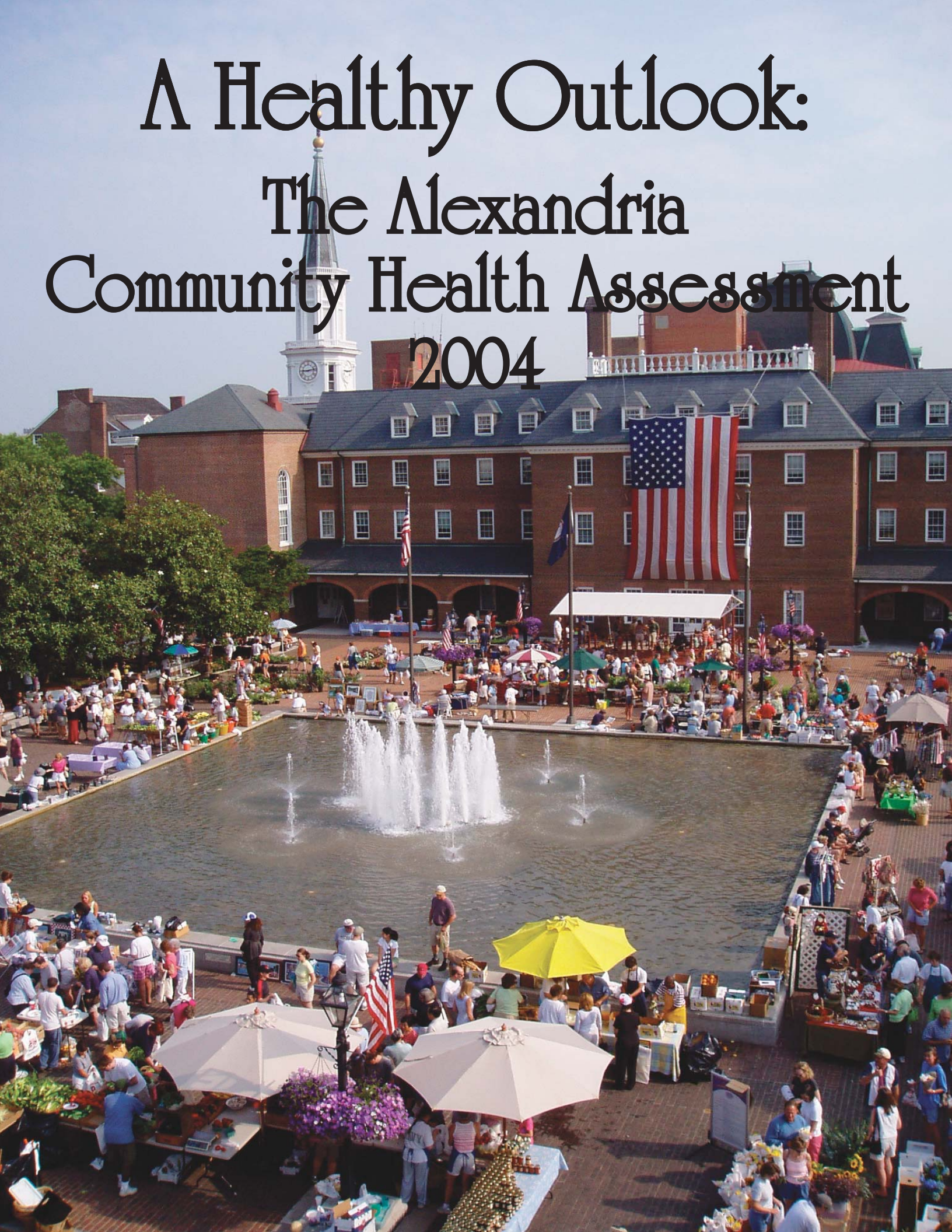
A Healthy Outlook:

The Alexandria Community Health Assessment 2004



Executive Summary

Good health for individuals has been described as overall well-being and the absence of disease. There are many factors that influence the health of individuals. Advances in medical care have made a real difference in our lives.

However, vastly improved living conditions, such as cleaner drinking water, safer foods, good sanitation, and widely available vaccines, are thought to have contributed more than that of medical care to greatly improved longevity and reductions in infant mortality of Americans during the past century.

