreated children to display high levels of antisocial behavior as they get older. Histories of abuse or neglect are strongly associated with teenage pregnancy, runaways, crimes, juvenile delinquency, mental retardation and other permanent disabilities, sexual offenses, prostitution, and domestic violence.

OBJECTIVE 15.4. *Reduce to less than 9.2% the percentage of students aged 14-18 who carry a weapon on school property.* (Baseline: 10.8% in 1997)

Data Source: West Virginia Department of Education, Office of Healthy Schools, Youth Risk Behavior Survey (YRBS)

Adolescents and young adults face an extraordinarily high risk of death and injury from violence. Arrest rates for homicide, rape, robbery, and aggravated assault are consistently and substantially higher for young people aged 15 to 34 than all other age groups. Nationally 8.5% of students reported carrying a weapon on school property in 1997, compared to 10.8% in West Virginia. The rural nature of West Virginia and its culture may nurture this factor.

FLAGSHIP OBJECTIVE
OBJECTIVE 15.5. *Reduce overall motor vehicle crash deaths to no more than 17.7 per 100,000 population.* (Baseline: 20.8 per 100,000 population in 1993-97)

15.5a. Ages 0-14 4.8

(Baseline: 5.7 in 1993-97)

15.5b. Ages 15-24 27.7

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(Baseline: 32.6 in 1993-97)

15.5c. Ages 25-44 20.0

(Baseline: 23.5 in 1993-97)

15.5d. Ages 45+ 18.0

(Baseline: 21.2 in 1993-97)

Data Sources: WVDHHR, West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP); Division of Highways (DOH), National Highways Traffic Safety Administration (NHTSA)

OBJECTIVE 15.6. *Reduce the overall number of motor vehicle crash deaths to no more than 2.0 per 100,000,000 miles traveled.* (**Baseline:** 2.08 per 100,000,000 miles traveled from 1996-98)

Data Source: West Virginia Department of Transportation, Highways Division, Crash Data Report

Motor vehicle crashes (MVC) remain a major public health problem. MVCs are the leading cause of death for all Americans aged 1-24, as well as the leading cause of death for the same age group in West Virginia. According to the Department of Transportation, the societal cost of crashes exceeds \$150 billion annually. There were 47,460 motor vehicle crashes in WV in 1998. Among these, there were 372 deaths, 24,173 persons were injured, and the economic loss to our state was estimated at \$2,851,383,000. There are 1,280,555 licensed drivers in West Virginia, 1,529,285 licensed motor vehicles, and 17,867,924,000 annual vehicle miles traveled. The motor vehicle death rate per 100,000 population is especially high among those aged 16-24 and 75 and older. At all ages, males have higher motor vehicle death

rates per 100,000 population compared to females. Teenagers experience a disproportionately high incidence of crashes and crash deaths. Among children aged 1-14, crash injuries are the leading cause of death.

OBJECTIVE 15.7. *Initiate and pass into law legislation that requires the use of helmets by ATV operators.* (**Baseline:** N/A)

Data Source: West Virginia University (WVU) Center for Rural Emergency Medicine

OBJECTIVE 15.8. *Maintain current laws and support the enforcement of these laws for operators of (a) motorcycles and (b) bicycles.* (**Baseline:** Helmet laws are already in place for all motorcycle operators in West Virginia and bicycle operators aged 14 and younger.)

Data Source: Legislative bills and repeals

As of 1999, West Virginia had a mandatory motorcycle helmet law for all operators of all ages. A bicycle helmet law was also in place for those 14 years of age and younger. Each year there is constant pressure on the legislature to repeal the motorcycle helmet law.

OBJECTIVE 15.9. *Reduce overall deaths resulting from ATV crashes to no more than 0.5 per 100,000 population.* (**Baseline:** 1.1 per 100,000 during 1996-98)

15.9a. Ages 1-14 0.5

(Baseline: 1.1 during 1996-98)

15.9b. Ages 15-64 0.5

(Baseline: 1.1 during 1996-98)

15.9c. Males aged 65+ 1.0

(Baseline: 2.0 during 1996-98)

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Data Sources: WVU Center for Rural Emergency Medicine; U.S. Consumer Product Safety Commission

From 1990-98, 101 men, women, and children died as a result of ATV-related injuries in the state. During this period, West Virginia had the seventh highest number of fatalities and the second highest per capita rate of death (second only to Alaska) among all states. The average number of deaths from ATV incidents has risen over 150%, from 7 during 1993-1995 to 18 during 1996-98. Twenty-five percent (25%) of the deaths were among children 16 years of age or younger; 7 were under the age of 10, with the youngest an 18-month-old girl. Nine men aged 65 years or older have also died as a result of ATV crashes. Approximately 85% of the victims were male. Fewer than 5% of the victims wore helmets at the time of their ATV crashes, and two-thirds of the deaths were due to neck and head injuries. Forty-two percent (42%) of the incidents involved collisions with other vehicles or with fixed objects, and 33% involved ATVs flipping or overturning. One-fifth of the fatal incidents involved the use of alcohol and drugs. Twelve percent (12%) of the deaths were among persons who were riding as passengers. The precipitous rise in the number of deaths resulting from the recreational use of ATVs is a serious public health issue within the state.

OBJECTIVE 15.10. Reduce the number of deaths resulting from falls among the elderly (aged 65+) to no more than 34.6 per 100,000 population. (Baseline: 38.4 per 100,000 during 1993-97)

Data Source: WVBPH, OEHP, Health Statistics Center

Within West Virginia, for the period 1995-97, falls were the second leading cause of injury death among people aged 65 to 74 (25% of all unintentional injury deaths) and the leading cause for people 75 years of age or older (49% of all unintentional injury deaths). Falls are the most common cause of injuries and hospital admissions for trauma among the elderly. Falls account for over 80% of all fractures among the elderly and are the second leading cause of spinal cord and brain injury. Since most fractures are the result of falls, understanding factors that contribute to falling is essential in order to design effective intervention strategies. Factors that contribute to falls include dementia, visual impairment, neurologic and musculoskeletal disabilities, psychoactive medications, and difficulties in gait and balance. Environmental hazards such as slippery surfaces, uneven floors, poor lighting, loose rugs, unstable furniture, and objects on floors also may play a role.

OBJECTIVE 15.11. Increase the use of safety belts among adults and children older than eight to at least 74% of motor vehicle occupants. (Baseline: 68% in 1998)

Data Sources: NHTSA; U.S. Centers for Disease Prevention and Control (CDC)

Safety belts, when used, are the single most effective means for occupants to reduce the risk of death and serious injury in a motor vehicle crash. Lap and shoulder belts are 45% effective in reducing deaths and 50% effective in preventing moderate to critical injuries to passengers. Eleven states have primary enforcement laws, while West Virginia has a secondary enforcement law. States with primary enforcement and publicized

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enforcement of these belt laws can produce use rates at 80% and above.

OBJECTIVE 15.12. Increase the use of child restraints in motor vehicles to at least 98%. (Baseline: 96.5% in 1997)

Data Source: WVBPH, OEHP, Behavioral Risk Factor Surveillance System (BRFSS)

OBJECTIVE 15.13. (Developmental) Reduce Traumatic Brain Injury (TBI) as a result of intentional or unintentional injury.
(Baseline data available in 2000)

Data Sources: West Virginia Trauma Registry/West Virginia Traumatic Brain Injury Registry

Traumatic brain injury may be caused by an unintentional event (such as motor vehicle or ATV crash injuries, pedestrian injuries, bicycle injuries, etc.) or intentionally through violence (e.g., gunshot wounds, domestic violence injuries, sexual assault, etc.). Estimates of injuries reported in West Virginia indicate that approximately 3,600 individuals per year experience some type of head injury. Over two million Americans sustain traumatic brain injuries each year. These injuries are the leading cause of death and disability of children and young adults in the United States. Conservative estimates indicate that each year in West Virginia brain injuries are responsible for 3,600 hospitalizations, 700 deaths, and 600 long-term disabilities.

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

- Worskites
- Schools
- Public Health Programs
- Networks
- Health Care System
- Higher Education

The West Virginia Injury Prevention Coalition will use as its guidelines for setting its goals and objectives the objectives stated in Healthy People 2010. Members of the Coalition include:

- West Virginia Bureau for Public Health
- West Virginia Office of Emergency Medical Services
- West Virginia University Center for Rural Emergency Medicine
- West Virginia Foundation for Rape Information and Services
- West Virginia Coalition Against Domestic Violence
- West Virginia Department of Health and Human Resources, Child Support Services
- West Virginia State Fire Marshal's Office
- West Virginia Bureau for Public Health, Office of Epidemiology and Health Promotion, Osteoporosis Program
- West Virginia Department of Education, Office of Healthy Schools
- West Virginia Emergency Medical Services for Children
- West Virginia Safe Kids Coalition
- Brain Injury Association of West Virginia

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West Virginia Traumatic and Spinal Cord Injury Rehabilitation Fund Board

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www.wvdhhr.org/bph/hp2010/



Background

The health of a population is reflected in the health of its most vulnerable members. A major focus of many public health efforts, therefore, is improving the health of pregnant women and their infants, including reductions in rates of birth defects, risk factors for infant death, and deaths of infants and their mothers.

The health of mothers, infants, and children is a priority for the state of West Virginia as it is both a reflection of present health status and a predictor of future health status. The focus areas address indicators among pregnant and postpartum women as well as those affecting infants' health and survival.

Infant death is an important measure of a nation's health and a worldwide indicator of health status and social well-being. Between 1997 and 1998, West Virginia's infant mortality rate decreased noticeably, from 9.5 deaths per 1,000 live births to 8.1. During the past decade, critical measures of increased risk

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of infant mortality, such as incidence of low birthweight (LBW) and very low birthweight (VLBW), have actually increased across the United States.

Four causes account for more than half of all infant deaths: birth defects, disorders relating to short gestation and unspecified LBW, sudden infant death syndrome (SIDS), and respiratory distress syndrome. The leading causes of neonatal death nationally in 1997 were birth defects, disorders related to short gestation and LBW, respiratory distress syndrome, and maternal complications of pregnancy. After the first month of life, SIDS is the leading cause of infant death, accounting for about one-third of all deaths during this period. Maternal age is a recognized risk factor for infant death. In the United States mortality rates are highest among infants born to young teenagers (16 years and under) and to mothers aged 44 years and older.

Fetal death is another important indicator of perinatal health. Nationally in 1997 6.8 fetal deaths were reported for every 1,000 live births and fetal deaths combined, representing a slight decline from the fetal mortality rate of 7.6 per 1,000 in 1987. In 1998 the fetal death ratio in West Virginia was 6.0 per 1,000 live births, a decrease from the 1997 ratio of 6.7 deaths per 1,000 live births.

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Fetal death is sometimes associated with amniotic fluid levels and maternal blood disorders. In West Virginia in 1998 the majority (91.2%) of fetal deaths were due to conditions originating in the perinatal period, including complications of placenta, cord and membrane (30.4%), maternal conditions (7.2%), maternal complications (9.6%), short gestation and low birthweight (6.4%), and other ill-defined perinatal conditions (28.8%). Congenital anomalies accounted for 8.0% of all fetal deaths. Early, comprehensive, and risk-appropriate care to manage such conditions has contributed to reductions in fetal mortality rates.

Short gestation and LBW are among the leading causes of neonatal deaths, accounting for 20% of neonatal deaths nationally. In 1998, a total of 11.6% of births were preterm, and 7.6% were LBW. Included in these statistics were infants born at VLBW, or less than 1,500 grams (3.3 pounds). The national rate of VLBW births in 1998 was 1.4%. In West Virginia in 1998 the VLBW rate was 1.5%.

LBW is associated with long-term disabilities such as cerebral palsy, autism, mental retardation, and vision and hearing impairments. Despite the low proportion of pregnancies resulting in LBW babies, expenditures for the care of LBW infants total more than half of the costs incurred for all newborns nationally. In 1998, the cost for a normal, healthy delivery averaged \$1,900, whereas hospital costs for LBW infants averaged \$6,200.

The general category of LBW infants includes both those born too early (preterm infants) and those who are born at full term

but who are too small, a condition known as intrauterine growth retardation (IUGR). Maternal characteristics that are risk factors associated with IUGR include maternal LBW, prior LBW birth history, low pre-pregnancy weight, cigarette smoking, multiple births, and low pregnancy weight gain. Cigarette smoking is the greatest known risk factor.

VLBW usually is associated with preterm birth. Relatively little is known about the range of risk factors for preterm birth, but the primary risk factors are prior preterm birth and spontaneous abortion, low pre-pregnancy weight, and cigarette smoking. These risk factors, however, account for only one-third of all preterm births nationally. Maternal use of illicit drugs also may increase the risk of VLBW.

Many of the risk factors can be mitigated or prevented with good prenatal counseling and early prenatal education and care. Prenatal visits offer an opportunity to provide information about the adverse effects of substance use, including alcohol and tobacco, during pregnancy and provide a vehicle for referrals to treatment services. The use of timely, high-quality prenatal care can help to prevent poor birth outcomes and improve maternal health by identifying women who are particularly high-risk and taking steps to mitigate risks, such as risk of high blood pressure or other maternal complications. Interventions targeted at prevention and cessation of substance use during pregnancy may be helpful in further reducing the rate of VLBW infants. Further promotion of folic acid intake can help to reduce the rate of neural tube defects.

The Objectives

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OBJECTIVE 16.1. Reduce the prevalence of cigarette smoking among pregnant women to 12% or lower. (Baseline: 25.4% in 1998)

Data Sources: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Health Statistics Center (HSC); Office of Maternal, Child & Family Health (OMCFH), Pregnancy Risk Assessment Monitoring System (PRAMS), Right From The Start Program (RFTS)

OBJECTIVE 16.2. Reduce low birthweight to a incidence of no more than 5% of live births and very low birthweight to no more than 1% of live births. (Baselines: 8.1% for low birthweight; 1.5% for very low birthweight in 1998)

Data Source: WVBPH, OEHP, HSC

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OBJECTIVE 16.3. Increase to at least 90% the proportion of all pregnant women who receive 1st trimester prenatal care. (Baseline: 80.1% in 1998)

Data Source: WVBPH, OEHP, HSC

OBJECTIVE 16.4. Reduce the infant mortality rate to less than 7 deaths per 1,000 live births. (Baseline: 8.1 deaths per 1,000 live births in 1998)

Data Source: WVBPH, OEHP, HSC

OBJECTIVE 16.5. Reduce the rate of child mortality to 30 per 100,000 children aged 1-4 and 17 per 100,000 children aged 5-14.

(**Baselines:** 31.1 deaths per 100,000 children aged 1-4 in 1998; 18.9 deaths per 100,000 children aged 5-14 in 1998).

Data Source: WVBPH, OEHP, HSC

OBJECTIVE 16.6. Reduce the incidence of pre-term birth (< 39 weeks of gestation) to 7.6% of live births. (Baseline: 12.3% in 1998)

Data Source: WVBPH, OEHP, HSC

OBJECTIVE 16.7. Reduce the sudden infant death syndrome (SIDS) mortality rate to 0.3 per 1,000 live births. (Baseline: 1.7 deaths per 1,000 live births in 1998)

Data Source: WVBPH, OEHP, HSC

OBJECTIVE 16.8. (Developmental) Promote education to providers on counseling for postpartum depression at 4-6 week postpartum visit. (Baseline data to be established in 2000)

Data Source: WVBPH ,OMCFH, PRAMS

OBJECTIVE 16.9. Reduce the incidence of spina bifida and other neural tube defects to 3 per 10,000 live births. (Baseline: 4.3 per 10,000 live births in 1998)

Data Source: WVBPH, OEHP, HSC, Birth Defects Registry

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OBJECTIVE 16.10. *Ensure that all newborns are screened by state-sponsored programs to detect phenylketonuria (PKU), congenital hypothyroidism, galactosemia, and hemoglobinopathies. (Baseline: 99.76% in 1998)*

Data Source: Title V Performance Measures, Health Resources Services Administration (HRSA), Maternal Child Health Bureau

OBJECTIVE 16.11. *Reduce the perinatal mortality rate per 1,000 live births (deaths of infants from 20 weeks gestation to 28 days) by 30%. (Baseline: 10.6 deaths per 1,000 live births in 1998)*

Data Source: WVBPH, OEHP, HSC

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:
Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

The following list includes some of the organizations that will be leading the initiatives to reach the 2010 objectives:

Office of Maternal, Child & Family Health
Division of Women's and Perinatal Services
Right From The Start Project
Family Planning Project

Division of Research, Evaluation, and Planning
SIDS Program
PRAMS
Newborn Screening Program
Adolescent Pregnancy Prevention Initiative
Adolescent Health Specialists
Office of Epidemiology and Health Promotion, Tobacco Prevention Program
The March of Dimes
Healthy Mothers Healthy Babies Coalition
WV Perinatal Task Force 2000
Women, Infants, and Children Nutrition Program (WIC)

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www.wvdhhr.org/bph/hp2010/



Background

The Medical Product Safety Work Group focuses on issues of drug safety. Adverse drug events (ADEs) may be responsible for more than 100,000 deaths in the U.S. each year, according to an article in the April 15, 1998, issue of *The Journal of the American Medical Association*. This would rank ADEs between the fourth and sixth leading cause of death nationwide.

There are a variety of ways that people can be killed or injured by their medicine: (1) medication errors; (2) known side effects and drug interactions, and (3) unforeseen side effects that do not show up in clinical testing. Some experts believe that medication errors may account for one-third to one-half of all adverse drug events.

Pharmaceutical manufacturers are discovering new ways to treat more diseases and conditions, from impotence to diabetes. The Food and Drug Administration (FDA), long criticized as moving too slowly on drug applications, is now approving products at a

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record-setting pace. The FDA approved 139 new drugs and biologic products in 1996, a record increase of 63% over the 85 such products approved in 1995. In 1997, another 132 products were approved. At the same time, the median approval time for new drugs has decreased by more than half to 13.4 months.

The FDA is focused on safety of the product when used as directed; many adverse drug events occur from errors in the use or misuse of drugs. Drug interactions, inappropriate dosing, drug duplications, and errors in dispensing and in route of administration are all examples of drug errors that can lead to death or injury. In recent months, the FDA has been troubled by a series of adverse drug events caused by recently approved agents. For example, Posicor®, a drug for high blood pressure, was withdrawn from the market last year, but not because it was harmful on its own. Rather, Posicor® became lethal in combination with a number of other drugs, so many that the FDA believed that doctors and consumers could not keep abreast of the risks. Also, the diabetes drug Rezulin®, approved two years ago, can cause liver damage, which prompted the FDA to issue repeated warnings to doctors to closely

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monitor patients taking it. However, an agency investigation found that only 2.7% of patients taking Rezulin® for three months were being monitored the way the agency had recommended, even though 43 people had suffered acute liver failure that was possibly due to the drug; of these, 28 died. A panel of independent scientific experts has recommended that the drug be prescribed only to patients who do not respond to other therapy. And, finally, the arthritis drug Celebrex®, which was approved by the FDA in January of 1999 and has already been prescribed to more than two million people, is repeatedly being confused by doctors and pharmacists with two other drugs: Cerebyx®, an antiseizure medication, and Celexa®, an antidepressant. The agency has already received 41 reports of the wrong prescription being filled.