It has long been clear that disease, death and disability have multiple factors, including individual behaviors and community conditions and policies. Today's major health problems relate to chronic diseases and behaviors. In spite of major gains in longevity, reduced infant mortality, and generally improved health status, there is need for improvement. Good health is not only a goal for individuals; a healthy population is part of having a healthy community in the broadest sense.

Alexandria is a relatively healthy community in many ways. However, there is room for improvement. Challenged by the publication of *Healthy People 2010*, which set goals for health improvement for the nation, the Alexandria Health Department and the Alexandria Public Health Advisory Commission facilitated the development of the first *Alexandria Community Health Assessment*. This assessment formalized a set of health priorities for Alexandria and engaged the community through a steering committee and a survey of residents.

Throughout the assessment process, the emphasis was on finding those targets of opportunity where community prevention strategies could be applied or enhanced. While it was recognized that this report should be evidence-based, it was also understood that the community's viewpoints and concerns should be taken into account in setting priorities.

This assessment outlines health indicators in several broad categories, including maternal and child health, behavioral and mental health, injury and violence, chronic diseases, and infectious diseases. Ranking and prioritization took into account both evidence-based data, as well as the community's concerns as taken from the survey.

Ranking also took into account the importance or seriousness of the health problem and the known potential for influencing or changing the problem. Other factors considered included economic impact, political support, affordability of action, and legal constraints.

Executive Summary, Cont'd.

Based on these factors, a Priority List for Action was developed. This list, or perhaps more properly this challenge to our community, includes:

- Obesity
- Tobacco use
- Substance abuse
- Influenza
- Cardiovascular disease
- Diabetes
- Teenage pregnancy
- HIV/AIDS
- Breast cancer
- Colorectal cancer
- Severe accidents and injuries
- Tuberculosis

Each of these health challenges is documented with risk factors, contributing factors and adverse consequences.

The challenge involved is to lay the foundation for a healthier community. This should include a plan to follow up on the priorities in this report, a Partnership for a Healthier Community, which would identify, organize and advocate for some specific community-based actions that could lead to improvements in the health status of our population. The major emphasis should be in influencing personal behavior changes and in organizing community efforts in prevention.

In addition, every Alexandria resident must have access to high quality primary and preventive care or many of these improvements will not be possible for a significant number of the City's residents.

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CHA Steering Committee

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Acknowledgements

The CHA Steering Committee wishes to acknowledge the contributions of the following groups and organizations:

City Manager's Office, City of Alexandria, Virginia

George Washington University,
School of Public Health and Health Services

Alexandria Public Health Advisory Commission

Project Discovery Student Volunteers,
T.C. Williams High School,
Alexandria, Virginia

Letters of Support

Dear Citizens of Alexandria,

Public health researchers recently observed that, “A healthier community is not just some random outcome. It is instead the result of caring, committed individuals coming together in an ambitious joint effort.”

It is with great excitement and anticipation that the Alexandria Public Health Advisory Commission shares in bringing you Alexandria’s first Community Health Assessment. Excitement because we have begun a process that will strengthen our commitment to ensuring the basic health needs of every citizen and optimal health status for the community. Anticipation because there is much work still to be done.

We commend the Alexandria Health Department for conducting the assessment and providing us with the data and the science to determine how best to allocate limited resources. We look forward to working with the Health Department and the other partners who have provided leadership for the Assessment as we turn this research into community action.

The Community Health Assessment offers us a guide to the current health issues of citizen concern and perhaps greatest responsiveness in our community. Our challenge—as a city— is to devise strategies to encourage and support citizen response. Such strategies may be as varied as removing soft drink vending machines from school campuses, creating more walkways in the community to fight obesity, and expanding the city’s smoke-free environments to reduce cancer and cardiovascular disease.

The Commission would be pleased to convene and lead a “Partnership for a Healthier Community” to address this challenge. We are confident that Alexandria’s leadership and the community as a whole will welcome the opportunity to work with us to secure our public health and to enjoy the quality of life that ensures.

Sincerely,

Lori Cooper, Chair
Alexandria Public Health Advisory Commission

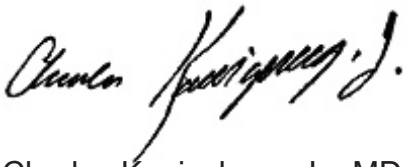
Letters of Support

I would like to thank the Alexandria Public Health Advisory Commission and the individuals who put in so much leadership and effort to make this Community Health Assessment a reality. It really has been a community effort.

The challenge for us now is to take these priorities and organize community efforts to help improve the health of our residents. Optimal health requires a combined effort of individuals, the health care system, and community-based efforts to be most effective. This report provides the basis for action.

It has been a pleasure to be partners with so many in the community on this report. We look forward to working with the community on the all important follow-up and actions.

Sincerely,



Charles Konigsberg, Jr., MD, MPH
Health Director
Alexandria Health Department

The Community Health Assessment

What is it?

A Community Health Assessment (CHA), as defined by the National Association of County and City Health Officials (NACCHO) is "a broad-based, documented, and collaborative process conducted with community participation that produces a list of community health priorities and resources."

It is important to address community health, since both it and individual health are closely related. A community is greatly affected by the collective behaviors and attitudes of its citizens, and vice versa.

A Community Health Assessment can help to answer such questions as:

- How healthy are our residents?
- What does the health status of our community look like?
- How does our community compare to other communities?
- What areas of health need improvement?

Performing a CHA lays the foundation for future strategies to address specific health needs and to implement action plans for improvement. Assessment was also determined to be one of the three core functions of public health, as stated by the Institutes of Medicine (IOM) in its 1998 report, "The Future of Public Health."

The IOM defined the mission of public health as "fulfilling society's interest in assuring conditions in which people can be healthy." In order to fulfill this mission, the IOM defined the three core functions of public health: assessment, policy development, and assurance.

A Timeline

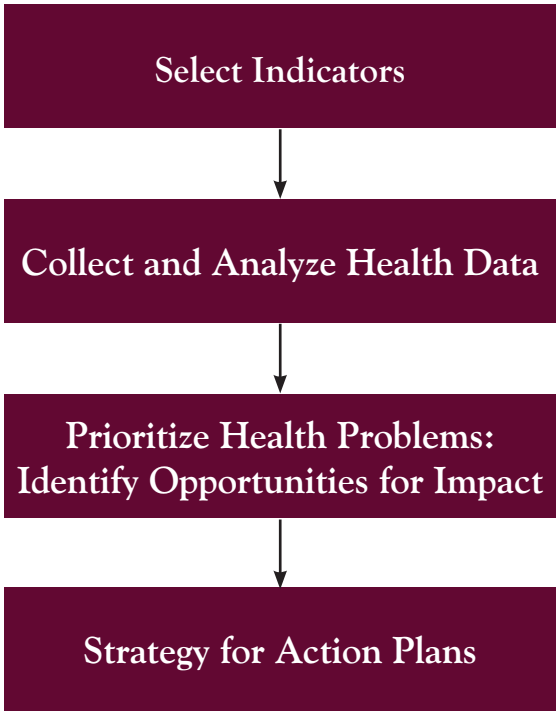
On December 9, 2002, in partnership with the Alexandria Public Health Advisory Commission (APHAC), the Alexandria Health Department (AHD) launched the first city-wide Community Health Assessment by soliciting city departments, Alexandria-based businesses, and the community to serve as members of the CHA Steering Committee. Historically, community-based steering committees have proven to be the most effective partnerships for improving community health.

- Goal: Identify health problems in the Alexandria community.
- Goal: Effectively prioritize health problems in the Alexandria community.

The CHA Steering Committee followed a carefully written two-year plan to complete the Health Assessment:

- ***Year One*** consisted of reviewing other health assessments, choosing focus areas and specific health indicators within each area, and then, based on those indicators, gathering community health data already in existence (secondary data).
- ***Year Two*** of the process focused on primary data collection to supplement this secondary data and to gain a wider community perspective. A telephone survey was designed for primary data collection and administered halfway through the year (See Appendix I).
- The end of the 2-year period focused on developing a priority list based on the secondary and primary data analysis, as well as *Healthy People 2010* targets.