More prescriptions are being written, not only because there are more drugs but also because the population is aging; elderly people take more than one-third of all drugs that are prescribed. Of elderly patients taking three or more prescription drugs for chronic conditions, over one-third are rehospitalized within six months of discharge from a hospital, with 20% of those readmissions due to drug problems. Twenty-eight percent (28%) of hospitalizations of older Americans are due to noncompliance with drug therapy and adverse reactions. West Virginia has the oldest population of any state in America. We also have a high incidence of diabetes mellitus, heart disease, and other chronic illnesses. In addition, many of our citizens live in rural areas that are medically underserved. For these reasons, West Virginians may be especially vulnerable to injuries from adverse drug effects.

Computers are an important part of the medication safety net, but they have limitations. Many systems have programmed drug alerts that notify pharmacists about potential adverse drug events. A recent study conducted by the Institute for Safe Medication Practices (ISMP) found that most computer systems fail to detect common adverse drug events. ISMP surveyed 307 hospitals: only four successfully detected all unsafe medication orders. The founder of ISMP, Michael R. Cohen, noted, "Pharmacy computer systems need major improvements to detect and prevent potentially serious/fatal medication errors." The survey found that 87% of tested computer systems did not detect toxic doses of antibiotics for patients with renal impairment; 87% did not detect single or cumulative lethal doses of colchicine; 61% neither alerted the staff nor blocked the order when an oral suspension was ordered for intravenous use; and 58% of the tested computer systems did not link the pharmacy and laboratory to share vital information. Of those systems that provided this link, 59% did not screen orders against current laboratory values.

Improvements in computer systems and in other components of the health care delivery system are the focus of some of the objectives in the Medical Product Safety section of Healthy People 2010.

The Objectives

OBJECTIVE 17.1. (Developmental)
Increase to 90% the proportion of pharmacies and dispensers that utilize automated information systems with

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functional drug alert systems. (Baseline available in 2003)

Data Source: West Virginia University, School of Pharmacy, proposed survey of pharmacies and dispensers in West Virginia

Information systems that alert pharmacists to potential drug-related problems are essential in today's complex health care environment. However, these programs should be viewed as one of the many tools available to the pharmacist to ensure safe and appropriate medication use in all patients. Information systems are not a substitute for professional judgment and experience, nor do they relieve the pharmacist of responsibility for assuring that medications are used safely and appropriately.

FLAGSHIP OBJECTIVE

OBJECTIVE 17.2a. For patients who received a new prescription in the last 12 months, increase by 10% above baseline the number of patients 65 and older whose doctor or pharmacist reviewed all the prescription medications the patient was currently taking.

17.2b. For patients who received a new prescription in the last 12 months, increase by 10% above baseline the number of patients 65 and older whose doctor or pharmacist reviewed all the over-the-counter medications the patient was currently taking.

17.2c. For patients who received a new prescription in the last 12 months, increase by 10% above baseline the number of patients 65 and older whose doctor or pharmacist reviewed all the prescription AND over-the-counter medications the

patient was currently taking. (Baseline available in 2001)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Behavioral Risk Factor Surveillance Survey (BRFSS)

Pharmacists, physicians, and other primary care providers are a key resource for informing their patients about how to use medications correctly. In addition, routine review of medication regimens in this group of high-risk individuals can serve to inform primary care providers about changes in the regimen made by specialty practitioners and alert them to medication adherence problems.

Use of complementary and alternative sources of health care is common in the United States and is often not reported to primary care providers. In addition, many commercial and home herbal remedies can interact with prescription medication to cause adverse drug events. Protection from these risks is only possible when accurate information on the concurrent alternative therapies is known. Patients should be encouraged to communicate this information to their health care providers, and health care providers should likewise document use of alternative therapies in the patient's medical record.

OBJECTIVE 17.3. (Developmental) Increase to 90% the proportion of pharmacies using drug alert systems that have fully updated those systems within the past three months. (Baseline available in 2001)

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Data Source: Proposed survey with the West Virginia University (WVU) School of Pharmacy

OBJECTIVE 17.4. (Developmental)
Increase to 95% the proportion of patients receiving, at the time their prescriptions are dispensed, information that conforms to the Action Plan for the Provision of Useful Prescription Medicine Information. (Baseline data available 2003)

Potential Data Source: West Virginia University, School of Pharmacy, proposed survey of pharmacies and dispensers in West Virginia

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:
Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

The following list includes some of the organizations that will be leading the initiatives to reach the 2010 objectives:

West Virginia University School of Pharmacy
West Virginia Society of Health System Pharmacists
West Virginia Pharmacy Association
West Virginia Board of Pharmacy
West Virginia State Medical Association
West Virginia Hospital Association

West Virginia Bureau for Public Health
West Virginia Medical Institute
West Virginia Bureau of Medical Services
Public Employees Insurance Agency
West Virginia Workers' Compensation Insurance Program
United Mine Workers Association
The Health Plan
Carelink
Institute for Safe Medication Practices
National Association of Chain Drugstores

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Safer Health System Committee on Quality of
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Background

Mental illnesses affect children, adolescents, adults, and older Americans of all ethnic and racial groups, both sexes, and all educational and socioeconomic levels. No one is immune from the risk of mental illness. Approximately 40 million Americans aged 15 to 54 experience some type of mental illness each year, an estimated 8 million of whom will have both a mental illness and a substance use disorder. The chance of developing a diagnosable mental illness over the course of the life span is even higher; fully 35% of the population aged 15 to 54 will develop a mental illness at some time in their lives. The prevalence of mental illness is roughly comparable to the prevalence of many other physical illnesses and may be a coexisting condition that has an effect on the course of the physical illness.

In West Virginia, there has been significant improvement in the mental health service delivery system in recent years, even with the special challenges of a rural, sparsely populated state with high poverty levels.

18 MENTAL HEALTH AND MENTAL DISORDERS

There has been a steady increase in the number of people served, the availability of, and the access to mental health services. Incidence and prevalence formulas published in the *Federal Register* estimate there are 35,099 adults (2.6% of the adult population of West Virginia) who meet the federal definition of serious mental illness. The Department of Health and Human Resources (DHHR) estimates that there are 54,847 children in the state who meet the definition of serious emotional disturbance, based on the 13% prevalence rate for the overall population.

The comprehensive community-based system of care for adults with severe, recurrent, and persistent mental illnesses emphasizes community integration and recovery. For nearly 20 years, West Virginia has sought systemic change in services to adults with mental illnesses through improvement in knowledge, skills, and attitudes regarding services and the continued promotion of local program development. The family-focused, community-based system of care for children with serious emotional disturbances has focused on implementation of an array of services with a core of four: crisis services, case management services, assessment services, and home-based family

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preservation services. Structures currently in place and being developed ensure interagency collaboration for children and their families.

The behavioral health delivery system in West Virginia continues to undergo dramatic change as the state prepares for managed behavioral health care. The determination of reimbursement for behavioral health services is now based on an individual's functioning level, available support system, and current clinical stability, in addition to a psychiatric diagnosis. Funding for all behavioral health services is a blending of Medicaid reimbursements, state allocations, and federal grants. The emphasis of the move toward managed behavioral health care has been to match the level of care provided to the level of need expressed and/or exhibited by the consumer. Through the collaborative efforts of families, consumers, providers, and state-level decision makers, the West Virginia mental health system will adequately address the needs of adults with mental illness and children with serious emotional disturbances.

Many consumers of mental health services utilize their primary care physician for treatment, regardless of the doctor's expertise with psychiatric illnesses or emotional disorders. The Rural Health Education Partnerships Program (RHEP) of the University System of West Virginia will be utilized to insert modules concerning mental health and its related symptomology for use within the student rotations. Students in nine disciplines complete more than 1,500 rural rotations through RHEP each year. Health sciences students are trained in more than 250 community sites including hospitals, health centers, pharmacies, and social service agencies.

Licensed physicians are required to obtain continuing education. According to the West Virginia Board of Medicine, there are currently 6,177 active licensed physicians in the state. West Virginia will provide training workshops on the signs and symptoms of behavioral health problems as well as the appropriate referral sources for these problems. This objective will apply to both primary care physicians and pediatricians. More modern assessment information and treatment practices being relayed to all doctors will allow for earlier detection of major problems and quicker interventions if necessary.

Medical students, residents, and licensed physicians will also receive training on screening for postpartum depression and whether referral to a mental health professional is necessary. Emphasis will also be placed on children's mental health, with prevention of future problems and early detection as the focus.

The following objectives will assist West Virginia in continuing to improve its behavioral health system over the next decade.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 18.1. Increase the reported use of crisis services provided by community behavioral health centers by 5% each year.
(Baseline: 7,103 crisis interventions estimated in 2000)

Data Sources: Client Services Data Report (CSDR) of Office of Behavioral Health Services (OBHS); pre-admission screening

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Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Crisis Interventions Performed	7103	7458	7813	8168	8523	8878	9233	9588	9943	10298	10653
# of Persons Receiving Crisis Stabilization	2453	2576	2699	2822	2945	3068	3193	3316	3439	3562	3685

data from OBHS; involuntary commitment data submitted to OBHS by contract agencies

Persons with behavioral health problems frequently experience crises. The community behavioral health centers of West Virginia contract with the Department of Health and Human Resources for the provision of certain core services, one of which is crisis intervention and professional crisis response. Many people with undiagnosed mental illnesses or even current recipients of behavioral health services can benefit from proactive effective and efficient crisis services. Crisis response will reduce the length of time for stabilization of symptoms and reduce the use of other high-end services such as hospitalization. By increasing effectiveness, one can increase accessibility. This is the goal of this objective. It will be achieved through analysis of data collected and training provided to contract agencies as requested.

OBJECTIVE 18.2. Reduce the statewide suicide rate to 10.5 per 100,000 by the year 2010. (Baseline: Age-adjusted rate of 11.8 deaths per 100,000 population in 1998)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion, Health Statistics Center

Suicide has become the focus of national attention thanks to the announcement by the U.S. Surgeon General that it is a

national problem that must be addressed. In West Virginia, the rate of suicides per 100,000 population is 14.2, compared to the national average of 12.0. A Suicide Task Force established through Healthy People 2000 will be continued and will make recommendations to the appropriate decision makers on how the rate can be reduced. The areas of focus will be improved marketing of crisis services provided by community behavioral health centers, easier reference to how to access help via phone or in person, partnerships with law enforcement and school systems, and greater attempts to reduce the stigma of mental illness.

OBJECTIVE 18.3. Increase to 20% the number of individuals with serious mental illnesses who are engaged in competitive employment. (Baseline: 9.2% in 2000)

Data Source: Demographics of West Virginia Functional Assessment

There have been many recommendations to increase and enhance provider, consumer, and family member knowledge about mechanisms to move from SSI/SSDI to employment without endangering benefits. The loss of these entitlements and benefits, whether real or perceived, is a key inhibitor to persons with mental illnesses seeking employment. The recent changes in Social Security laws related to employment and maintaining benefits will be distributed and training will be held. Partnerships with local businesses and mental health providers will

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assist consumers in achieving their vocational goals. To establish a baseline for this process, a survey will be conducted that determines what factors inhibit consumers from seeking employment for those not working. A similar survey will be completed with consumers who are employed to determine how they successfully overcame the barriers.

OBJECTIVE 18.4. Decrease by 10% per year the number of persons with mental illness who are jailed due to minor offenses as a result of their psychiatric conditions. (Baseline: 543 persons in 2000)

Data Sources: Pre-admission screening data of OBHS; Bureau for Justice Statistics web page; inmate demographic data from State Department of Corrections; number of graduates of State Police Academy; number of hours of training designated in training curriculum

People with mental illnesses are frequently arrested (usually for minor crimes). Community behavioral health center staff can play an important role in diverting such individuals from inappropriate incarceration and/or achieve continuity of treatment when an individual has been arrested. Several model police mental health intervention programs have been implemented in the United States. West Virginia will increase the amount of training in mental health issues received by graduates of the West Virginia State Police Academy from 4 hours to 40 hours for 100% of its graduates. Partnerships between law enforcement and mental health professionals are a definite possibility and will help alleviate some of the burdens on both the criminal justice and behavioral health systems. This will ensure individuals are referred to the best

and most appropriate level of intervention to protect the public and meet their treatment needs.

OBJECTIVE 18.5. Increase to 11 the number of specialized Mentally Ill and Chemical Addiction (MICA) programs for dually diagnosed consumers. (Baseline: 1 in 2000)

Data Sources: Number of dual diagnosis programs in West Virginia; admission data from state hospitals showing rate of hospitalization for MICA consumers discharged from specialized programs compared to the number of hospitalizations before their existence

Comorbidity of mental and addictive disorders is not uncommon. Among those with an alcohol disorder, 37% also experience a mental illness; among those with other drug disorders, 53% experience a mental illness. Schizophrenia is four times more likely to have a co-occurring substance issue, and anxiety and depressive disorders are twice as likely in people with alcohol disorders. Studies have found that the vast majority (79%) of lifetime mental illnesses appear to be comorbid illnesses. The data suggest that the major economic and social burdens of psychiatric disorders in our society are likely concentrated in those who experience significant comorbidity.

Co-occurring mental and addictive disorders also are found among children and adolescents. Externalizing disorders among children and adolescents—more prevalent in males—such as oppositional defiant disorder, conduct problems, and ADHD, appear to be strongly related to similarly externalizing

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adolescent behaviors such as alcohol use, violence, and delinquency.

As in national studies, the majority of persons who are classified as recidivists in the mental health system of West Virginia have both a mental illness and a substance abuse problem. Substance Abuse Block Grant funds and Community Mental Health Services Block Grant funds have been permitted to be blended for addressing the needs of this population. There is currently one dual diagnosis program in West Virginia. This approach, as well as assertive community treatment, will be replicated in other areas of the state. The initial focus of treatment and approaches have differed in the past, but newer research has given a standard method for treating both issues simultaneously. West Virginia will assure that all behavioral health providers are trained and use the newer methods of treatment to improve outcomes and reduce recidivism.

OBJECTIVE 18.6. (Developmental)
Seventy-five percent (75%) of adults with serious mental illness, 75% of children with serious emotional disturbances, 75% of the families of adults with mental illnesses, and 75% of the parents of children with serious emotional disturbances will rate the quality and appropriateness of care positively by the end of year one, and this approval rate will increase by 2% annually. (Baseline data available in FY2000)

Data Sources: Satisfaction surveys from West Virginia Mental Health Consumers Association, National Alliance for the Mentally Ill (NAMI) West Virginia, and Mountain State Parents, Children and Adolescent Network

Satisfied customers are happy customers. This has long been known in the business field and has also become important in the helping fields in recent years. One manner in which to tell if one's customers or consumers are happy is through a satisfaction survey. The West Virginia Mental Health Consumers Association has completed primary consumer satisfaction surveys for the past three years and will continue to do so in the future. NAMI West Virginia has developed a family satisfaction survey and it will measure the level of satisfaction families have with the services provided to their ill family members. The Mountain State Parents, Children and Adolescent Network has developed an instrument that measures both child and parent satisfaction. This survey is in its second year and will also be continued. These objectives are also utilized in the Community Mental Health Services Block Grant to assure that the behavioral health system is providing good services to the residents of West Virginia and they are pleased with the outcomes.

These six objectives will assist the mental health system in moving forward into the new millennium. They allow standards for planning and organizing how the West Virginia Department of Health and Human Resources will assure the delivery of quality and effective services to those persons with mental illnesses and those children with emotional disturbances.

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Meeting the Objectives

Health Promotion Channels for Achieving Objectives:
Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

The lead entity for meeting these objectives will be the Office of Behavioral Health Services. Other groups associated will include: West Virginia Mental Health Consumers Association, NAMI West Virginia, Mountain State Parents, Children and Adolescent Network, and the West Virginia Behavioral Healthcare Providers Association.

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Lolita Crews, Vice-Chair, West Virginia Mental Health Planning Council

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www.cdc.gov/ncipc/osp/leadcaus/wvtable.htm

www.nimh.nih.gov/research/suifact.htm

www.rochford.org/suicide/resource/stats/us

www.wvdhhr.org/bph/vital96

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Background

Nutrition is essential for sustenance, growth and development, health and well-being. At the same time, nutritional factors contribute substantially to the burden of preventable illness and premature death in the United States and to the nation's economic burden. According to the Centers for Disease Control and Prevention (CDC), dietary factors are associated with 4 of the 10 leading causes of death: coronary heart disease, some types of cancer, stroke, and Type 2 diabetes mellitus. Estimated medical costs to society in medical charges (medical costs and lost productivity) of over \$200 billion each year are a result of these health conditions. Glanz et al. state that good nutrition can reduce some of these costs and consequences in the short run and can affect others through population-wide declines in disease rates and in disease severity over the longer term.

The obesity epidemic has increased dramatically across the United States as well as in West Virginia. The rapid spread during the 1990s occurred across all states, regions,

19 NUTRITION AND OVERWEIGHT

and demographic groups. According to Wolf and Colditz, in 1995 total costs (medical costs and lost productivity) attributable to obesity alone amounted to an estimated \$99 billion in the U.S. Overweight and physical inactivity account for more than 300,000 premature deaths each year, second in number only to tobacco-related deaths. State efforts will need to be coordinated with national and local interventions to control this epidemic, particularly since West Virginia was ranked first in the prevalence of obesity among adults in 1998 according to data collected by the Behavioral Risk Factor Surveillance System (BRFSS).

The following 2010 objectives for West Virginia were selected to:

- promote healthy weights throughout our population;
- measure implementation of the Dietary Guidelines for Americans;
- establish healthy eating behaviors in our youth; and
- address the issue of food insecurity in our state.

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The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 19.1. *Reduce the proportion of people aged 18 and older who are obese.*

19.1a. *Reduce to 37% the proportion of people who are obese as defined by the Metropolitan Life Insurance tables as being at least 20% over ideal body weight.* (Baseline: 43.0% in 1998)

19.1b. *Reduce to 20% the proportion of people who are obese as defined by having a body mass index (BMI) of 30 or greater.* (Baseline: 23.9% in 1998)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), BRFSS

OBJECTIVE 19.2. *Increase to 35% the proportion of people aged 18 and older who consume at least five servings of vegetables and fruits per day.* (Baseline: 18.7% in 1998)

Data Source: WVBPH, OEHP, BRFSS

OBJECTIVE 19.3. *Increase to at least 60% the proportion of people aged 18 and older who meet dietary recommendations for calcium as defined by the Institute of Medicine's Dietary Reference Intakes for Calcium, Phosphorus, Magnesium and Fluoride.* (Baseline: 35.0% in 1998)

Data Source: Statewide Diet and Physical Activity Survey, West Virginia University (WVU) Department of Community Medicine, Division of Exercise Physiology

OBJECTIVE 19.4. *Increase to 75% the proportion of people aged 18 and older who*

consume less than 10% of total calories from saturated fat. (Baseline: 45.0% in 1998)

Data Source: Statewide Diet and Physical Activity Survey, WVU Department of Community Medicine, Division of Exercise Physiology.