In 1923, a visionary defined Public Health as "the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts."



Healthy People 2010

Healthy People 2010 (*HP 2010*) is a comprehensive, nationwide health promotion and disease prevention agenda developed by the U.S. Department of Health and Human Services. *HP 2010* has two main goals: 1) To increase the quality and years of healthy life and 2) To eliminate health disparities.

To achieve these two goals, *HP 2010* includes 467 objectives in 28 focus areas. Each objective has a goal and target for specific improvement to be reached by the year 2010.

For example:

Goal:	Reduce colorectal cancer death rate
Target:	3.9 deaths per 100,000 population
Baseline:	21.1 colorectal cancer deaths per 100,000 population

For more information on the *Healthy People 2010* initiative, please visit their website at www.health.gov/healthypeople.

An Introduction to Alexandria, Virginia

A Brief History

Incorporated in 1779, Alexandria, Virginia, began life as a port of entry for foreign vessels and as a major export center for international trade. In 1789, Alexandria became a part of the District of Columbia, and in 1847 was retroceded back to Virginia. A few years later, in 1852, Alexandria acquired city status.

Alexandria remained a principal trading center with great political, social, and commercial interests, and local residents were very active in its society, including George Washington in nearby Mt. Vernon.

Alexandria has always been known for its beautiful architecture, fine restaurants, and local shops. In recent years, Alexandria has experienced great commercial development, becoming a mecca for regional, national, and multinational organizations and headquarters.

Due to its geographic location and the growth of its political, social, and commercial interests, Alexandria continues to be a prominent neighbor and partner of the nation's capital.

Demographics

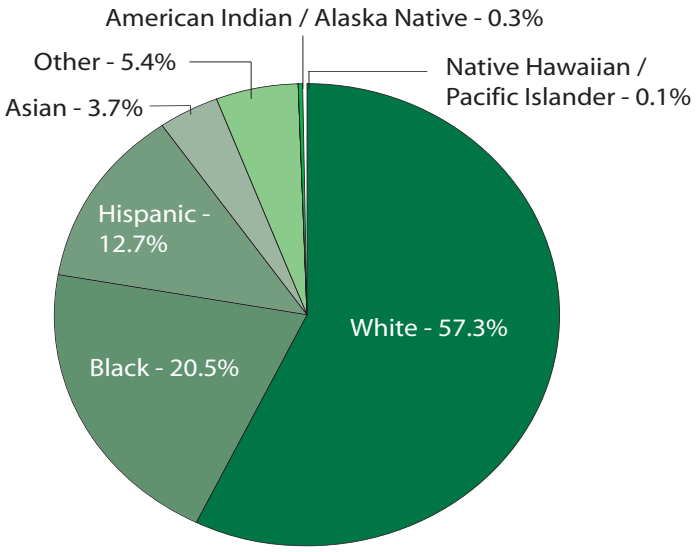
Alexandria, Virginia, is a cosmopolitan city that is considered part of both the Northern Virginia region and the Metropolitan Washington, D.C., area.

While relatively small in population (128,283 per Census 2000), Alexandria is densely populated within 15.75 square miles; it hosts 8,452 people per square mile, as compared to 179 persons per square mile in the Commonwealth of Virginia.

The Metropolitan Washington region is the 5th most frequent destination for legal U.S. immigrants. As such, Alexandria's population has grown increasingly diverse, with a wide variety of ethnic groups. The Alexandria City Public School system includes students from 88 different countries, who speak 69 native languages.

Chart 1-1

Racial Breakdown -- Alexandria



While Alexandria has an ever-increasing cost of living, the city continues to be characterized by extremes in society. The current estimated median household income in Alexandria is over $70,000, yet 8.9% of residents live below the federal poverty level. Additionally, it is estimated that 3.6% of Alexandria residents are without jobs, and 51% of school-aged children qualify for free or reduced lunch programs.

Quality of Life

Qualify of life is a construct that "connotes an overall sense of well-being when applied to an individual" and a "supportive environment when applied to a community." (Moriarty, 1996).

While qualify of life is very good in Alexandria, the community continues to strive for improvements. Some concerns include high rates of teenage pregnancy, risky behaviors commonly linked to serious health conditions, youth development, aging populations, and a lack of opportunities for persons with disabilities.

The Alexandria Police Department reported an overall decrease in serious crime in 2002, and a 46% decrease in violent crime over the last 10 years. The city is also working on factors such as traffic control, public transportation improvement, increasing open space, quality of education, and community safety, all in the interest of improving the quality of life for Alexandria residents.

An Introduction to Alexandria, Virginia

Health Systems & Availability

As one of 35 health districts in the Virginia Department of Health, the Alexandria Health Department (AHD) has provided public health services to Alexandria citizens since 1919. The AHD mission is to ensure the health of the public through:

- The assessment of preventive and public health services;
- The development of policy and planning;
- The assurance of compliance with all laws and regulations pertaining to public health in the city; and
- The assurance of access to preventive and primary health care services for all residents of Alexandria.

To achieve these goals, the AHD continuously monitors the health of the community, encourages and provides immunizations for preventable diseases, investigates and monitors infectious diseases, and provides direct medical services and health outreach.

However, this work is not accomplished alone; the AHD is widely supported. Resources are provided by many city-wide facilities and organizations, creating a unique health care situation. Some of these partners include:

- **Inova Alexandria Hospital (IAH)**, the only hospital in Alexandria, is a 339-bed community facility that has offered a full range of health care services to city residents for over 130 years.
- Nearly 500 primary care **physicians**, over 150 licensed **dentists**, and other independent fee-for-service clinics serving the Alexandria community.
- The **Alexandria Department of Mental Health, Mental Retardation, and Substance Abuse** (**MH/MR/SA**), including the **Alexandria Community Services Board**, providing behavioral health services.
- The **Arlandria Community Health Center** is a multicultural, independent, full service health center dedicated to providing excellent and affordable health care to all families.
- The **Alexandria Public Health Advisory Commission** (**APHAC**) is an advisory body that serves the community by representing citizens' health needs and concerns to Alexandria's Mayor and City Council.

Table 1-1 Health Resource Availability

Resource	Availability (Alexandria)
Dentists	76.4 per 100,000
Primary Care Physicians	219.9 per 100,000
Licensed Hospital Beds (IAH)	339
Local Health Department Employees	123.0 per 100,000

Health Indicators: Secondary Data Analysis

The CHA Steering Committee's first step in early 2003 was to research other health assessments and review the health indicators that were chosen to determine if those indicators would be applicable to Alexandria's assessment.

The committee chose to look at data in the following focus areas:

- Maternal and Child Health
- Behavioral and Mental Health
- Injury and Violence
- Chronic Disease
- Infectious Diseases

Secondary data was gathered from many different sources. To put city health data into perspective, Alexandria-specific data was compared to statistics for the Commonwealth of Virginia and *Healthy People 2010* targets.

Environmental Health and those specific indicators are not addressed in this Community Health Assessment. The Alexandria Health Department was a partner in the concurrent PACE-EH (Protocol for Assessing Community Excellence in Environmental Health) Environmental Health Assessment. Therefore, all environmental issues are referred to the PACE-EH project.

Maternal and Child Health

Maternal and child health often focuses on reducing infant mortality and morbidity, assessing and promoting prenatal and perinatal health of infants and women, and educating young adults about the importance of family planning. Maternal and child health also promotes screening for breast and cervical cancer.