OBJECTIVE 19.5. *Decrease food insecurity among WV households by 5% from baseline.* (Baseline: 9% in 1998 from USDA; data available in 2001 from BRFSS)

Data Sources: USDA Prevalence of Food Insecurity and Hunger (per state) Survey; WVBPH, OEHP, BRFSS

OBJECTIVE 19.6. *Increase the proportion of adolescents who consume breakfast daily by 5% from baseline.* (Baseline data available in 2001)

Data Source: Youth Statewide Diet and Physical Activity Survey, WVU Department of Community Medicine, Division of Exercise Physiology.

OBJECTIVE 19.7. *Increase the proportion of adolescents who consume at least five servings of fruits and vegetables per day by 5% from baseline.* (Baseline: 20.4% in 1999 from Youth Risk Behavior Survey [YRBS]; data available in 2001 from Youth State Diet and Physical Activity Survey)

Data Source: WV Department of Education (WVDOE), Office of Healthy Schools, YRBS; WVU Department of Community Medicine, Division of Exercise Physiology

OBJECTIVE 19.8. *Increase the proportion of adolescents who meet dietary*

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recommendations for calcium by 5% from baseline. (Baseline data available in 2001)

Data Source: Youth Statewide Diet and Physical Activity Survey, WVU Department of Community Medicine and Division of Exercise Physiology

OBJECTIVE 19.9. Increase the proportion of adolescents who consume less than 10% total calories from saturated fat by 5% from baseline. (Baseline data available in 2001)

Data Source: Youth Statewide Diet and Physical Activity Survey, WVU Department of Community Medicine, Division of Exercise Physiology

OBJECTIVE 19.10. Reduce the proportion of children and adolescents who are overweight or obese by 5% from baseline. Overweight or obese is defined as equal to or above the gender- and age-specific 95th percentile of BMI from the revised NCHS/CDC growth charts. (**Baseline:** 23% in 1998 from the CARDIAC PROJECT; data available in 2001 from the Youth Statewide Diet and Physical Activity Survey, WVU)

Data Sources: Dr. Bill Neal's CARDIAC PROJECT, WVU School of Medicine; Youth Statewide Diet and Physical Activity Survey, WVU Department of Community Medicine, Division of Exercise Physiology

OBJECTIVE 19.11 At a minimum, maintain current standards for Nutrition Education in schools (Grades K-12).

Data Source: WV Department of Education, Instructional Goals and Objectives

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

- Worskites
- Schools
- Public Health Programs
- Networks
- Health Care System
- Higher Education

The West Virginia Nutrition and Chronic Disease Coalition (WVNCDC) was established in 1993 to address nutrition behaviors and the Healthy People 2000 nutrition objectives. The WVNCDC's mission is the promotion of healthy nutrition behaviors to prevent nutrition-related diseases among West Virginians. Since its inception, the WVNCDC has been involved in efforts to promote healthy nutrition behaviors such as cooking schools, the National Cancer Institute's "Pick 5" program in elementary schools, and sponsorship of nutrition speakers at various health promotion conferences.

In July of 1999, the West Virginia Bureau for Public Health received cardiovascular health core capacity grant funding from the CDC to address policy and environmental strategies for nutrition and physical activity, as well as culturally appropriate strategies for promoting health and preventing disease in the minority

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population. Through this grant funding, an inventory of policies will be conducted to assess what interventions would be most appropriate to pursue. Policies to be assessed include the following: requirements for heart-healthy food and beverage choices in vending machines at worksites; requirements to promote heart-healthy food and beverage choices in the school environment that compete with school meals; requirements for employers to provide and/or subsidize heart-healthy food and beverage choices during work-related meetings and functions; requirements for managed care organizations to include the American Heart Association's *Guide on Primary Prevention of Cardiovascular Diseases* as part of their primary health care services for participants.

Glanz et al. state that policy and environmental strategies influencing the availability of healthy foods, access to information for making healthy food choices, and the accessibility, consistency, and attractiveness of nutrition education experiences can promote healthy eating behaviors throughout our population. The West Virginia Nutrition and Chronic Disease Coalition will take the leadership in shaping policy and environmental strategies in the area of nutrition for a healthier West Virginia.

The following list includes some of the organizations that will be leading the initiatives to reach the 2010 objectives:

WV Nutrition and Chronic Disease Coalition
WV Coalition of Food and Nutrition
Division of Health Promotion, WVBPH
WVU Extension Services
WVU Department of Community Medicine
Office of Healthy Schools, WVDOE

Office of Child Nutrition, WVDOE
Office of Nutrition Services, WVBPH

Agencies represented on the West Virginia Nutrition and Chronic Disease Coalition (WVNCD) include:

WV Coalition of Food and Nutrition
Division of Health Promotion, WVBPH
WVU Extension Services
WVU Department of Community Medicine
Office of Child Nutrition, WVDOE
Office of Nutrition Services, WVBPH
American Heart Association
American Cancer Society
Dairy and Nutrition Council
WV Dietetics Association
WV Health Promotion Specialist Network,
WVBPH
Minnie Hamilton Health Care
Cabell Huntington Hospital

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www.wvdhhr.org/bph/hp2010/

References/Resources

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Background

Statistics presented in the national publication of *Healthy People 2010* show the magnitude of work-related injuries and illnesses. Every 5 seconds a worker is injured. Every 10 seconds a worker is temporarily or permanently disabled. Each day, on average, 137 people die from work-related diseases, and an additional 17 die from work-place injuries on the job. Each year 70 youths less than 18 years of age die from injuries at work and 70,000 require treatment in a hospital emergency room. In 1996, an estimated 11,000 workers were disabled each day because of work-related injuries. In 1996, the National Safety Council estimated that on the job injuries alone cost the country \$121 billion, including lost wages, productivity, administrative expenses, health care, and other costs. A 1997 study published in the *Archives of Internal Medicine* reported that the 1992 combined U.S. economic burden for occupational injuries and illnesses was estimated at \$171 billion.

West Virginia, in general, has higher

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rates of occupational fatalities, injuries, and illnesses than the nation as a whole. The state is home to a number of industries that are inherently risky: coal mining, chemical manufacturing, steel manufacturing, and timbering. In 1998, there were 61,090 workers' compensation claims filed. A total of \$630,279,423 in medical, wage replacement, and survivors benefits were paid out in all existing claims in that year. When West Virginia is compared to the nation from 1985 through 1995 (the latest year for which statistics are available), it ranks between first and fourth among 46 jurisdictions in cost of benefits per 100,000 workers with West Virginia's total benefit payment ranging between 161% and 269% of the U.S. average. In 1995, the total benefit payment was 210% of the national average, with West Virginia ranking first.

The occupational safety and health chapter in the national publication had a total of 14 objectives. From those 14, the occupational health and safety focus group selected 5 for West Virginia to seek to accomplish. The baseline data for reducing work-related injuries is from 1996 since it was the last year used in the national objective. The baseline data for the other 4 objectives

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related to work-place fatalities, hearing loss, and occupational dermatitis are slightly more recent. By definition there are no baseline data for the developmental objective to improve injury surveillance.

One objective that at first seemed a “natural” for West Virginia was not adopted because of the lack of a method to establish reliable baseline data. That objective would have called for a reduction in mortality and morbidity from occupational pneumoconiosis. An incidence rate is difficult to construct because of the long-term development of the disease and because of multiple exposures to any single worker that may occur in different years and different industries. A good point prevalence rate could not be established because of declining employment in the major industries where occupational pneumoconiosis occurs: glass manufacturing and mining. However, the group recognizes that the disease is still a significant problem in West Virginia and encourages all prevention efforts to reduce its occurrence.

The West Virginia Outlook, a 1999 publication issued by the Bureau of Business and Economic Research at West Virginia University (WVU) reports that, while job growth is projected to continue from 2000 to 2003, the growth will be at a slower pace than it was throughout the 1990s. Mining will continue to register job losses; construction job growth will decelerate; transportation, communication, and public utilities employment will stabilize. Only manufacturing job growth will remain upward because of growth in durable manufacturing, wood products, and transportation equipment. The unemployment rate should stabilize at 6.7%, the lowest since the late 1970s. These

statistics would indicate that the baseline data will provide good benchmarks.

The Objectives

OBJECTIVE 20.1. Reduce deaths from work-related injuries to no more than 5.6 per 100,000 workers. (Baseline: during 1994-98, 8.0 per 100,000)

20.1a. Reduce deaths in the coal mining industry to no more than 33.2 per 100,000 workers. (Baseline: during 1994-98, 47.4 per 100,000)

20.1b. Reduce deaths in the transportation industry to no more than 23.1 per 100,000 workers. (Baseline: during 1994-98, 33.0 per 100,000)

20.1c. Reduce deaths in the construction industry to no more than 20.5 per 100,000 workers. (Baseline: during 1994-98, 29.3 per 100,000)

20.1d. Reduce deaths in logging industry to no more than 40.9 per 100,000 workers. (Baseline: during 1994-98, 58.4 per 100,000)

Data Sources: Census of Fatal Occupational Injuries (CFOI), U.S. Bureau of Labor Statistics; WV Bureau of Employment Programs (WVBEP), WV Fatality Assessment and Control Evaluation Program

Deaths from work-related injuries have dropped significantly from an average of 74 per year for the 14-year period 1980 through 1993 to 58 per year for the most recent five-year period, 1994 through 1998. Still, these injuries remain a major public health problem for the state, with an overall rate higher than the national baseline of 5.1 in 1996. Work-related deaths are preventable, and public

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health efforts and resources should be targeted towards prevention efforts, especially in industries and worker populations at greatest risk. High-risk industries include construction, coal mining, motor freight transportation, and logging, all with rates nearly or more than double national rates.

The reduction of occupational incidents that result in death will require focused efforts embracing the principles of the public health model coupled with a thorough understanding of the interaction of agent, environment, and victim during the pre-incident, incident, and post-incident phases. This model is designed to identify, quantify, and prioritize risk factors, identify existing or develop new prevention strategies, implement the most effective injury control strategies, and monitor and evaluate results of intervention efforts. This comprehensive and continuous process will require the combined efforts of many groups and agencies encompassing educational and outreach efforts, the application of engineering controls, and the enforcement of work-place safety regulations.

OBJECTIVE 20.2. Reduce work-related injuries resulting in medical treatment, lost time from work or restricted work activity to no more than 6.3 cases per 100 full-time equivalent workers. (Baseline: in 1996, 9.0 per 100 full-time equivalent workers)

20.2a. Reduce work-related injuries in the construction industry to no more than 8.4 cases per 100 full-time equivalent workers. (Baseline: in 1996, 12.0 per 100 full-time workers)

20.2b. Reduce work-related injuries in the health services industry to no more than 6.7 per 100 full-time equivalent

workers. (Baseline: in 1996, 9.6 per 100 full-time workers)

20.2c. Reduce work-related injuries in the agriculture/forestry/fisheries industry to no more than 13.2 per 100 full-time equivalent workers. (Baseline: in 1996, 18.9 per full-time workers)

20.2d. Reduce work-related injuries in the transportation and public utility sector no more than 3.0 per 100 full-time equivalent workers. (Baseline: in 1996, 4.3 per 100 full-time workers)

20.2e. Reduce work-related injuries in the mining industry to no more than 7.5 per 100 full-time equivalent workers. (Baseline: in 1996, 10.7 per full-time workers)

20.2f. Reduce work-related injuries in adolescent workers to no more than 4.9 full-time equivalent workers. (Baseline: in 1996, 7.0 per full-time workers)

20.2g. Reduce work-related injuries in older workers (age 55 and above) to no more than 3.6 per full-time equivalent workers. (Baseline: in 1996, 5.1 per full-time workers)

Data Sources: West Virginia Workers Compensation Information System (WVWCIS); WVBEPE, Employment and Wages Division

A large number of workers are injured each year in West Virginia. According to West Virginia Workers' Compensation Division claims data, 53,265 and 51,033 occupational injury and illness claims occurred in calendar years 1995 and 1996, respectively, that resulted in medical treatment, lost time from work, or restricted work activity. The overall incidence rates per 100 full-time equivalent workers (FTEs) were 9.2 and 9.0, respectively. Therefore, West Virginia

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baseline rates were higher than the national average of 7.4 per 100 FTEs in 1996. If a 30% decrease, consistent with the national objective, is projected over a 14-year period, the expected incidence rate would be 6.3 per 100 FTEs, higher than the projected national average of 5.2 per FTEs in the year 2010. In both the agriculture/forestry/fishery and the mining industries, West Virginia baselines are well above the national baselines of 8.7 per 100 FTEs and 5.4 per 100 FTEs, respectively.

OBJECTIVE 20.3. (Developmental)
Improve statewide work-place injury and illness surveillance by increasing the frequency and quality of the coding for work-relatedness in:

- a. *Cancer registries*
- b. *Trauma registries*
- c. *Risk factor surveys*
- d. *Injury and illness medical encounter data (emergency department visits, clinic visits, hospital discharge records, death certificates)*

Data Sources: a through d above

This objective will begin to address some of the significant gaps in statewide occupational injury and illness surveillance. It will provide a means to address the oversight of morbidity and mortality from occupational pneumoconiosis, a work-related illness particularly prevalent in West Virginia. Broad-based medical data are critical to assess occupational injury and illness trends in West Virginia as well as for targeting prevention programs to where they will do the most good.

The improved recording of work-relatedness of injuries and illnesses will require

education and training efforts in the state's medical community to raise the importance and usefulness of this information. The development of a consensus definition of work-relatedness that encompasses all kinds of injury, illness, and death will be required to ensure consistency, standardization, and accuracy of reported events. Improvements will also require the modification and integration of several existing but largely distinct data systems (including Workers' Compensation and trauma registries). Existing systems should be modified only to the extent that they complement other systems to improve the quality of work-related injury and illness information. Better quality data will ultimately contribute to a clearer understanding of the etiology of occupational injury and illness and facilitate the development of prevention strategies that will lessen the likelihood of future similar events and, in turn, reduce their burden on families, employers, and the state.

OBJECTIVE 20.4. (Developmental)
Improve by 25% the number of employers with more than 50 employees who have a hearing conservation program.

Data Source: WVBEPE, Research, Information and Analysis Division

The Research, Information and Analysis Division of the Bureau of Employment Programs will survey all employers in West Virginia with more than 50 employees in 2000, 2005, and again in 2010 to measure their compliance with Occupational Safety and Health Administration standards for a comprehensive hearing conservation program.

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Hearing loss is a significant cause of morbidity in working West Virginians, the majority of which is easily preventable. Simple but consistent efforts from employers who have comprehensive hearing conservation programs can be expected to reduce the number of employees exposed to harmful noise levels and prevent hearing impairment. The National Institute for Occupational Safety and Health (NIOSH) estimates that almost 30 million American workers are exposed to noise levels at work at or above 85 dBA, intense enough to cause a hearing impairment over a working life. The standard is for all employers to monitor noise levels and implement hearing conservation measures in areas with exposure levels greater than 85 dBA.

OBJECTIVE 20.5. Reduce occupational dermatitis claims to an incidence of no more than 60 per 100,000 full-time workers.
(Baseline: during 1995-98, 67.3 per 100,000 workers)

Data Sources: WVCIS; WVBEPE, Employment and Wages Division

Occupational skin diseases (OSDs) or disorders are not unique to West Virginia but do affect a large part of the work force and are very common, with a rate approximately on par with the national 1996 rate of 69 per 100,000 workers. In West Virginia, as throughout the nation, OSDs are preventable. Strategies in the prevention of OSDs include identifying allergens and irritants; substituting chemicals that are less irritating/allergenic; establishing engineering controls to reduce exposure; utilizing personal protective equipment such as gloves and special clothing; emphasizing personal and occupational

hygiene and establishing educational programs to increase awareness in the work place.

Primary prevention programs that include providing advice on personal protective equipment and educating the work force about skin care can successfully be directed toward workers in high-risk industries. Increased awareness by health care personnel, early detection, and proper diagnosis and treatment are also important tools for achieving the objective. Over half a century ago, J.G. Downing, a Boston dermatologist, noted: "Prevention and early detection are much cheaper than indifference and neglect. Every outbreak should be thoroughly investigated, for the hypersensitive person may constitute the warning signal of a whole series of reactions, and careful study of his condition may be the means of preventing similar eruptions." Continuing medical education programs for health care personnel would play an important role in increasing awareness and lead to early and proper diagnosis and correct treatment. Allergens for skin patch tests are important tools for the proper diagnoses of occupational allergic contact dermatitis.

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:
Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

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The lead agency in preparing this chapter has been the Bureau of Employment Programs, Research, Information and Analysis Division.

In the past decade the state has acquired new resources to bring to bear on occupational safety and health. In 1989 the National Institute for Occupational Safety and Health provided the initial funding for the Institute of Occupational and Environmental Health at WVU. The Institute has grown as a residency program and faculty members have participated in site visits to small business to assess their safety needs and offer advice. In 1997 the BEP's Workers' Compensation Division established a Safety and Loss Control Program that allows the Division to address injury prevention as well as addressing the medical and financial needs of injured workers. Again, small and mid-sized employers are most effectively helped as large employers often have their own risk management programs. The Division also offers employers premium discounts for maintaining safety programs. The Bureau's Research, Information and Analysis Division, especially its Office of Workers' Compensation Research, will be involved with any employer surveys on occupational safety and health such as the one identified in developmental Objective 5. The Division's Office of Labor Statistics has employer survey data on occupational injuries and illnesses from the U.S. Department of Labor's Occupational Safety and Health Administration, which will allow interstate comparisons and comparison with similar data related to claims reported to the BEP's Workers' Compensation Division.

Other agency and organizational resources include the state Department of

Labor, the Office of Miners' Health, Safety and Training, the WVU Center for Rural Emergency Medicine, the Institute for Labor Studies and Research at WVU, and the West Virginia Safety Council.

It will take all the above resources, as well as the participation of worksites, employers, and the continued special efforts of concerned individuals throughout the state who have an interest in occupational safety and health, to make a difference.

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Background

Oral diseases are among the most common health problems in the United States. Millions of Americans suffer diseases and conditions of the oral cavity that result in needless pain and suffering; difficulty speaking, chewing, and/or swallowing; increased cost of care; loss of self-esteem; decreased economic productivity through lost work and school days, and, in extreme cases, death. Oral diseases and conditions, including dental caries (also known as cavities), periodontal diseases (a broad term encompassing several diseases of the gums, jaw bone, and tissues supporting the teeth), and tooth loss, afflict more persons than any single disease in the United States. Further, oropharyngeal cancer, which primarily affects adults older than 55, results in significant morbidity and disfigurement associated with treatment, substantial cost, and more than 8,000 deaths annually.

In 1998-1999, a national survey found that 94% of dentate adults had experienced coronal dental caries and 25% had

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experienced root caries. Gingivitis and periodontal disease are diseases of the gums that support the teeth and affect nearly half of all employed Americans between 18 and 64 years of age. Periodontal disease in its most severe form results in tooth loss.