Chart 2-1

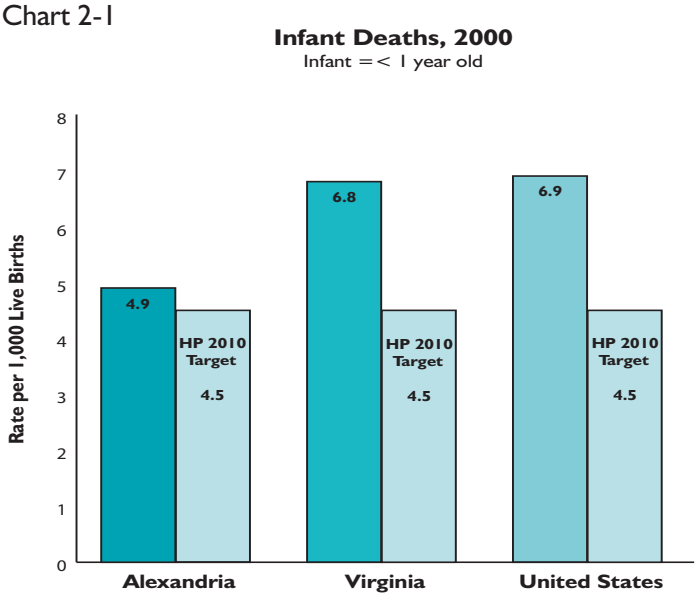
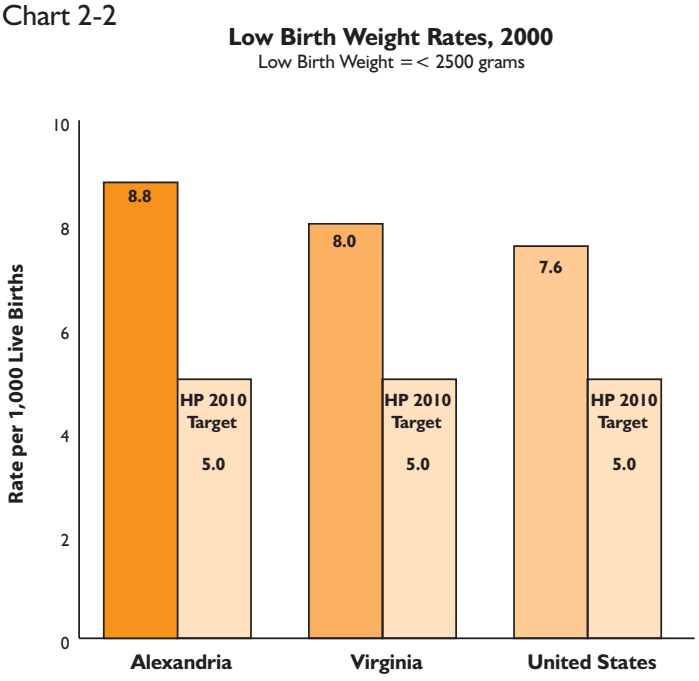


Chart 2-2



Health Indicators: Secondary Analysis

Maternal and Child Health, Cont'd.

Chart 2-3

Percent of Live Births beginning Prenatal Care during 1st Trimester

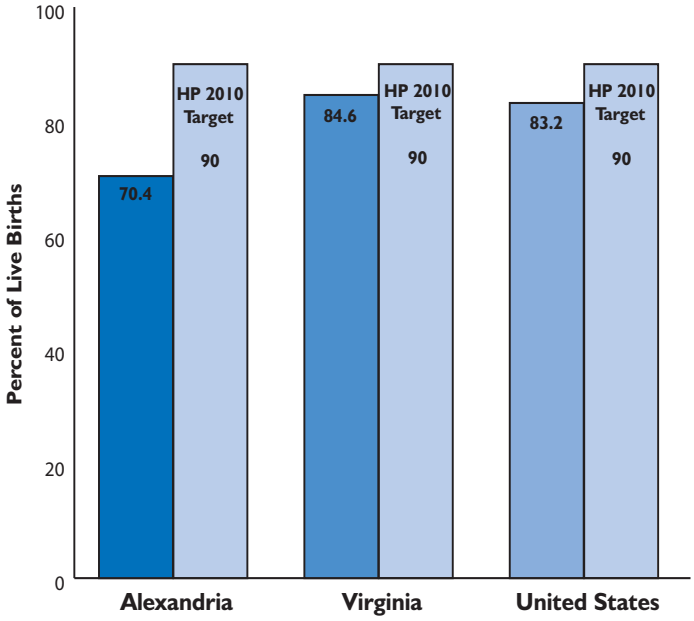


Chart 2-4

Teen Pregnancy Rates, 2000
15 - 17 Year Olds

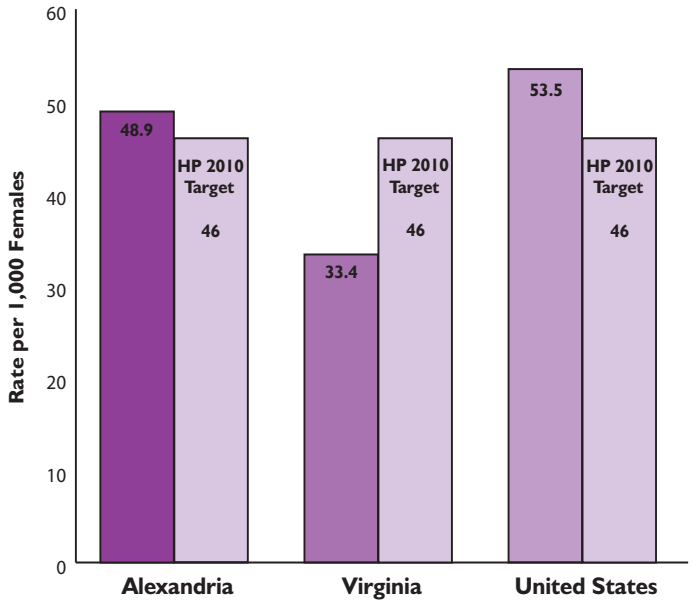


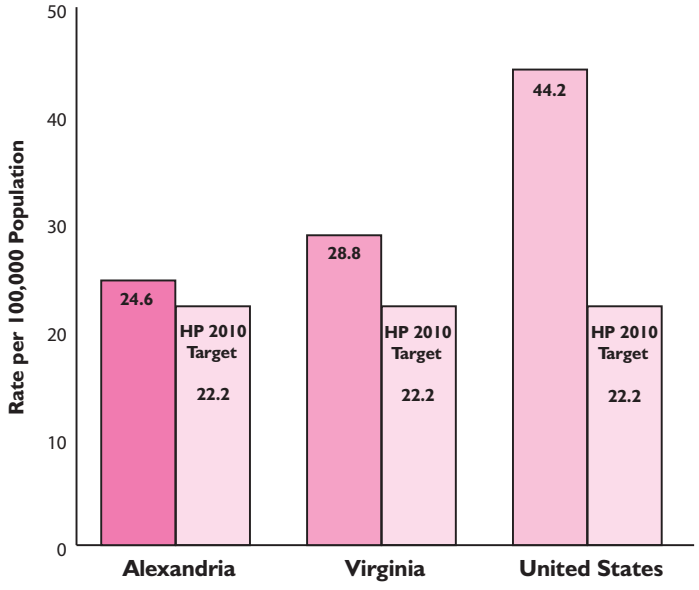
Table 2-1 Early Screening

Early Screening in Alexandria	
Pap Smear*	**91%** of women have had a Pap smear within the last 2 years
Mammography*	**54%** of women have had a mammogram

*Percent of age-specific female population

Chart 2-5

Age-Adjusted Death Rates due to Breast Cancer, 2000



Behavioral and Mental Health

Behavioral and mental health are interdependent in that the decisions people make with regard to behavior can affect their mental health (i.e., unhealthy eating habits and lack of exercise may increase stress levels and decrease self esteem to the extent that an individual feels depressed and anxious). Likewise, mental health influences behavioral health. When mental illness is present, an individual may make unhealthy behavioral decisions (i.e., a depressed person may self-medicate through illegal drugs, alcohol and tobacco).

Behavioral Health

Behavioral health refers to an individual's actions with regards to drug, alcohol, and tobacco use, eating habits, exercise, sexual activity, and other self-care decisions that affect one's physical and mental health.