Dental caries is the most common infectious disease of United States children. Sixty-one percent (61%) of children aged 15 have been affected by dental caries; in West Virginia the rate is 66%. By the time these children graduate from high school, the proportion has increased to 84%. Nationally 20% of 15-year-olds have untreated decay; this percentage rises to 33% in West Virginia. Unless stopped by early dental treatment or reversed, the carious infection will continue to destroy the tooth, resulting in pain and acute infection of surrounding tissues.

As these statistics show, although the past two decades have witnessed significant improvement, poor oral health remains a neglected West Virginia epidemic, especially among certain segments of our population. In fact, 80% of dental caries in children in our state is concentrated in just 25% of the child population.

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Prevention, education, and regular care are essential elements in oral health. Among preventive measures, community water fluoridation is the single most effective and efficient means of preventing dental caries in children and adults, regardless of race or income level. In West Virginia, 82% of all community water systems are fluoridated, but improvements are needed. Regular care is a factor in maintaining oral health; however, only approximately one-half of all West Virginians obtain regular dental care. Among persons having a low income, the proportion not receiving care is even higher.

In the minds of many West Virginians, eventual loss of all permanent teeth is inevitable. In fact, according to 1995-97 data published by the CDC in 1999, West Virginia ranked first among all the states in the percentage of people aged 65 and older who had lost all their natural teeth at 47.9%. This indicates that education is greatly needed. Strategies need to be devised to educate not only individuals but also health care workers in methods of prevention and control of oral diseases.

Simply stated, at a time when there is less decay, thus making control of oral problems within reach, less resources are being allocated. Access to treatment remains a problem in many locations in the state among both children and adults. For those persons who are unable to afford dental care, who have limited or no dental insurance, and who are often at highest risk of oral diseases, there needs to be improved access to preventive and treatment services and removal of barriers to the dental care system.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 21.1. *Reduce dental caries (cavities) in primary and permanent teeth (mixed dentition) so that the proportion of children who have had one or more cavities (filled or unfilled) is no more than 60% among children aged 8 and 60% among adolescents aged 15.* (Baseline: age 8, 65.6%; age 15, 66% in 1998)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Maternal, Child & Family Health (OMCFH), *Research Epidemiological Snapshot*, Volume 3, Number 1, April 1999

OBJECTIVE 21.2. *Reduce untreated cavities in the primary and permanent teeth (mixed dentition) so that the proportion of children with decayed teeth not filled is no more than 30% among children aged 6-8 and 25% among adolescents aged 15.* (Baseline: ages 6-8, 35.5%; age 15, 32.9% in 1998)

Data Source: WVBPH, OMCFH, *Research Epidemiological Snapshot*, Volume 3, Number 1, April 1999

OBJECTIVE 21.3. *Reduce to not more than 40% the proportion of people aged 65 and older who have lost all their natural teeth.* (Baseline: 47.9% in 1995-97)

Data Source: CDC/Morbidity and Mortality Weekly Report (MMWR), Volume 48, Number 10, March 1999.

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OBJECTIVE 21.4. *Increase to at least 40% the proportion of oropharyngeal cancer lesions detected at stage 1.* (Baseline: 37% in 1993-96)

Data Source: WVBPH, Office of Epidemiology and Health Promotion (OEHP), West Virginia Cancer Registry

OBJECTIVE 21.5. *Increase to at least 40% the proportion of children aged 8 and 14 who have received protective sealants on permanent molar teeth.* (Baseline: age 8, 36.7%; age 14, 34.6% in 1998)

Data Source: WVBPH, OMCFH, *Research Epidemiological Snapshot*, Volume 3, Number 1, April 1999

OBJECTIVE 21.6. *Increase to at least 85% the proportion of the population served by community water systems with optimally fluoridated water.* (Baseline: 82% in 1992)

Data Source: Centers for Disease Control and Prevention, 1992 Fluoridation Census

OBJECTIVE 21.7. (Developmental) *Increase the use of topical fluorides by people not receiving optimally fluoridated public water.* (Baseline data available in 2000)

Data Source: WVBPH, OEHP, Behavioral Risk Factor Surveillance System (BRFSS)

OBJECTIVE 21.8. *Increase to 50% the proportion of school-based health centers (pre-kindergarten through grade 12) with an oral health component.* (Baseline: 40% in 1998)

Data Source: WVBPH, Office of Community and Rural Health, Division of Primary Care, *West Virginia School-Based Health Center Directory*, October 1998

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

The Public Health Dentistry Project is addressing the objectives through the health promotion channels to the community listed above, using various strategies:

- community and school fluoridation programs
- fluoride tablet and drop supplements
- school fluoride rinses
- oral hygiene programs (e.g., the Brush-in)
- pit and fissure dental sealants
- clinic and private office care

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Background

There is a magic bullet for health. It is physical activity. When challenged with a physical task, the human body responds through a series of changes that involve most, if not all, of its systems. When the body engages in physical activity several or more times per week, it undergoes changes that increase its efficiency and capacity.

According to the 1996 Surgeon General's *Report on Physical Activity and Health*, moderate exercise has been shown to bolster the function of certain components of the human immune system, possibly decreasing the incidence of some infections and even certain types of cancers. Both moderate and intense levels of activity reduced overall risk of death even late in life. In a number of studies, sedentary people experienced between a 1.2- to 2-fold increased risk of dying during the follow-up interval than their physically active counterparts.

The more activity you get, the lower your risk of heart disease, the number one

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killer in the nation. Physical activity also vastly reduces your risk of developing other chronic diseases or conditions associated with cardiovascular problems.

The Surgeon General's report also states that persons with low cardiorespiratory fitness had up to a 52% higher risk of later developing high blood pressure than their peers. Physical inactivity has been found to be significantly associated with the development of Type 2 diabetes (Non-Insulin-Dependent Diabetes Mellitus, or NIDDM). In one study, women aged 55-69 who had high levels of physical activity were found to be half as likely to develop NIDDM as their sedentary peers.

Obesity, a major public health problem in the United States, plays a central role in the development of a number of chronic diseases, including diabetes, high blood pressure, osteoarthritis, and various cancers. According to data from the 1998 Behavioral Risk Factor Surveillance System (BRFSS), West Virginia ranked first in the nation in that year in adult obesity prevalence. In several different studies, people with higher levels of physical activity or fitness reported lower weight. In spite of these profound benefits, physical activity levels continue to decline.

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West Virginians have become increasingly inactive, with sedentary lifestyle increasing from 61% in 1984 to 70% in 1998. Continuing at that rate, the percentage of West Virginians qualifying as sedentary could rise to 74% by the year 2010.

Sedentary lifestyle is defined as not engaging in leisure-time physical activity for at least 20 minutes at least 3 times per week. According to the 1996 BRFSS, the highest percentage of sedentary lifestyle was found among adults with less than 12 years of education (84%), as compared to those with four or more years of college (47%) and lower household income levels (76.8% for <\$15,000 compared to 48.5% for \$50,000+). For the most part, individuals were increasingly sedentary as they got older (61.0% at age 18-24, 76.8% at 65+), and women (68.2%) were slightly more sedentary than men (66.9%).

Nationally, in 1998 WV ranked among the least active states (third from the bottom), with 43.7% of our population reporting **no** physical activity in the previous month, compared to an overall national median of 27.7%. Fourteen percent (13.5%) of West Virginians reported regular, sustained activity levels compared to a 20.4% national median. Only 7.3% claimed vigorous activity levels, compared to 13.3% nationally. Aggregated 1990-98 BRFSS data showed minority women to be the least active group (49.1%), followed by Caucasian women (42.9%), Caucasian men (41.7%), and black males (38.9%). Given the impact of physical activity on health and well-being, the implications and associated costs of such an inactive population is alarming.

Technological advances and cultural trends have moved us from an active, agrarian

or industrial society to a technological one that demands little of us physically. Sitting time increases as we commute to suburbia or a consolidated school, explore and utilize computer technology, and watch added channels or videos on television. Automated functions at home and at work comprehensively reduce the amount of physical effort required in even the most minute aspects of our lives. The cumulative daily loss of both large and small movement adds up to a massive decrease in calorie expenditure, which sets us up for weight gain. It also decreases the amount of positive internal changes our bodies would be making in response to movement. Our bodies grow more unfit and unhealthy as we demand progressively less of them.

The trend is only getting worse. Computer software is now available for preschoolers and youth. Media consumption (TV, video, games, and computer time combined) is up to five hours per day nationally, as reported by the Centers for Disease Control and Prevention (CDC). Studies indicate that 77% of 6th graders have a TV in their bedroom. Studies have also shown a direct correlation between hours of media consumption and youth obesity levels. According to the CDC, interventions directed at reducing youth TV time have demonstrated a positive impact on weight management.

Physical education and recess have been dropped or reduced in the school curriculum in response to pressures to increase academic test scores or add new topic areas. This may leave the lunch period as the only physical activity time in the school day, and that might be as little as 15 minutes. Safety concerns have reduced free-range after-school

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play in certain communities, as well as put a damper on walking to school as an option, even in areas where it might be possible. The substantial decline in youth physical activity levels raises serious concern about the development of chronic diseases at a much younger age than preceding generations.

The 1998-99 School Nurse Needs Assessment reports the observed number of obese youth in our state increased dramatically between 1996-97 and 1998-99. In 1979, Type 2 diabetes (formerly known as "adult onset diabetes," which is associated with obesity) began the unheard of -- moving into youth populations. Four cases of Type 2 diabetes in children have been recently diagnosed in one county alone. Increasing youth physical activity levels increases calorie burning both when active and at rest, a positive deterrent for weight gain.

Keeping physical activity alive in schools continues to be a problem as multiple priorities vie for precious school-day minutes. Viewed as a national issue, increasing the proportion of schools that require daily physical education for all students is one of the U.S. Healthy People 2010 Physical Activity objectives. Findings suggest that the quantity and, in particular, the quality of school physical education programs have a significant effect on the health-related fitness of children and adolescents.

In West Virginia, a 40% student passage rate on the President's Physical Fitness Test is required for school accreditation, and conducting the test is required by state law. Passage rates have increased 30% in the past six years. However, conducting the President's Physical Fitness

Test does not ensure a quality physical education program or even frequent physical activity. Although the basics for quality physical education are laid out in the state's instructional goals and objectives, the infrastructure lacks certified teachers and adequate facilities to provide a daily physical education program. There is the additional problem of time constraints within the public school schedule for the needed classes. At the county level, there is a lack of professional and curricular development opportunities for instructors currently teaching physical education.

Our communities have moved away from natural opportunities to achieve a more physically active lifestyle. Urban sprawl, or the spread of low-density development beyond the edge of service and employment, has increased dependence on the automobile. Even short trips are automobile driven as new development does not include accommodations for pedestrians or alternative forms of transportation. Sprawl communities spring up with isolated units for living, shopping, or school, as opposed to an integrated community network interconnected with streets, sidewalks, parks, schools, and churches that would encourage and enhance opportunities for physical activity.

Rural West Virginia communities face additional barriers. These include lack of facilities for recreation, lack of funding for facilities, sharply winding roads with no shoulders, which make walking and biking dangerous if not impossible, and a geographical sense of separateness that makes community-building a greater challenge.

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As our culture continues to progress, going out of our way to be physically active will be more and more crucial, as will finding ways to build movement back in to our daily lives. The 1996 release of *Physical Activity and Health: A Report of the Surgeon General* added a new lifestyle focus to previous physical activity recommendations. This reflected both the need for something attainable by our increasingly sedentary population and recent research that indicated even moderate levels of physical activity, achieved on a regular basis, could lead to significant cardiorespiratory and health-related benefits, especially among the unfit. The recommendations also acknowledge that persons attaining this minimum could gain even greater benefits by increasing either the duration or intensity of the activity.

The Surgeon General's recommendations include:

- All people over the age of two years should accumulate at least 30 minutes of endurance-type physical activity, of at least moderate intensity, on most -- preferably all -- days of the week. This activity can be in a single session or "accumulated" in bouts of 8-10 minutes each.
- Additional benefits can be achieved by increasing the time spent in moderate-intensity activity, or by being more vigorous.
- Men over age 40, women over age 50, and persons with known health risks or problems should consult a physician before beginning a program of vigorous activity to which they are unaccustomed.
- Strength-developing activities (resistance training) should be

performed at least twice per week, with one or two sets of 8-12 repetitions, in a variety of exercises (at least 8-10) that use the major muscle groups of the legs, trunk, arms and shoulders.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 22.1. *Reduce to 37% the proportion of people aged 18 and older who engage in no leisure-time physical activity.* (Baseline: 43.7% in 1998)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Behavioral Risk Factor Surveillance System (BRFSS)

OBJECTIVE 22.2. *Increase to at least 17% the proportion of people aged 18 and older who engage regularly, preferably daily, in sustained physical activity for at least 30 minutes per day.* (Baseline: 13.5% in 1998)

Data Source: WVBPH, OEHP, BRFSS

OBJECTIVE 22.3. *(Developmental) Increase the proportion of WV's public and private elementary, middle/junior high, and senior high schools that provide daily lifetime fitness enhancing activities, including quality daily physical education (K-12) and recess (K-5), for all students during school hours.* (Baseline data available in 2002)

Data Source: WV Department Of Education (WVDOE), Office of Healthy Schools (OHS), SHEP Survey

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OBJECTIVE 22.4. *Increase to 30% the proportion of adolescents who engaged in moderate physical activity for at least 30 minutes on five or more of the previous seven days. (Baseline: 25.4% in 1999)*

Data Source: WVDOE, OHS, West Virginia Youth Risk Behavior Survey

OBJECTIVE 22.5. (Developmental) *Increase the proportion of WV's public elementary, middle/junior high, and senior high schools that provide access to their outdoor and indoor physical activity spaces and facilities for young people and adults outside of normal school hours (i.e., before and after the school day, on weekends, and during summer and other vacations).* (Baseline data available in 2002)

Data Source: WVDOE, OHS, SHEP Survey

OBJECTIVE 22.6. (Developmental) *Increase the proportion of respondents who report using available community facilities (sidewalks, school tracks, walking trails, roads, malls, recreation areas, etc.) to achieve regular physical activity.* (Baseline data available in 2002)

Data Source: WVBPH, OEHP, BRFSS

OBJECTIVE 22.7. *Increase to 60% the proportion of respondents who reported receiving advice and/or counseling from their primary and/or allied health care providers regarding their physical activity practices. (Baseline: 52.3% [provisional] in 1999)*

Data Source: WVBPH, OEHP, BRFSS

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

- Worskites
- Schools
- Public Health Programs
- Networks
- Health Care System
- Higher Education

The WV Bureau for Public Health's Cardiovascular Health Program has received a five-year core capacity building grant from the CDC. This provides funding for developing state infrastructure related to cardiovascular disease. Of particular interest to this chapter is the addition of the position of a state physical activity coordinator, which will allow a directed focus on, plan development for, and implementation of issues related specifically to meeting the Healthy People 2010 Physical Activity objectives. The coordinator will work with the West Virginia Coalition for Physical Activity (WVCfPA) and additional public and private entities to develop a statewide framework and strategies for meeting the objectives.

The mission of the WVCfPA is to "improve the health of all West Virginians by promoting a physically active lifestyle." Members of the Coalition have included representatives from state and local agencies, higher education, schools, community organizations, hospitals, fitness and health care centers, and worksite wellness programs. Several members have received national recognition in their respective professions in the field of physical activity.

WEST VIRGINIA HEALTHY PEOPLE 2010

One of the WVCfPA's most significant accomplishments and ongoing events is the Walk Across West Virginia, an annual event begun in 1995 in which groups collectively log the mileage it would take to travel the distance across the state. The Walk Across WV is implemented in the month of May in the health promotion channels that make up the broad-based approach to reaching state residents, i.e., schools, higher education, worksites, wellness centers, community groups, churches, homemakers, hospitals, weight management centers, and senior citizen groups. By adapting the Walk Across West Virginia to address environmental and policy issues related to physical activity, we have a grassroots means of educating the public and preparing for change.

Much needs to occur to reverse the alarming increase in sedentary lifestyle. Beyond individual behavior change, our environments need restructuring to facilitate physical activity. Opportunities include adding sidewalks into existing communities or into new developments, making taking the stairs obvious, safe, and easily accessible, providing zoning to guarantee walking and bicycle paths and recreation areas, and keeping existing facilities such as school playgrounds and ballfields open to the public. Our state trail system needs to be developed and expanded to interlock and interconnect communities in such a way that walking or biking for recreation or transportation could be safely accomplished. Implementation of the WV State Trails Plan is a necessary component of this development.

One example of policy direction on the national level is the passage of the 1998 Transportation Equity Act for the 21st Century (TEA-21). Section 1202 of TEA-21 states

that "Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation projects, except where bicycle and pedestrian use are not permitted." The Transportation Enhancements Program is perhaps the most popular use of funds for bicycle and pedestrian purposes. Each state is required to set aside 10% of its surface transportation funds for Transportation Enhancement activities. Making full use of available funding for bicycle and pedestrian issues could greatly increase physical activity opportunities in our local communities.

In December 2000 the U.S. Congress passed what is referred to as the PEP Bill, or Physical Education for Progress Act, as an amendment to Title X of the Elementary and Secondary Education Act of 1965. This landmark bill provides funding for "initiating, expanding, and improving physical education programs for kindergarten through grade 12 students by 1) providing equipment and support to enable students to actively participate in physical education activities and 2) providing funds for staff and teacher training and education." Five million dollars are allocated for national grant distribution by the U.S. Department of Education in 2001. That figure has the potential to grow to \$100,000,000 from 2003-2005 if early grants prove successful. Ensuring that as many West Virginia schools as possible apply, and hopefully receive, PEP funding to expand or enhance their existing physical education programs will be a key pursuit of the WV Bureau for Public Health Physical Activity program and partners in the coming years.

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State and local school policies need to be restructured to guarantee access to quality physical activity/education programs that enhance lifetime fitness skills as well as increasing individual fitness levels for all youth at all times of the year, regardless of age or ability level. Reimbursement issues related to health care provider counseling for physical activity (primary prevention of disease) need to be addressed in order to enhance delivery of effective messages to patients regarding physical activity as a component of their treatment regimen.

Cultural trends, including mass media, fast foods, and technology need to be examined carefully for their silent but deadly impact on our physical well-being. They sweep us rapidly forward without thought into unhealthful behaviors, skyrocketing our early potential for chronic disease.

The Cardiovascular Health Program at the WVBPH will serve as the lead entity in leading the initiatives to reach the objectives. Other collaborating entities include:

WV Coalition for Physical Activity
WV Office of Healthy Schools
West Virginia University (WVU) Prevention Research Center
WV Trails Coalition
Wellness Council of WV
WV Department of Transportation
WV Department of Tourism
Charleston Area Medical Center
Marshall University
St. Mary's Hospital
WV Alliance for Health, Physical Education, Recreation, and Dance (WVAHPERD)
WV Department of Parks and Recreation
Community Health Promotion Specialists, WVBPH

Office of Epidemiology and Health Promotion, Health Statistics Center, WVBPH

Diabetes Control Program, WVBPH

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West Virginia Office of Healthy Schools. WV
School Nurse Needs Assessment results.
Charleston, WV: Department of Education,
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Background

In the mid-1990s, public health officials in West Virginia realized that without major restructuring and increased financial support there was an extreme risk of local health departments closing their doors. Many health departments were already reducing staff and relying on clinical programs to provide financial support. In response to this crisis, officials began addressing how to improve health care in rural West Virginia. These discussions centered around the problems of improving access and quality of care and eliminating wasteful and unnecessary duplication of services. Since that time, state and local officials have taken major steps to create a stronger public health infrastructure that integrates activities throughout the state and local levels by improving the systems, competencies, relationships, and resources that enable county health departments to perform essential basic public health services.

Among policymakers and public health professionals in West Virginia, there has been a growing sense that public health,

23 PUBLIC HEALTH INFRASTRUCTURE

either as a governmental activity or commitment of society, is neither clearly defined, adequately supported, nor fully understood. Therefore, it became evident that the purpose and delivery of public health needs to be examined and incorporated fully into the future community health care system to ensure its continued availability.

The mission of public health in West Virginia is to establish a public health system designed to:

- assess and monitor the health status of the population;
- promote a healthy and productive life for West Virginians;
- protect the public's health from adverse environmental factors, and
- assure a health care delivery system that has adequate resources and qualified public health professionals to provide a continuum of care including basic disease control activities; comprehensive primary care; coordinated emergency medical services, and integrated hospital services.

The West Virginia Bureau for Public Health (WVBPH) is the centralized

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governmental body that manages public health in West Virginia. Organizationally, it is composed of eight offices in addition to the Commissioner's Office. These offices are Community and Rural Health Services, Maternal, Child & Family Health Services, Epidemiology and Health Promotion, Chief Medical Examiner, Environmental Health, Nutrition, Laboratory, and Health Facilities Licensure and Certification. These offices provide certain funding, technical assistance, training, and oversight activities to local public health departments and other health care providers. The Commissioner of the Bureau for Public Health is the state health officer and is the overseer of the operations of WVBPH offices and is responsible for the distribution of state funding and enforcement of public health laws.

West Virginia has 55 counties. Each county commission is responsible for creating, establishing, and maintaining a county board of health. Forty-seven counties have their own public health administrative offices. Two counties have united under one board of health. The remaining six counties have established a combined board of health. Each local board of health is responsible for directing, supervising, and carrying out matters relating to the public health of their respective counties or municipalities. The purpose of the board is to insure the consistent performance of duties related to basic public health services and other health services and the enforcement of the laws of this state and county ordinances pertaining to public health. WV State Code defines basic public health services as those services that are necessary to protect the health of the public and that a local board of health must provide. The three areas of basic public health services are communicable and

reportable disease prevention and control, community health promotion, and environmental health protection. Each board must appoint a physician to serve as the local health officer. The local health officer supervises and directs the activities of the local board's health services, health department employees, and facilities. The health officer must also enforce county and state public health laws and submit reports to the state on communicable and reportable disease.

The Public Health Infrastructure's Healthy People 2010 objectives focus on the components that support the delivery of basic public health services: a skilled work force, integrated electronic information systems, computer technology, technical support and training, performance-based standards, and a linked state and local public health system improvement plan.

The Objectives

OBJECTIVE 23.1. Increase public health employee access to the Internet.

23.1a. Increase the number of local health departments with at least one Internet workstation to 100%. (Baseline: 51% in 1999)

23.1b. (Developmental) Increase the proportion of local health departments that provide Internet and e-mail access for at least 75% of their employees. (Baseline data available in FY2001)

Data Sources: West Virginia Bureau for Public Health (WVBPH), Office of Community and Rural Health Services (OCRHS), Division of Public Health Nursing and Administration (PHNA); Department of

WEST VIRGINIA HEALTHY PEOPLE 2010

Health and Human Resources (DHHR), Management Information Systems (MIS)

OBJECTIVE 23.2. *Increase access to continuing education and training for public health agency employees to develop competency in basic public health services.*

23.2a. *Increase the number of continuing education units (CEUs) in public health studies made available to public health nurses to allow them to meet 100% of their continuing education requirements, either by initiating trainings or providing information to all health departments on access to trainings available through other sources.* (Baseline: 50% in 1999)

23.2b. (Developmental) *Increase the number of trainings provided by the DHHR-WVBPH to meet 100% of the continuing education requirements for certification for public health sanitarians.* (Baseline data available in 2000)

Data Sources: WVBPH, OCRHS, PHNA; Office of Environmental Health Services (OEHS)

FLAGSHIP OBJECTIVE

OBJECTIVE 23.3. *Increase to 232 the number of public health performance-based standards that local health departments are required to meet as defined in WV State Code 16-1-2.* (Baseline: 133 in FY2000)

Data Source: WVBPH, OCRHS, PHNA Annual Program Plan

OBJECTIVE 23.4. *Increase to 100% the percentage of local health departments that link their health improvement plan with a statewide public health system improvement plan.* (Baseline: 0% in FY2000)

Data Source: WVBPH, OCRHS, PHNA

OBJECTIVE 23.5. *Increase to five the number of state regional epidemiologists that provide or assure comprehensive epidemiology services to support basic public health services for local health departments.* (Baseline: three in 2000)

Data Source: WVBPH, Office of Epidemiology and Health Promotion (OEHP), Division of Surveillance and Disease Control

OBJECTIVE 23.6. (Developmental) *Increase the proportion of state public health laws, rules, and regulations that are reviewed and evaluated to assure the delivery of basic public health services and submit proposed legislation as needed for revisions.* (Baseline data available in 2000)

Data Source: WVBPH, Legislative and Regulatory Subcommittee

OBJECTIVE 23.7. *Increase to 90% the proportion of local health departments that gather data in a consistent manner on the cost of delivering basic public health services as defined in WV Code 16-1-2.* (Baseline: 14% in 1998)

Data Source: WVBPH, Basic Public Health Services Cost Subcommittee

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Meeting the Objectives

Health Promotion Channels for Achieving Objectives:
Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

Strategic planning has already begun to meet the 2010 objectives. Increased state and local funding has provided each health department with computers to allow electronic data collection and transmission of reports. Public health work force needs have been identified through a statewide survey. Committees of state and local public health workers have been organized to develop performance standards and to implement a quality improvement plan.

A technical assistance and training committee is now developing continuing education and staff development for public health employees. Current public health laws are being reviewed and revised by the Legislative and Regulatory Subcommittee. A financial committee has been formed to determine the cost of delivering basic public health services.

The interaction between local and state government is a combined effort defining the role of public health agencies in enhancing the health of the community. The vision is to revitalize the public health infrastructure and rebuild the system of public health at all levels of government and to have vital elements in

place to assure the public health mission is addressed.

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Background

Lung disease is the fourth leading cause of death of Americans, causing one in seven deaths in this country. While the rates for heart disease, cancer, and stroke, the top three causes of death, are dropping, the lung disease death rate is on the rise. For those living and coping with chronic lung disease, every day is a struggle to breathe and a struggle to stay alive. Over 30 million Americans — 221,000 of them West Virginians — live with chronic lung disease.

Lung disease is the number one disabler of American workers and one of the leading causes of restricted activity. Lung disease costs the American economy about \$31.6 billion in direct health-care expenditures every year plus indirect costs of more than \$60 million, according to 1998-99 data provided by the American Lung Association.

Asthma

Asthma is a lung disease characterized

24 RESPIRATORY DISEASES

by chronic inflammation of the airways, resulting in reduced airflow that causes wheezing, cough, chest tightness, and difficulty in breathing. It is the sixth-ranking chronic condition in the country and the leading serious chronic illness among children. It also is the number one cause of school absences attributed to chronic conditions, leading to an estimated average 7.3 school days missed annually.

An estimated 14.9 million Americans suffer from asthma -- 4.8 million of them children. In West Virginia an estimated 32,000 children and 69,000 adults suffer from asthma. Asthma is unquestionably on the rise, increasing in prevalence 82% in the last 15 years. Over 500,000 hospitalizations a year are attributed to asthma along with 5,000 deaths.

Most of the problems caused by asthma are preventable if asthma patients and their physicians manage the disease according to established guidelines. Effective management of asthma includes four major components: control of exposure to factors that trigger exacerbations, adequate pharmacologic management, continual monitoring of the disease, and patient education.

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Chronic Obstructive Pulmonary Disease

Chronic Obstructive Pulmonary Disease (COPD) is a term used for two closely related respiratory diseases, chronic bronchitis and emphysema, that are characterized by the presence of irreversible airflow obstruction. Between 80% and 90% of COPD is attributable to cigarette smoking. An inherited version of emphysema caused by a genetic deficiency accounts for less than 5% of COPD cases.

COPD is predominately a disease of older people. It is estimated that the prevalence of COPD in North America may be as high as 10% of the population between the ages of 55 and 85. In West Virginia an estimated 118,000 people struggle to breathe because of COPD.

Despite the high prevalence and enormous cost to health care and society, COPD has received little attention in comparison to other respiratory conditions, probably because COPD is thought of as a self-inflicted disease that mainly affects the elderly and has few effective treatments.

Obstructive Sleep Apnea

Apnea means "without breath" and occurs during sleep when the airway to the lung collapses. Obstructive Sleep Apnea (OSA) is one of the most common sleep disorders and is estimated to affect 18 million middle-aged and elderly adults in the United States.

The potential consequences of OSA include hypertension, congestive heart failure, stroke, cognitive impairment, psychiatric

problems, sexual dysfunction, diminished quality of life, and injury due to accidents. OSA also can increase the seriousness of other lung diseases that decrease airflow, such as asthma and COPD. Cardiovascular deaths alone attributable to OSA are estimated at 38,000 annually.

A major factor in the pervasiveness of obstructive sleep apnea's effects on health and society has been the failure to educate Americans and especially health care practitioners about the disorder. A wide range of behavioral, mechanical, and surgical treatments are available to manage OSA symptoms. Yet, a 1990 survey of U.S. medical schools found that approximately one-third offered no training in sleep medicine and that another third provided an average of less than two hours. Absent adequate physician education, the risk that obstructive sleep apnea will be misdiagnosed and mismanaged remains high.

The Objectives

OBJECTIVE 24.1. Reduce the asthma death rate to no more than 0.8 per 100,000 population 0-64 years of age. (Baseline: 1.0 per 100,000 population aged 0-64 in 1998)

24.1a. Maintain the asthma death rate of 0.3 among persons aged 0-14. (Baseline: .3 per 100,000 population aged 0-14 in 1998)

24.1b. Maintain the asthma death rate of 0.4 among persons aged 15-34. (Baseline: .4 per 100,000 in 1998)

24.1c. Reduce the asthma death rate among persons aged 35-64 to 1.35. (Baseline: 1.71 in 1998)

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24.1d. Reduce the asthma death rate among persons aged 65+ to 4.8. (Baseline: 6.1 per 100,000 in 1998)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Health Statistics Center (HSC)

OBJECTIVE 24.2. *Reduce overall asthma morbidity as measured by a reduction in asthma hospitalizations to fewer than 350 annually. (Baseline: 465 in 1997)*

Data Source: West Virginia Health Care Authority, Uniform Billing (UB-92 data)

OBJECTIVE 24.3. (Developmental) *Reduce asthma morbidity as measured by a reduction in the annual rate of emergency department visits by 20%. (Baseline data available in 2001)*

Data Source: Public Employees Insurance Agency, ambulatory care data; Bureau of Medical Services, Medicaid data

OBJECTIVE 24.4. *Reduce by 10% the prevalence of West Virginia residents 18 years of age and older with asthma. (Baseline data available in 2000)*

Data Source: WVBPH, OEHP, Health Statistics Center (HSC), Behavioral Risk Factor Surveillance System (BRFSS)

FLAGSHIP OBJECTIVE

OBJECTIVE 24.5. *Reduce the chronic obstructive pulmonary disease (COPD) death rate to no more than 50 per 100,000 population. (Baseline: age-adjusted rate of 54.0 in 1998)*

Data Source: WVBPH, OEHP, HSC

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

- Worskites
- Schools
- Public Health Programs
- Networks
- Health Care System
- Higher Education

One of the first means through which

we aim to meet the asthma objectives is to obtain more accurate and detailed information about the prevalence of asthma in West Virginia. Questions concerning asthma diagnosis will be added to the Behavioral Risk Factor Survey so that we can attempt to determine if patients are being accurately diagnosed, if their physicians are providing an appropriate asthma management plan, and if the patient is complying with that plan. Asthma patients who are effectively managing their asthma have fewer acute episodes, fewer hospital visits, and overall reduced morbidity and mortality.

The COPD objectives are inherently linked to the state's tobacco control objectives. It is imperative to reduce the prevalence of smoking among West Virginians if we hope to affect the state's rate of COPD morbidity and mortality. That can be achieved by conducting a more comprehensive tobacco prevention, education, and cessation program statewide.

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Background

Sexually transmitted diseases (STDs) refer to the more than 25 infectious organisms that are primarily transmitted through sexual activity. STDs are one of many interrelated factors that affect the broad continuum of reproductive health, agreed upon in 1994 by 180 nations at the International Conference on Population and Development. STD prevention as an essential primary care strategy is integral to improving reproductive health.

The proposed set of objectives for the year 2010 reflects the extensive problem analysis and recommendations published in 1997 by the National Academy of Sciences' Institute of Medicine (IOM) in a report entitled *The Hidden Epidemic: Confronting Sexually Transmitted Diseases*. Despite the burden, costs, and preventable nature of STDs and their complications, STDs remain an underrecognized health problem. The IOM report stated that "STDs are hidden epidemics of tremendous health and economic consequences in the United States. They are hidden from public view because many

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Americans are reluctant to address sexual health issues in an open way and because of the biological and social factors associated with these diseases."

The generally recognized symptomatic STDs that may cause only mild initial illnesses are only part of a very large public health problem. These organisms also cause many other harmful, often irreversible, and costly complications such as reproductive health problems, fetal and perinatal health problems, and cancer. In addition, studies of the HIV pandemic from all over the world link other STDs to a causal chain of events in the sexual transmission of HIV infection.

As West Virginia enters the new millennium, there is both good and bad news to report with regard to STDs. Early syphilis was the initial STD for which control measures were developed and tested in this country. West Virginia has maintained a significant public health syphilis management component since 1918. In the late 1940s, West Virginia reported one of the highest early syphilis case rates in the nation. Since that period, infectious syphilis case rates in this state have

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consistently been maintained below the national average. The national Centers for Disease Control and Prevention (CDC) recently initiated a five-year program to totally eliminate early syphilis in the United States. The CDC currently defines syphilis eradication as an area where there is less than 1 case per 100,000 population of primary and secondary syphilis. West Virginia currently has an early syphilis rate of 0.2 cases per 100,000 population, well below the national definition. West Virginia's success with early syphilis has come about because of excellent surveillance systems that have been in place for many years, as well as dedicated field staff who have worked to contain outbreak situations. The STD Program will continue to monitor syphilis through physician and laboratory reporting, as well as continued cooperation with the 55 county health departments that offer STD services to their communities.

Gonorrhea continues to show a reduction in morbidity; however, there have been fluctuations in rates in recent years. West Virginia initiated the first statewide effort to control gonorrhea in 1972 in conjunction with a nationwide undertaking by the federal government. The STD Program, with the Family Planning Program, performed routine screening on all females aged 15 through 45 who received a pelvic examination. The first full year of screening yielded over 350,000 women nationwide who were positive for gonorrhea; in 85% of the cases the woman was totally asymptomatic for the disease. Screening still occurs today in STD clinics as well as some family planning sites.

West Virginia's STD Program is attacking the chlamydia problem the same way it did gonorrhea by cooperating with the

Family Planning Program to perform screening of asymptomatic females. West Virginia is a part of federal Region III. The region consists of West Virginia, Virginia, Delaware, Maryland, Pennsylvania, and Washington, D.C. with Baltimore and Philadelphia as separate entities. These eight project areas have been conducting chlamydia screening since 1994. Region III was the second region in the country, behind Region X, to initiate chlamydia screening. Since then the remaining eight regions have used our experiences to develop their screening initiatives as part as a nationwide program. The entire activity came about as a result of the Infertility Bill passed by Congress in 1991. For the first time in history, money was allocated solely for the control of chlamydia, long recognized as the most prevalent reported sexually transmitted disease.

Surveillance data show high rates of STDs for some racial or ethnic groups (mainly African American and Hispanic populations) compared with rates for whites. Race and ethnicity in the United States are risk markers that correlate with other more fundamental determinants of health status such as poverty, access to quality health care, health care-seeking behavior, illicit drug use, and living in communities with a high prevalence of STDs. West Virginia currently follows this national trend; African Americans have gonorrhea rates 293 times higher than whites and chlamydia rates 100 times those of whites.

A major challenge for STD programs in West Virginia and the U.S. in the 21st century will be confronting viral infections, most notably Herpes Simplex and Human Papillomavirus, which causes genital warts and has a direct link to possible cancers in both

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women and men. More calls are received on the state STD hotline concerning viral infections than any other disease. These infections, which cause lesions, increase a person's chances of acquiring HIV by fivefold. CDC has targeted the viral infections as the next major goal nationally after the syphilis elimination project is complete.

The STD Program continues to work with the State Department of Education to ensure the implementation of instructional goals and objectives as mandated by that department concerning STD/HIV. Likewise, the program is working with the three medical schools in the state to offer assistance with curriculum and/or instruction around STDs, as well as an overview of the goals and objectives of public health as it relates to the physician's responsibility to report certain diseases so that proper epidemiology may be performed. As public health continues to build relationships with managed care, the STD Program will encourage physicians to recognize a consistent quality of care when diagnosing and treating sexually transmitted diseases by calling on the program and its links to the CDC for consultation.

The Objectives

OBJECTIVE 25.1. Reduce the incidence of chlamydia trachomatis infections in West Virginia to 65 cases per 100,000 population. (Baseline: 134.1 cases per 100,000 in 1998)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Division of Surveillance and Disease Control (DSDC), STD/MIS state data

In 1998, African Americans reported a rate of chlamydia trachomatis that was nearly 100 times higher than that among whites (8,206.8 cases per 100,000 population vs. 87.2 cases).

OBJECTIVE 25.2. Reduce the incidence of gonorrhea infections in West Virginia to 15 cases per 100,000 population. (Baseline: 50.2 cases per 100,000 in 1998)

Data Source: WVBPH, OEHP, DSDC, STD/MIS state data

In 1998, African Americans reported a rate of gonorrhea that was 293 times higher than that reported by whites (6,661.3 cases per 100,000 vs. 22.7 cases). The STD Program has long been aware of the disparity in case rates among black and white populations. Since the HIV epidemic was recognized in the mid-1980s, increased education at all levels has taken place to emphasize safe sex prevention messages, not only for HIV exposure but the traditional sexually transmitted diseases as well. As expected, a drop in rates was seen for a time, only to begin rising again at a steady increase. One constant has remained, however. The black population has continued to have infection rates much higher than whites with regard to gonorrhea and chlamydia. Although the black population only makes up 3% of the state population, their infection rates are 100 to nearly 300 times those of whites depending on the disease. The STD Program has been in contact with the State Minority Health Program for assistance in developing strategies to address the problem through community education and involvement.

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OBJECTIVE 25.3. (Developmental) Reduce the prevalence of Herpes Simplex Virus Type 2 (HSV-2) infection among persons 20-29 years old seen in outpatient departments in 10 major hospitals in West Virginia, which will become sentinel sites.

Data Source: Data on ICD-9 Herpes codes 054.9, 054.10, 054.11, 054.12, 054.13, 054.19 will be obtained from the West Virginia Health Care Authority.

OBJECTIVE 25.4. (Developmental) Reduce the prevalence of Human Papillomavirus (HPV) among persons 15-45 years old seen in outpatient departments in 10 major hospitals in West Virginia, which will become sentinel sites.

Data Source: Data on ICD-9 Human Papillomavirus code 079.4 will be obtained from the West Virginia Health Care Authority.

The viruses that cause HSV and HPV are not curable. Although outbreaks can be topically treated, they eventually will run their course, although the virus remains in the body. In most cases, recurrences will manifest themselves. Much is still to be learned about these diseases, and the CDC has targeted the viral infections for increased research and hopefully a cure in the future. Until that time, the state will intensify sentinel reporting to better understand the scope of the problem. These infections are generally recognized as the most prevalent yet underreported diseases in the sexually active community. Safe sex messages and counseling are still the best defense to avoid or learn to live with these infections until a cure is realized.

OBJECTIVE 25.5. Reduce to 7% the incidence of HIV infection that is attributed to heterosexual contact. (Baseline: 15% of new HIV reports in 1998)

Data Source: HIV/AIDS Reporting System (HARS), CDC, Division of HIV/STD/TB Prevention

Public health is now well into the second decade of the war on HIV/AIDS. While the first wave of infection affected the homosexual community and IV drug users who shared needles, the second wave is affecting women, young people, and, still, IV drug users. While there has been much success in the development of drugs to fight the symptoms of HIV infection, there still is no cure. Nonetheless, a false sense of security has permeated the sexually active community, which believes there is in fact a cure for this infection. As a result, some people are becoming careless with the practice of safe sex, both in the homosexual as well as the heterosexual community. The STD Program will continue to educate and reinforce the message that HIV is still a life-threatening illness, and that all available precautions should continue to be practiced.

OBJECTIVE 25.6. (Developmental) Develop contractual arrangements with medical schools and private providers (e.g., managed care organizations) to offer public health services to STD patients in 50% of the counties, to include:

25.6a. Provider referral method used on STD contacts;

25.6b. Reimbursement to private providers for counseling around STDs and reproductive health;

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25.6c. Initial discussion on HIV/STD at first visit with females for reproductive reasons.

As public health and managed care organizations (MCOs) continue to partner, it is essential that both understand each other's missions and goals. It is critical that STD patients be counseled about their infection and the importance of referring their sexual contacts for evaluation. The STD Program will explore the possibilities of educating medical students as well as MCOs about the benefits of contact tracing and the entire epidemiologic process.

OBJECTIVE 25.7. Increase to 75% the number of county health departments with at least one clinician who has attended formal training at an STD/HIV Prevention Training Center in either Baltimore or Cincinnati. (Baseline: 25% of county health departments in 1999)

Data Source: WVBPH, OEHP, DSDC, STD Program

It is critical that clinicians/nurses continue to be properly trained in the diagnostics and treatment issues surrounding sexually transmitted diseases. The STD Program arranges to send personnel from county health departments for training, and updates when necessary, to ensure that they are current with the many issues surrounding these sometimes complex diseases.

OBJECTIVE 25.8. Ensure the implementation of instructional goals and objectives as mandated by the State Department of Education concerning STD/HIV.

Health education became required by state legislation enacted in 1988 to include age-appropriate HIV/AIDS and sexually transmitted disease education for grades 6 through 12. The Department of Education has prepared a model HIV/AIDS health education curricula for grades K through 12. Individual school systems may utilize the prepared model or submit a model to the Department of Education for approval. The Department of Education's focus with HIV/AIDS education as well as the other sexually transmitted diseases is to move to a more comprehensive health education program addressing a preventative approach.

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

Worskites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

The Director of the Division of Surveillance and Disease Control, which houses the West Virginia STD Program, will be the contact person for policies and procedures in addressing these objectives. In order to meet the objectives and confine the annual incidence of sexually transmitted diseases by the year 2010, the following strategies will be continued, using the health promotion channels listed above:

- Support clinical services for detecting the existence of STDs.

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- Sustain a statewide comprehensive surveillance system for STDs.
- Assure laboratory STD reporting, compliance, and testing follow-up.
- Maintain a confidential registry of STD cases.
- Observe trends in STD occurrences.
- Increase public awareness about the risks, symptoms, and treatment of STDs.
- Implement strong early STD case intervention.
- Provide partner notification services.
- Supply appropriate medical treatment to local health departments.
- Encourage all health care providers to use CDC-recommended treatment therapies for all diagnosed and suspected patients and their sexual partners.
- Serve as an educational/ technical resource to the medical community and the general public.
- Operate a statewide STD hotline.
- Collaborate with health and social service agencies in providing educational materials and condoms to those at risk for STDs.
- Increase educational efforts to reach adolescents, young adults, and African Americans.
- Maintain a resource base of free educational materials.

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Background

Substance abuse is a personal tragedy, causing untold pain to individuals and their families. Untreated substance abuse can lead to loss of jobs, loss of families, and, ultimately, to loss of life.

In addition to the individual costs, there is an enormous cost to society. Lost work force productivity due to substance abuse costs the nation at least \$14 billion annually in unemployment, impairment, absenteeism, medical costs, and premature deaths. Crime related to substance abuse costs the nation an estimated \$57 billion per year, not including the medical costs of victims and law officers.

Yet treatment works. A variety of studies show that treatment reduces use by 50% to 60%. Treatment increases the likelihood of employment by 40% or more. Addicts who undergo treatment are 40% less likely to be arrested. Addicts who receive appropriate treatment while in prison are 73% less likely to be re-arrested and 44% less likely

26 SUBSTANCE ABUSE

to return to drug use than are untreated inmates. Every \$1 invested in substance abuse treatment yields a return of \$4 to \$7 in reduced crime and criminal justice costs. Drug abuse treatment reduces injection users' risk of spreading HIV and other infections by as much as 60%, and abstaining addicts do not generate expensive emergency room treatment. Treatment reduces crime; for example, the number of drug-related murders has hit the lowest point in more than a decade -- down from 1,402 in 1980 to 786 in 1997.

In West Virginia, approximately \$18,800,000 is spent annually on substance abuse treatment and related services. This includes \$6,400,000 in federal funds, \$5,800,000 in state funds, and \$6,600,000 in Medicaid funds. The Division on Alcoholism and Drug Abuse has been designated by the legislature as the lead agency for the prevention and treatment of substance abuse. The Division has also been designated by the federal government as the Single State Agency for substance abuse. As such, it is the recipient of the Substance Abuse Prevention and Treatment Block Grant, which provides the majority of the federal funds available for substance abuse treatment and prevention.

During state fiscal year 1998-99, the

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Division provided funding to treat 18,854 persons for substance abuse. Almost 79% of these were treated for alcohol abuse/addiction, and slightly over 21% for other drugs. Of the latter number, almost 1,900 were injecting drug abusers. Outside of alcohol, the primary drugs of choice were marijuana, 1,795; crack, 605; non-heroin opiates and synthetics, 553; other cocaine, 342; and heroin, 138.

Males represented 77% of those treated and females 23%. One hundred thirty-six (136) of the females were pregnant at the time of admission to treatment. The large majority (70%) were 25-54 years of age. Unfortunately, 1,500 were under the age of 18. Of those treated, 5,600 received public inebriate services; 2,070 were treated in a short-term residential setting; 1,300 were treated in a long-term residential setting; and the remainder received various outpatient services.

Adolescents who use alcohol and other drugs are much more likely than their non-using peers to experience other serious problems. An estimated one in four adolescents is at risk of alcohol and other drug problems, school failure/drop-out, teen pregnancy, delinquency, and/or suicide. Research has shown that the earlier a child uses alcohol or other drugs, the more likely she/he is to come to harm. Youth under 15 who use drugs are twice as likely to become dependent on the drugs than are youth 15 and over.

Just as treatment works, so does prevention. According to the National Household Survey on Drug Abuse, overall drug use among youth declined 13% in 1998. More parents report that they talk to their

children about drugs, and youth report that these conversations have helped them reject substance abuse. A massive media campaign, the "National Youth Anti-Drug Media Campaign," has been launched to counteract the effects of advertising and provide honest information about the impact of drugs. These messages are already changing young people's attitudes about drugs.

There are scientifically validated risk factors that predispose a child to substance abuse or other problems. Similarly, there are certain resiliency factors that help protect a child from negative influences. Successful prevention programs are designed to minimize risk factors and to strengthen resiliency factors. It has been estimated that for every \$1 spent on scientifically based prevention programs \$7 are saved in treatment and other costs to society.

Assessment of Need. An assessment of need is integral in determining the demand for treatment and the need for targeted prevention. In evaluating progress, it is necessary to first determine a baseline.

A federally funded needs assessment completed in 1997 indicated that there were approximately 40,000 adults in West Virginia needing treatment for substance abuse. The 1995 Youth Risk Behavior Survey (YRBS) conducted by the Department of Education indicated that 81% of students surveyed had used alcohol, with 52% having used it in the previous month. Twenty-eight percent (28%) reported that they had their first drink at the age of 13. Similarly, 43% reported smoking marijuana at least once, with 26% having used within the last month. Twenty-five percent (25%) of the students had first tried marijuana

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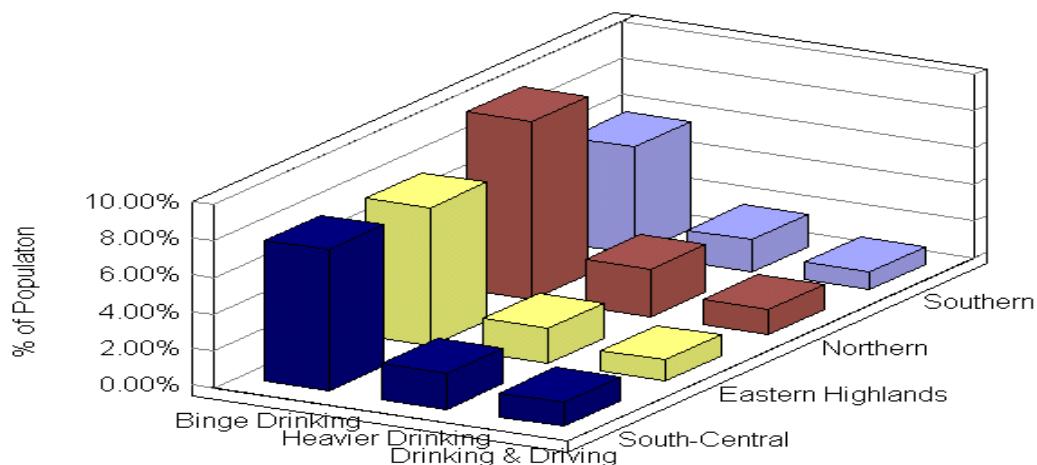
at 14 or younger. Although a needs assessment has not been conducted of youth, extrapolated data indicate that approximately 25,000 youth in grades 6 to 12 (16%) may be in need of treatment for substance abuse.

These studies were conducted on a

statewide basis, with none providing data on a regional basis. The Division does have selected data on drug and alcohol abuse available by region, however, shown below for the four designated Substate Planning Regions (SSP) – Southern, Northern, Eastern Highlands, and South-Central.

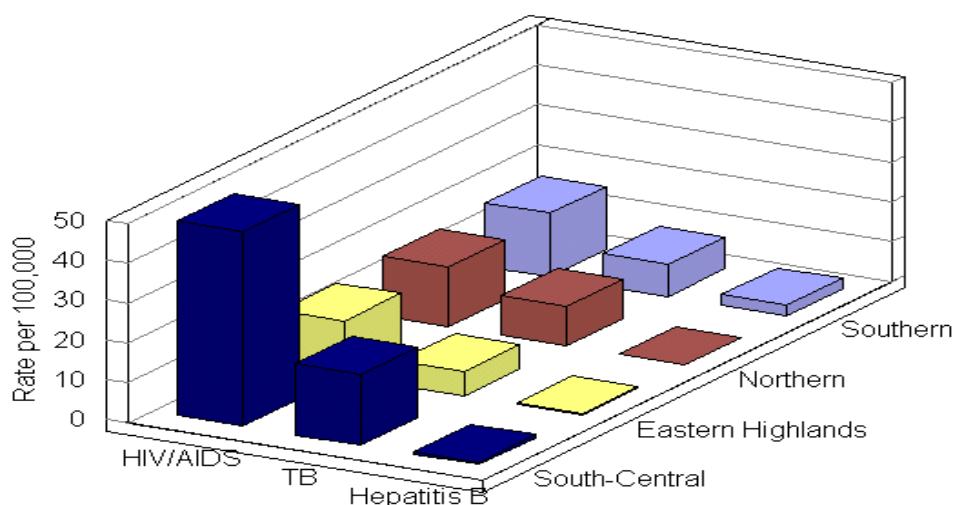
INDICATORS OF #s OF ALCOHOL ABUSERS

By Substate Planning Region



INDICATORS OF #s OF DRUG ABUSERS

By Substate Planning Region



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To be more accessible to the population, and to facilitate continuity of care, the need for treatment programs should be determined in each SSP. Prevention programs should be as localized as possible, so that community-based prevention needs can be addressed, and cultural factors taken into account.

To determine the need for developing or modifying programs, a more thorough assessment must be conducted, using indirect indicators to determine treatment and prevention needs. To determine effectiveness of programs, baseline data must be available, preferably on a county level, but at least on the SSP level. Some indicators of the need for treatment are already collected by other agencies, and are available on the SSP level. Some of the available indicators of the need for treatment for alcohol abuse are the percent of the population who binge drink; the percent who engage in heavier drinking; and the percent who drink and drive. This information is collected monthly through the Behavioral Risk Factor Surveillance System (BRFSS) survey conducted by the Health Statistics Center of the Bureau for Public Health. The rates of HIV/AIDS, tuberculosis, and Hepatitis B can be considered indicative of the demand for drug abuse treatment. As can be seen in the accompanying two charts on the previous page, it appears that the need for alcohol abuse treatment is greatest in the Northern and the South-Central SSPs, and the need for drug abuse treatment the greatest in the South-Central SSP.

Although the available data give some information about the relative need for treatment, they do not address issues such as numbers of people in need of treatment, types

of treatment needed, or special populations needing treatment such as pregnant women or adolescents. This information is not available and is vitally needed in planning the most effective distribution of scarce treatment resources.

Similarly, there is insufficient information available on the presence or absence of risk and protective factors to allow the Division to re-focus prevention programming on areas of greatest need, either in terms of geographical location or in terms of specific populations.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 26.1. (Developmental)
Increase the number of persons who receive residential and outpatient treatment according to their needs by 5% for adults 18 and older and by 2% for adolescents.
(Baseline data available in 2002)

Data Sources: West Virginia UB-92 hospital discharge database for inpatient services; data source for outpatient services to be developed

OBJECTIVE 26.2. Increase the number of high-school-aged youth who have never tried alcohol to 35%. (Baseline: 28.8% in 1997)

Data Source: West Virginia Department of Education (WVDOE), Office of Healthy Schools (OHS), Youth Risk Behavior Survey (YRBS)

OBJECTIVE 26.3. Increase the number of high-school-aged youth who have never tried cocaine to 94%. (Baseline: 90.5% in 1997)

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Data Source: WVDOE, OHS, YRBS

OBJECTIVE 26.4. *Increase the number of high-school-aged youth who have never tried marijuana to 60.1%. (Baseline: 52.3% in 1997)*

Data Source: WVDOE, OHS, YRBS

OBJECTIVE 26.5. *Reduce deaths and injuries caused by alcohol-related motor vehicle crashes by 20%. (Baselines: 144 in 1998; 145 in 1999)*

Data Source: West Virginia State Police, Fatal Accident Reporting System (FARS)

OBJECTIVE 26.6. *Reduce deaths due to cirrhosis of the liver to less than 7.5 per 100,000 population. (Baseline: 10.7 in 1998)*

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Health Statistics Center (HSC)

OBJECTIVE 26.7. *Reduce the proportion of adolescents who report that during the previous 30 days they had ridden with a driver who had been drinking alcohol. (Baseline: 35% in 1997)*

Data Source: WVDOE, OHS, YRBS

OBJECTIVE 26.8. *Reduce the rate of adults 18 and older who reported driving “after having had perhaps too much to drink” at least once during the past month by 20%. (Baseline: 0.08% in 1997)*

Data Source: WVBPH, OEHP, BRFSS

OBJECTIVE 26.9. *Reduce the rate of heavier drinking reported among adults 18 and older (heavier drinking defined as 60 or more drinks per month) by 20%. (Baseline: 2.1% in 1997)*

Data Source: WVBPH, OEHP, BRFSS

OBJECTIVE 26.10. *Reduce the rate of binge drinking reported among adults 18 and older (binge drinking defined as 5 or more drinks on any one occasion in the past month) by 20%. (Baseline: 8.4% in 1997)*

Data Source: WVBPH, OEHP, BRFSS

OBJECTIVE 26.11. *Extend legal requirements for maximum blood alcohol concentration levels to be reduced to 0.08. (Baseline: 0.10 in 2000)*

Data Source: West Virginia State Code, Motor Vehicles

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

- Worskites
- Schools
- Public Health Programs
- Networks
- Health Care System
- Higher Education

Some of the organizations that will be leading the initiatives to reach the objectives include:

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Office of Behavioral Health Services, Division
on Alcoholism and Drug Abuse,
WVBPH

Fourteen regional behavioral health centers
West Virginia Division of Criminal Justice
Services

West Virginia Department of Education
West Virginia University Prevention Resource
Center

Governor's Cabinet on Children and
Families

Drug and alcohol abuse can affect every facet of our society. Due to factors such as stigmatism and enabling codependents, this type of illness can be difficult to detect. For this and many other reasons, the above mentioned collaborators will need to effectively combine their efforts to bring about positive changes in the current drug and alcohol abuse statistics.

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Household Survey on Drug Abuse, 1999.

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www.wvdhhr.org/bph/hp2010/



Background

Tobacco

Tobacco use has plagued our society for hundreds of years and now has reached a public health crisis as the leading preventable cause of death and disease in the United States and in West Virginia. One in five deaths in our state is due to smoking, resulting in over 4,200 deaths in West Virginia each year and costing over \$650 million annually. To put it in perspective, there are more deaths from smoking than deaths from alcohol, illegal drug use, suicide, homicide, AIDS, car accidents, and fires *combined*. Data from the 1998 Behavioral Risk Factor Surveillance System (BRFSS) survey indicated that West Virginia has a high rate of smoking (27.9%), ranking third in the U.S., with rates as high as 41% among lower-socioeconomic subpopulations.

According to data from the 1999 Youth Risk Behavior Survey (YRBS), the rate of smoking among youths in grades 9-12 is 42.2%, fifth in the U.S. It is estimated that over 38,000 West Virginia kids now under the age of 18 will eventually die prematurely from

27 TOBACCO USE

tobacco-caused illness if current trends continue. About 80% of all smokers began cigarette use before they were 18. West Virginia youth have an average age of onset of smoking of between 13 and 14 years old. Cigarette smoking is associated with cancers of the lung, larynx, mouth, esophagus, bladder, kidney, pancreas, and cervix. It also causes chronic obstructive lung disease, including emphysema and chronic bronchitis, and heart disease and stroke. Other impacts of smoking are male impotence, exacerbation of asthma, increased risk of death from pneumonia and influenza, and wrinkles.

While the incidence of cigar smoking increased in our state during the 1990s, those using cigars and pipes remain relatively few in number compared to cigarettes and spit tobacco. Cigar use causes cancer of the larynx, mouth, esophagus, and lung.

According to vital statistics collected by the state, 25% of pregnant women smoked during their pregnancies in 1998, and women of childbearing age (18-34 years) smoked at a rate of about 35%. Smoking during pregnancy can cause spontaneous abortion, low birthweight, premature birth, stillbirth, and SIDS and increases the risk of birth defects. Female smokers also may experience delayed fertility and earlier menopause .

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Secondhand smoke, or environmental tobacco smoke (ETS), causes lung cancer, heart disease, and increased asthma incidents in otherwise healthy nonsmokers. Children exposed to ETS may experience respiratory infections (middle ear infections, bronchitis, pneumonia) and asthma. The EPA has now classified ETS as a Class A carcinogen.

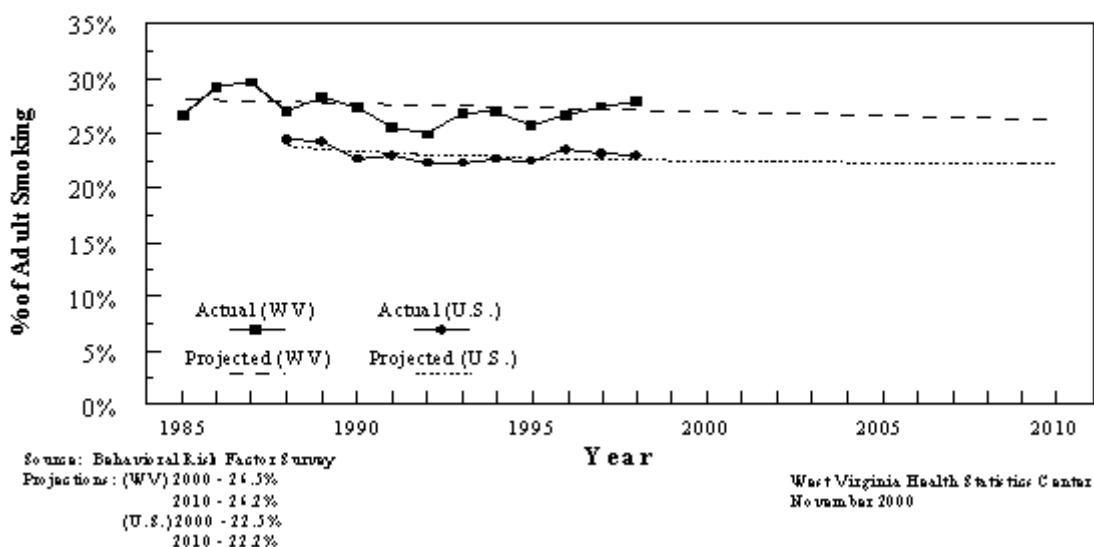
Smokeless Tobacco Use

West Virginia continues to rank first in the United States in the use of smokeless tobacco, or spit tobacco by adult men, with the 1998 BRFSS reporting a 17.5% rate of use. In 1999, about 28.6% of male youths used spit tobacco, a rank of third among YRBS survey

Prevalence of Smoking Among Adults (18+)

West Virginia Actual 1985-1998; Projected 1999-2010

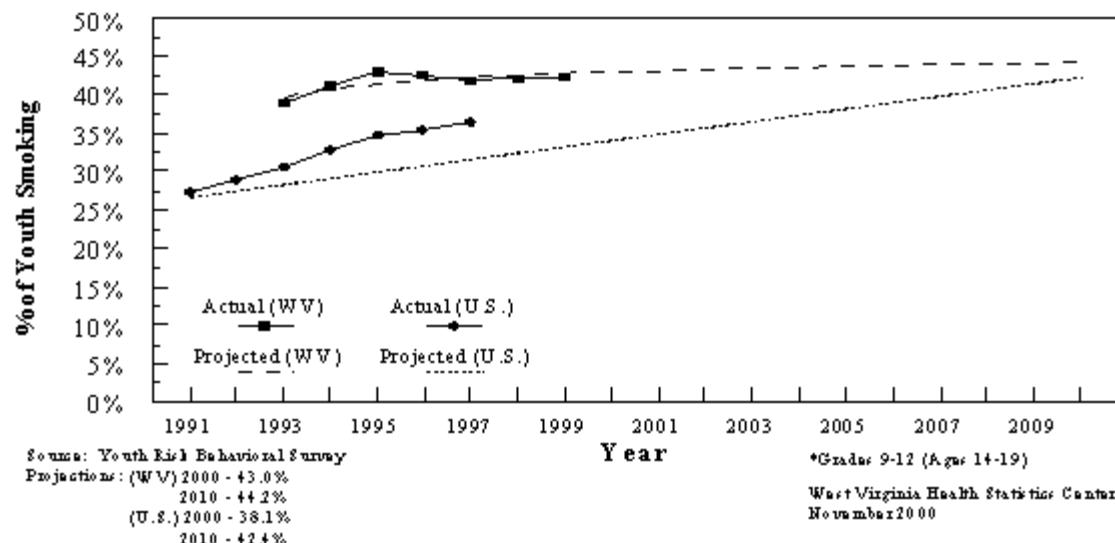
United States Actual 1988-1998; Projected 1999-2010



Prevalence of Smoking Among Youths*

West Virginia Actual 1993-1999; Projected 2000-2010

United States Actual 1991-1997; Projected 1998-2010



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states. While economic models do not include the cost to society of spit tobacco use, we know that users risk cancer of the mouth and nasal passages and tooth decay and gum disease.

The Tobacco Industry

While West Virginia was fortunate to be included in the National Cancer Institute's ASSIST Project, funding tobacco prevention from 1992 through 1998, we have experienced very little decrease in the rates of smoking or spit tobacco use. The factor that most interferes with our success toward improved public health is the tobacco industry. Through 1998, the industry spent about \$35 million each year in marketing its products in WV. This industry, more responsible than any other for negative public health, has engineered its products to contain higher concentrations of nicotine, influenced or suppressed medical research on tobacco, designed advertising geared toward youth, and legally challenged federal authority to regulate tobacco as a drug.

The tobacco settlement signed by 46 states including West Virginia in November 1998 is limited in restricting tobacco marketing. The settlement payments to West Virginia average about \$60 million each year, but do not come close to the estimated \$656 million annual cost of treating smoking-induced disease. In fiscal year 2001, \$5.85 million will be spent on tobacco prevention. The U.S. Centers for Disease Control and Prevention (CDC) has recommended that West Virginia implement a tobacco prevention program that is funded at between \$14 to \$35 million annually.

Special Populations

Target populations for tobacco prevention include pregnant women, youth (including young adults up to 24 years), blue collar workers, and lower-socioeconomic groups. Minorities comprise about 4.3% of our state's population, 72% of whom are African American. We anticipate reaching this latter group through the faith community in selected cities and counties.

The Strategy

The Bureau's Tobacco Prevention Program, in cooperation with the Coalition for a Tobacco-Free WV and current local coalitions covering about 27 out of the 55 counties, will coordinate state and local projects in counter-marketing/media, communications, education, cessation, policy initiatives, and surveillance/evaluation. By far, policy change can have the greatest impact in creating and supporting the norm for a tobacco-free West Virginia.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 27.1. Reduce the prevalence of cigarette smoking among youth and adults.

27.1a. Reduce the prevalence of cigarette smoking among adults aged 18+ to 20% or lower. (Baseline: 28% in 1998)

27.1b. Reduce the prevalence of cigarette smoking among adults aged 18+ in the lower-socioeconomic level (12 years or less of education and a household income of less than \$25,000) to 25% or lower. (Baseline: 36% in 1998)

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_____ 27.1c. Reduce the prevalence of cigarette smoking among women aged 18-24 (i.e., childbearing ages) to 25% or lower. **(Baseline:** 34.3% in 1998)

27.1d. Reduce the proportion of youth in grades 6-12 who report smoking in the previous month to 20% or lower. **(Baseline:** 42% in 1999)

Data Sources: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion(OEHP), Behavioral Risk Factor Surveillance System (BRFSS); West Virginia Department of Education (WVDOE), Office of Healthy Schools (OHS), Youth Risk Behavior Survey (YRBS) and/or Youth Tobacco Survey (YTS)

On average, 12 West Virginians die every day because they smoked cigarettes. Although their death certificates may list the cause of death as lung cancer, heart disease, emphysema, or asthma, “cigarette smoking” could just as well have been listed. The individuals who die from smoking-related diseases come from all walks of life, all professions, all socioeconomic groups, all family situations, all religions, and all ethnic backgrounds. The loss of even one of these lives is immeasurable.

Every West Virginian, including those who have never smoked, pays \$359 each year for the health care costs of smoking-related illness. This figure does not include indirect costs such as forfeited earnings and lost productivity due to illness and death, or health care and/or economic costs attributable to snuff, chewing tobacco, cigars, pipes, and secondhand smoke. In 1997-98, approximately 205 million packs of cigarettes were consumed in West Virginia.

Most people who use tobacco begin as children. Because they start young, they have more difficulty quitting and are more likely to develop a tobacco-related disease. To be effective, prevention and cessation programs need to be carefully adapted to the unique cultural, political, and economic features of West Virginia.

OBJECTIVE 27.2. Reduce the prevalence of cigarette smoking among pregnant women to 12% or lower. **(Baseline:** 25.4% in 1998)

Data Source: WVBPH, OEHP, Health Statistics Center (HSC)

OBJECTIVE 27.3. Increase smoking cessation during pregnancy, so that at least 60% of women who are cigarette smokers at the time they become pregnant quit smoking early in the pregnancy and maintain abstinence for the remainder of their pregnancy, following delivery, and through postpartum. **(Baseline:** 14.3% in 1998)

Data Source: WVBPH, Office of Maternal, Child & Family Health (OMCFH), Pregnancy Risk Assessment Monitoring System (PRAMS)

Approximately 30% of births in West Virginia are to mothers with one or more pregnancy risk factors, such as cigarettes, alcohol, or other drug use. There is a 66% greater rate of smoking among pregnant women in West Virginia than the rest of the U.S. According to West Virginia vital statistics for 1998, 12.3% of premature births occurred to mothers who smoked.

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Many studies have shown that babies who are born to mothers who smoke heavily during their pregnancy are born smaller than they would have been had their mothers not smoked. A recent CDC study found that IQs were lower in the babies born to mothers who smoked than a comparable group of babies with non-smoking mothers.

According to a 1996 report prepared by the West Virginia Department of Health and Human Resources, the proportion of births with Medicaid coverage in West Virginia in 1993 was about 42%, a considerable increase from the 1989 proportion of about 32%. Women with Medicaid coverage were 1.5 to 2 times more likely to smoke during pregnancy than were women without Medicaid coverage. Average annual costs to Medicaid services to all West Virginia women who smoke during pregnancy were estimated to be \$648,978. The estimated medical cost (Medicaid and non-Medicaid) of a complicated birth for smokers (\$10,894) was nearly twice that of nonsmokers (\$6,544).

To combat the epidemic of smoking during and after pregnancy, the Tobacco Prevention Program should continue its collaborative efforts with programs that specifically address pregnancy to implement programs reaching this population. Research studies must be magnified to evaluate the use of pharmacological cessation aids for pregnant women.

OBJECTIVE 27.4. Increase to at least 80% the proportion of health care providers who routinely advise cessation and provide assistance and follow-up and document charts for all their tobacco-using patients (providers to include physicians, dentists,

nurses, dental hygienists, mental health professionals, social workers, psychologists, pharmacists, medical assistants, physician assistants, and home health care aides).

(Baseline data available in 2000)

Data Sources: WVBPH, OEHP, BRFSS; WV Chapter of the American Academy of Family Physicians (WVAAFP), and/or WV State Medical Association (WVSMA) surveys

OBJECTIVE 27.5. Increase to 90% the number of physicians (notably pediatricians) who advise parents not to smoke in the home around children. (Baseline data available in 2000)

Data Sources: WVAAFP and/or WVSMA surveys

In addition to ETS exposure, there are several safety reasons why cigarettes should not be in the home. Also, adult smokers provide the tobacco role model, making it twice as likely that these children will become tobacco users in adolescence and beyond.

In order to be successful in helping persons to stop smoking and decrease smoking around children, West Virginia will strive to increase the availability of cessation programming, train providers in effective cessation services, increase the availability of self-help and educational materials, and conduct campaigns to promote smoke-free homes.

OBJECTIVE 27.6. Increase to 80% the proportion of health plans that offer treatment of nicotine addiction (e.g., tobacco use cessation counseling by health care providers, tobacco use cessation

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programs, prescriptions for nicotine replacement therapy (NRT)/pharmaceuticals, and other cessation services). (Baseline data available in 2000)

Data Source: WVBPH, OEHP, Tobacco Prevention Program

Statistics indicate that about 50% of current adult smokers have tried to quit smoking for at least one day, but we know that their attempts may not result in success. For this population, the provision of cessation and treatment services is critical.

Health-care professionals can play an important role in cessation; however, fewer than 25% of physicians report receiving adequate training to help their patients quit smoking. Research demonstrates that even brief advice from health care providers to stop smoking is effective. More intensive interventions that provide social support and training in problem-solving skills are even more effective. FDA-approved pharmacotherapy can also help people quit smoking, particularly when combined with counseling and other interventions.

In planning for the future, health care plans, health care providers, and their consumers must be educated to the benefits of cessation services, so that cessation is viewed as basic care. West Virginia's Medicaid program and Public Employees Insurance Agency currently provide these services, and evaluation of the success of and challenges met by these programs will provide valuable information for implementation of cessation coverage in other health plans.

OBJECTIVE 27.7. Reduce smokeless tobacco use among adult men aged 18+ to 13% or lower: (Baseline: 18% in 1998)

Data Source: WVBPH, OEHP, BRFSS

According to the 1999 YRBS, 28.6% of male high school students have used chewing tobacco or snuff on one or more of the 30 days prior to their interview. Smokeless tobacco is just as addictive as cigarettes. There is nicotine in all smokeless products, but smokeless tobacco contains more nicotine than cigarettes. For example, holding an average size dip or chew in your mouth for 30 minutes gives you as much nicotine as smoking four cigarettes. Smokeless tobacco and the nicotine in it can cause all the heart and blood vessel problems that smoking causes -- higher blood pressure, reduced circulation, and faster heart rate.

OBJECTIVE 27.8. Reduce the proportion of young men in grades 9-12 who report smokeless tobacco use to 16% or lower. (Baseline: 28.6% in 1999; baseline data available in 2000 for grades 6-8)

Data Source: WVDOE, OHS, YTS and YRBS

OBJECTIVE 27.9. Increase state excise taxes on cigarettes so state excise tax is at least 30% of retail price.

Data Source: Retail sales data, WV Division of Tax and Revenue

OBJECTIVE 27.10. Increase state excise taxes on non-cigarette tobacco products so state excise tax is at least 25% of retail price.

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Data Source: Retail sales data, WV Division of Tax and Revenue

The single most effective measure that can reduce youth consumption of tobacco products is to increase the price. “Price elasticity” models for cigarette consumption and sales indicate that for every 10% increase in price consumption among youth will decline by up to 14%. Price increases can be achieved by retailers increasing prices or by excise taxes, which then generate revenue for state government.

OBJECTIVE 27.11. (Developmental)
Increase smoking cessation attempts among adolescent smokers. (Baseline data available in 2000)

Data Source: WVDOE, OHS, YTS

Education programs should not just focus on preventing children from starting to use tobacco, but should also address quitting for those who have already begun. Research in developing the N.O.T. (Not On Tobacco) cessation program for youth revealed that most teens who smoke say that they would like to quit, but that they cannot do it on their own. About 24% of high school students indicated that they are daily smokers (possibly experiencing nicotine dependence) and about 38% of current high school smokers have tried to quit.

OBJECTIVE 27.12. (Developmental)
Increase the level of compliance and enforcement with WV Board of Education policy prohibiting tobacco use by anyone at any time on public school property to a level of no more than one incident per week reported at each school.

Data Source: WVDOE, Office of Safe and Drug-Free Schools.

West Virginia is among the leaders in states implementing these strong policies that further emphasize the “tobacco-free” norm and compliance with state law. Enforcement of such policies has been the challenge, and we are investigating a variety of solutions, including signage, volunteer monitors, student monitors and detectors/warning systems.

OBJECTIVE 27.13. Enforce state and federal laws that prohibit tobacco sales to minors to 10% noncompliance or less.

Data Source: Synar monitoring data; tobacco retailer inspection programs.

OBJECTIVE 27.14. Enact state or local laws requiring licensure of tobacco retailers, behind-the-counter displays, and restrictions on advertising, violations that may result in revocation of license.

In March 2000, the U.S. Supreme Court declared that the FDA has no authority to restrict tobacco sales and marketing, and as a result the tobacco retailer inspection program that began in April 1999 in West Virginia was immediately dissolved. This program, plus Synar monitoring data, had indicated that illegal sales to minors occurred during about 34% of attempts.

The creation of a comprehensive inspection program, including retailer education and subsequent fines and the threat of license suspension/revocation, would increase compliance with the state law and federal regulations.

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OBJECTIVE 27.15. (Developmental)
Increase to 95% the percentage of 6th grade students who associate harm with tobacco use; ensure that comprehensive tobacco prevention curricula are taught in public schools. (Baseline data available in 2000)

Data Source: WVDOE, OHS, YTS

In 1999, 33.7% of students surveyed in the YRBS reported that they had smoked their first cigarette before their thirteenth birthday. The CDC recommends implementing and incorporating evidence-based curricula, linking school-based efforts with local community coalitions and statewide counter-advertising programs, and implementing CDC's *Guidelines for School Health Programs to Prevent Tobacco Use and Addiction*, including tobacco-free policies, teacher training, parental involvement, and cessation services.

In 1999, the West Virginia Department of Education implemented Life Skills Training (identified by CDC as Programs That Work) in sixth grade and will add seventh grade in the year 2000. Life Skills Training is a research based curriculum that has been shown to significantly decrease tobacco use rates among participants. The Department of Education plans to continue the use of this curriculum.

OBJECTIVE 27.16. Increase to 85% the number of employers having 10 or more employees who have written and enforced tobacco restriction policies for the work place, designed to protect workers from exposure to ETS.

Data Source: West Virginia University, Office of Health Services Research.

Both common sense and scientific research indicate that smoking restriction policies at the work place result in fewer opportunities to smoke and more smokers quitting, but their main purpose is to protect the nonsmokers from exposure to ETS. Smokers use sick leave about 50% more than nonsmokers, and cost employers up to \$1,300/year.

Most of the clean indoor air regulations require that businesses implement policies to protect nonsmokers from this exposure, but we need to encourage employers to expand the policies to create smoke-free buildings, to include smokeless tobacco use in restrictions, and to promote cessation. Baseline data on current policies and technical assistance needs will be gathered in FY2001. Trained consultants may be available later to provide technical assistance to businesses.

OBJECTIVE 27.17. Increase the number of counties covered by Clean Indoor Air (CIA) regulations; increase the level of protection from ETS for existing CIA regulations; defeat CIA preemption measures in state legislature.

Data Source: WVBPH/OEHP, Tobacco Prevention Program

By far, one policy area in which West Virginia has received critical acclaim is the adoption of CIA regulations through local boards of health. West Virginia received the 1997 Clean Indoor Air Award from Americans for Nonsmokers Rights for being the state to enact the most regulations in that year.

Of the current local CIA regulations, there is great variability in their coverage.

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Restaurant coverage varies from 25%+ seating for nonsmoking sections to 100% smoke-free. Business coverage is fairly consistent, priority consideration given to protecting the nonsmoker from ETS exposure. Public places (government buildings, sports and entertainment facilities, malls, etc.) vary from designated smoking areas to 100% smoke-free, and some regulations include exemptions for certain facilities. To date, CIA regulations have been adopted by 43 of the 55 counties.

Our goal moving toward 2010 is to increase the number of counties covered by CIA regulations and to increase the strength and breadth for those with existing regulations.

OBJECTIVE 27.18. Establish a statewide evidence-based comprehensive tobacco prevention and control program for West Virginia, funded by state funds to at least CDC-recommended minimum levels (\$14 million per year) with sustained funding for at least five consecutive years.

Data Source: WVBPH, OEHP, Tobacco Prevention Program

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:
Wksites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

The Tobacco Prevention Program was started in West Virginia in 1991 and funded through 1998 by the ASSIST Project of NCI, with national partnership from the American Cancer Society. Since 1998, funding has come from the CDC's National Tobacco Control Program. Both federal programs provided funding between \$800,000 to \$1,100,000 annually and during those years, no state funds were ever allocated to this issue.

With the November 1998 signing of the tobacco settlement, West Virginia stands to receive about \$60 million average per year. In accordance with WV Code §4-11A, passed in 1999, half of the funds received must go into a trust fund (which cannot be spent). The other half can be spent in several ways (PEIA programs, Medicaid, health programs and facilities). It is the goal of the WVBPH to see that CDC-recommended funding levels of \$14 million to \$35 million are allocated to the Tobacco Prevention Program and that decision-makers commit these funds for many consecutive years to address this public health crisis.

Some of the organizations that will be leading the initiatives to reach the objectives include:

West Virginia Tobacco Prevention Program,
Health Promotion Division, WVBPH
Health Statistics Center, Office of
Epidemiology and Health Promotion,
WVBPH
WV Office of Maternal, Child & Family
Health, WVBPH
Coalition for a Tobacco-Free WV (CTFWV)
WV Youth Tobacco Prevention Campaign,
Healthcare Education Foundation of
WV

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Office of Healthy Schools, DOE
Division on Safe and Drug-free Schools, DOE
WV Division on Alcoholism and Drug Abuse,
OBHS

The following is a partial list of member agencies represented by the CTFWV:

American Cancer Society, Mid-Atlantic Division
American Heart Association, Ohio Valley Affiliate
American Lung Association of West Virginia
West Virginia State Medical Association
American Academy of Family Physicians, WV Chapter
American Association of Retired Persons
WV Hospital Association
WVU School of Dentistry
WV Coalition for Minority Health
WVU Prevention Research Center
March of Dimes Birth Defects Foundation, WV State Chapter
Wellness Council of WV

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Sandria Glasscock, Grant County Health Department
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Visit the Healthy People website at:
www.wvdhhr.org/bph/hp2010/



Background

West Virginians must seek and receive basic vision and eye care services that include not only health and visual performance evaluations but also include occupational eye safety and injury prevention. Good vision becomes more important each day as the nation continues to develop a large segment of the economy around high technology industries.

Many of the state's infants and young children are at high risk for vision problems because of hereditary, prenatal, or perinatal factors. These individuals need to be identified and tested early and periodically to assure their visual system is functioning maximally and not impeding normal learning. The state's children need comprehensive vision evaluations before beginning

school to insure their visual wellness and readiness for learning.

In addition, vision and eye care are important issues in West Virginia because of its status as the oldest state in the nation.

28

VISION AND HEARING

The leading causes of visual impairment are diabetic retinopathy, cataracts, glaucoma, and age-related macular degeneration. Vision and eye care services are critically important to maintaining independence and quality of life in

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the later years. Access to basic vision and eye health services along with specialty care in the areas of vision rehabilitative services and assistive living techniques, devices, and knowledge must be available for seniors and others with limited vision to maintain independent living.

West Virginia is one of the states with the highest prevalence of diabetes mellitus. This is partially attributable to a larger aging population, attenuated by a population with a predominately sedentary lifestyle, inadequate nutrition, common genetic heritage, lower socioeconomic factors, and lack of access to proper medical and health care. Obesity also is a known risk factor for diabetes, as well as other common health conditions including heart disease and strokes, which themselves can result in visual complications. West Virginians with diabetes have an increased risk of blindness, kidney disorders, and amputations. Diabetic retinopathy is the leading cause of blindness in individuals 29 to 74 years of age. Periodic eye examinations and treatment have been shown to be effective against preventing the ocular complications of many of these cases of diabetes. Both personal and societal costs of diabetes can be prevented or reduced with access to timely vision and eye care.

West Virginia is a beautiful state to see. This is appreciated by

no one more than the sportsman, hunter, or naturalist who explores, examines, and enjoys the abundant natural wildlife and natural resources of the Mountain State. Recreational safety programs could help prevent many of the annual cases of vision loss due to sporting activities, firecrackers, ATV accidents, and other preventable eye injuries around the home.

All of these factors, in addition to West Virginia's rurality and status as one of the poorest states in the nation, add additional challenges to the state's already limited public health resources. The issue of rurality goes to the heart of access to health and wellness in this rugged mountainous state. West Virginia, a state with many narrow two-lane roads for its residents to travel, only began building a four-lane interstate system of highways within recent decades.

Additionally, West Virginia is one of the few states that has not benefited proportionately from the recent national economic period of prosperity. Research repeatedly demonstrates that the number one indicator of health status is socioeconomic status. This is readily apparent within the state of West Virginia.

There are many challenges ahead in achieving the vision and eye health objectives set forth here. By working to achieve these

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objectives the lives of all West Virginians can be enhanced through state and local initiatives, public-private partnerships, professional and civic organizations, and faith-based organizations.

By improving vision and eye health status over the next 10 years through the objectives set forth here, West Virginians will be able to enjoy their state's unique beauty and actively participate in life.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 28.1. (Developmental)
Increase the proportion of persons 18 and over who have a dilated eye examination at appropriate intervals. (Baseline data available in 2003)

Data Source: West Virginia Bureau for Public Health, Office of Epidemiology and Health Promotion, Behavioral Risk Factor Surveillance System

Many eye diseases and disorders have no symptoms or early warning signs. Dilated eye exams should be performed at appropriate intervals to detect changes in the retina or optic nerve or both. Eye care professionals can view the back of the eye for subtle changes and, if necessary, initiate treatment at the right time. Meeting this objective is perhaps the single best means to meet the other objectives set.

OBJECTIVE 28.2. (Developmental)
Increase the proportion of preschool children aged 3 to 5 who receive a vision screening. (Baseline data available in 2003)

Data Sources: West Virginia Preschool Vision Screening Program, West Virginia University (WVU) Eye Institute; Prevent Blindness America of West Virginia

Many vision problems begin well before children reach school. Every effort must be made to ensure that, before they reach age 5 years, children receive a screening exam from their health care provider. Early recognition of disease results in more effective treatment that can be sight-saving or in some cases even life-saving.

OBJECTIVE 28.3. (Developmental)
Reduce visual impairment due to glaucoma. (Baseline data available in 2003)

Data Source: West Virginia Medical Institute (WVMI), Medicare/Medicaid data

OBJECTIVE 28.4. (Developmental)
Reduce visual impairment due to cataract. (Baseline data available in 2003)

Data Source: WVMI, Medicare/Medicaid data

OBJECTIVE 28.5. Reduce occupational eye injury. (Baseline: 567 per 100,000 workers for FY 1998)

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Data Source: West Virginia Bureau of Employment Programs, Research, Information & Analysis Division, West Virginia Workers Compensation Annual Report

Meeting the Objectives

Health Promotion Channels for Achieving Objectives: Worskites Schools Public Health Programs Networks Health Care System Higher Education
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The Vision Work Group agreed that one essential element in the long-term success of the Vision goals is the development of a coalition to promote vision health within West Virginia. Only the coordinated efforts of such a coalition can effectively marshal the scarce resources of a small, rural state. The coalition would consist of all interested groups and should meet on a regular quarterly or semi-annual basis. The exact membership will be determined by interest and commitment. To promote such a coalition, the WVU Eye Institute has agreed to sponsor a Healthy Vision West Virginia web site that will highlight the vision-related goals of Healthy People 2010 and will link to involved organizations.

Further actions that are likely to positively impact the future developments of vision-related goals are the beginning of preschool screening programs by Prevent Blindness America of West Virginia and the WVU Eye Institute. Both of

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these groups have committed themselves to developing other screening programs as well. They have also agreed to share their information on their screening activities with the Healthy People program.

The success of these programs as well as programs initiated by the state and other organizations can have a major impact on the success of the goals.

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Background

Health care services are inclusive across a continuum of care from pre-birth to natural death. The consideration of end-of-life care is an important, but often neglected, part of this continuum. Improving end-of-life care is consistent with the purposes of Healthy People 2010. The goals of Healthy People 2010 are to (1) improve the quality of life and years of healthy living and (2) eliminate health disparities. All people are entitled to enhanced quality of life until the very moment of their death. Healthy dying is a natural part of healthy living. Also, the life and health of every West Virginian is affected by the death of a close friend or loved one. Adequate end-of-life care not only focuses on the needs of the patients, but also on the needs of family and friends. The literature documents the negative health effects of death and dying on survivors. West Virginia is one of the most rural states in the country, and a majority of West Virginians live at a considerable distance from health care services, including end-of-life care. Improving access to

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end-of-life services for West Virginians in rural areas addresses the second goal of eliminating health disparities.

West Virginians have recently identified a dissatisfaction with, and a desire to improve, the current provision of end-of-life care. A series of community dialogue meetings were held across the state in 1999 as part of the West Virginia Initiative to Improve End of Life Care funded by the Robert Wood Johnson Foundation. West Virginia is among only 17 states to receive such funding. During these community dialogue meetings, West Virginians identified the need for greater attention to advanced care planning, including where death occurs, greater access to palliative care and hospice services, and greater attention to pain management at the end of life. The Initiative to Improve End of Life Care also surveyed pharmacists, physicians, nurses, and social workers across the state. Most health care professionals rated end-of-life care in West Virginia as only fair.

Several challenges to improving end-of-life care are pronounced in West Virginia. They include a large proportion of elderly living in rural areas and a higher percentage of

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deaths from chronic disease than in other states.

West Virginia has the highest median age of all states at 37.7 years and ranks fifth in the nation in the percent of the population over the age of 65. The state is experiencing unprecedented growth in its aging population. According to the 1990 U.S. Census, the aging population represented 15% (268,897) of the total population. By the year 2020, this number is expected to reach 345,000, a 28% increase. Of the 55 counties in West Virginia, only nine counties have an elderly population below the national average of 12%.

West Virginia is the second most rural state in the country, behind Vermont, with 63% of West Virginians living in rural areas. Most of the state's elderly reside in rural areas, even though the ratio of urban to rural elderly in West Virginia does increase with age. For the 65+ age group the ratio is .78; for the 75+ group the ratio is .82; and for the 85+ group the ratio is .91. Referrals to hospice are low, and the reimbursement to hospices for care of patients in rural areas is well below the costs. The reality is that barriers to accessing health care services and resources such as hospitals, hospices, and nursing homes confront many older adults.

The percentage of deaths from chronic diseases in West Virginia is considerably higher than the national average. West Virginia currently ranks first in the United States in mortality rate from heart disease and number three for mortality rates for cancer and diabetes.

National data have indicated that people prefer to die in the comfort of their

own homes, surrounded by loved ones. In West Virginia, in 1997, out of a total of 20,872 deaths, 10,243 people died in a hospital and 4,917 died at home. The percent of individuals dying in their homes with hospice services, 11.3%, remains 35% below the national average of 17%. Only 2% of nursing home residents received hospice care in 1997. Moreover, most West Virginians die in a hospital or nursing home, without choosing their place of death.

In conclusion, the Healthy People 2010 project is an important mechanism for meeting West Virginians' desires and needs concerning end-of-life care. The following four objectives have been formulated to help improve end-of-life care in West Virginia by the year 2010.

The Objectives

FLAGSHIP OBJECTIVE

OBJECTIVE 29.1. Increase the percentage of dying persons receiving hospice care to 25%. (Baseline: 13% in 1997)

Data Source: West Virginia Health Care Authority (WVHCA) Annual Survey

OBJECTIVE 29.2. Increase the percentage of persons dying in their homes to 35%. (Baseline: 24% in 1997)

Data Source: West Virginia Bureau for Public Health (WVBPH), Office of Epidemiology and Health Promotion (OEHP), Health Statistics Center (HSC)

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OBJECTIVE 29.3 Increase the percentage of persons receiving hospice care while dying in a nursing home to 10%. (Baseline: 2% in 1997)

Data Source: WVHCA

OBJECTIVE 29.4. Increase the percentage of persons who have talked with their families and doctors about their preference for end-of-life care to 75% and increase the percentage of persons who have completed written advance directives to 50%. (Baseline: in 1999/2000, 60% reported talking with their family or close friend about the medical treatment they would/ would not want at life's end; 34% had completed written advance directives (12% reported having a living will; 3% reported having a medical power of attorney; 19% had both)

Data Sources: Baseline data collected by a 1999/2000 Ryan, McGinn, Samples research survey; future progress to be tracked by four questions on the Behavioral Risk Factor Surveillance System survey in 2004 and 2008.

The following questions will be included in the BRFSS survey to address end-of-life issues:

1. Have you ever discussed with your family how you would want to be treated if you were dying?
2. Have you ever discussed with your doctor how you would want to be treated if you were dying?
3. Have you completed a written advance directive such as a living will or medical power of attorney that says who you would want to

make medical decisions for you if you could not make them for yourself?

Living will only;
Medical power of attorney only;
Both a living will and a medical power of attorney;
Neither; or,
Never heard of either

4. How would you respond to the following statement? It is important to talk with my family and doctor about how I want to be treated at the end of life:

Strongly agree
Agree;
Neutral;
Disagree; or,
Strongly disagree

Meeting the Objectives

Health Promotion Channels for Achieving Objectives:

Worksites
Schools
Public Health Programs
Networks
Health Care System
Higher Education

The following are the two organizations that will be leading the initiatives to reach the 2010 objectives:

Center for Health Ethics and Law, Robert C. Byrd Health Sciences Center, West Virginia University (WVU)

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Center for Health Services and Outcomes Research, Camcare Health Education and Research Institute

The Center for Health Ethics and Law has been the lead organization for the West Virginia Initiative to Improve End-of-Life Care funded by the Robert Wood Johnson Foundation, the West Virginia Humanities Council, the Claude Worthington Benedum Foundation, and the Project on Death in America through July 2002. The Center for Health Services and Outcomes Research of the Camcare Health Education and Research Institute has been the lead data collection and analysis entity for the Initiative.

The Initiative is a statewide, multidisciplinary, comprehensive, and public participatory effort to improve all aspects of end-of-life care for the citizens of West Virginia. The Initiative consists of a 20-member organizational coalition that includes: the Bureau of Senior Services, West Virginia Department of Health and Human Resources; Guardianship Commission; WV Boards of Medicine and Pharmacy; WV State Medical Association; WV State Bar; Hospice Council of WV; WV Health Care Association; WV Hospital Association; WV Council of Home Health Agencies; WV Network of Ethics Committees; WV Cancer Pain Initiative; WV Humanities Council; WV Rural Health Education Partnership; WV Chapter of NASW; Center for Health Ethics and Law; WVU Schools of Medicine, Nursing, and Pharmacy; WV School of Osteopathic Medicine; Marshall University School of Medicine; Camcare Health Education and Research Institute; WVUH Center for Pain Management; Professional Anesthesia Services, Inc.; Northern West Virginia Pain

Management Center; Catholic Diocese of Wheeling-Charleston; the Synod of the WV-Western Maryland Evangelical Lutheran Church in America; WV Council of Churches; WVU Departments of Public Administration and Social Work; AARP; Legal Aid Society Long-term Care Ombudsman Program; and the South Central WV AIDS Network.

The West Virginia Initiative to Improve End-of-Life Care has utilized seven task forces to establish the mechanisms to meet the four 2010 objectives. The seven task forces include Funding and Finance, Professional Education, Palliative Care Delivery Systems, Cultural and Spiritual, Policy, Community Visioning, and Survey and Needs Assessment. Various programs have already been put in place that will contribute to meeting the 2010 objectives. Action steps include:

Education: various programs to educate health care professionals and the public about end-of-life care including a media campaign.

Financing: establish more complete and efficient financial coverage for end-of-life care. Change the Medicaid disincentive to bringing hospice care into long-term care facilities and develop a model hospice benefit for managed care.

Palliative Care Delivery Systems: facilitate the development of palliative care teams in hospitals, long-term care facilities, and communities.

Policy: educate the state legislature about pertinent policy issues related to end-of-life care, including end-of-life care decision-making and pain management.

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Public Discussion: foster a statewide dialogue around the issues of death and dying and increase the comfort of citizens in addressing end-of-life issues.

Statewide Resources: develop a toll-free information number (1-877-209-8086) and website (www.wvinitiative.org) that serves as a resource for patients, families, and health care professionals; monitor and share the latest developments in end-of-life care.

The Initiative's coalition members are dedicated to the continued improvement of end-of-life care in West Virginia, and the Healthy People 2010 objectives will serve as a target for that effort. The WV Center for Health Ethics and Law and the WV Initiative have proposed to the WV Legislature that a WV Center for Palliative Care and Hospice be established as a statewide resource to meet the end-of-life objectives of Healthy People 2010 and the 2000-2002 State Health Plan. This Center will help ensure a long-range approach to meeting the objectives and serving the health care professionals and citizens of West Virginia.

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