Chart 3-1

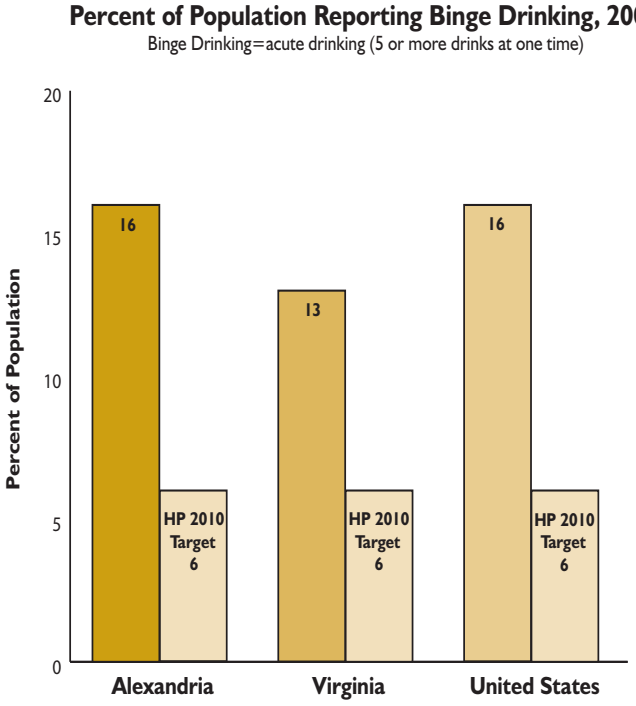


Chart 3-2

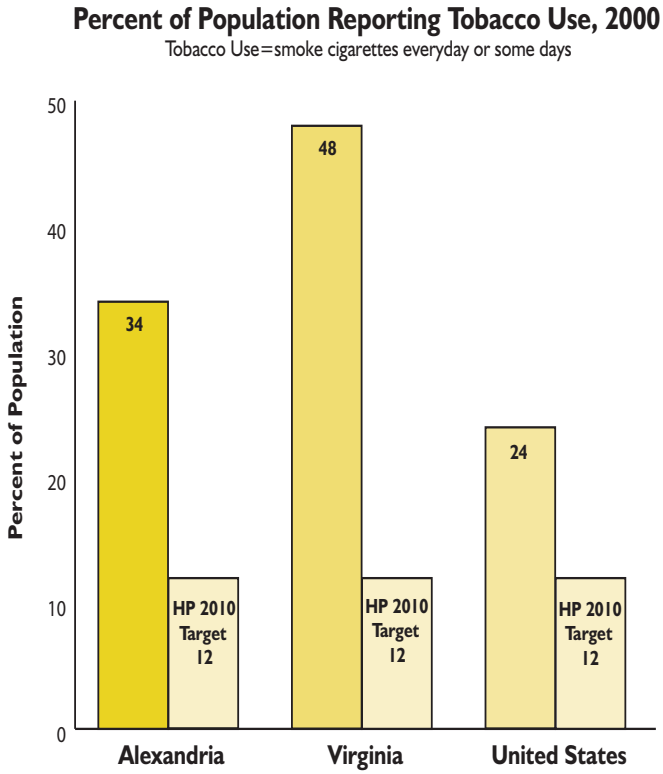
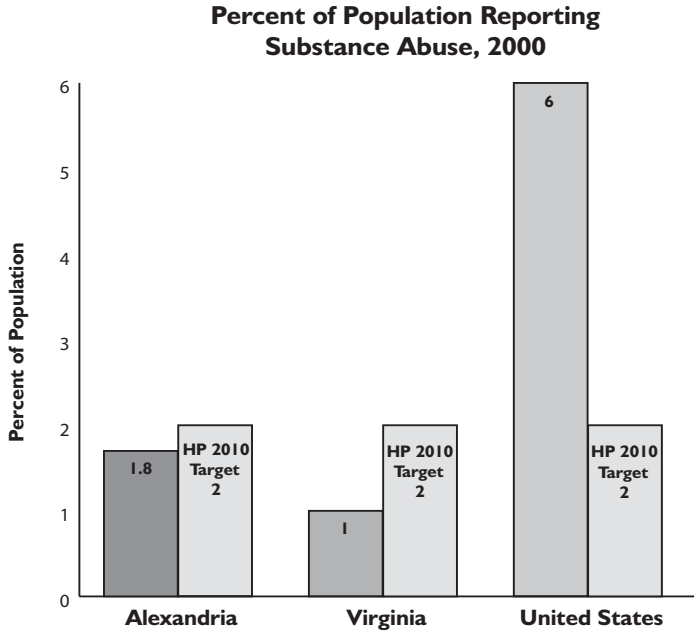
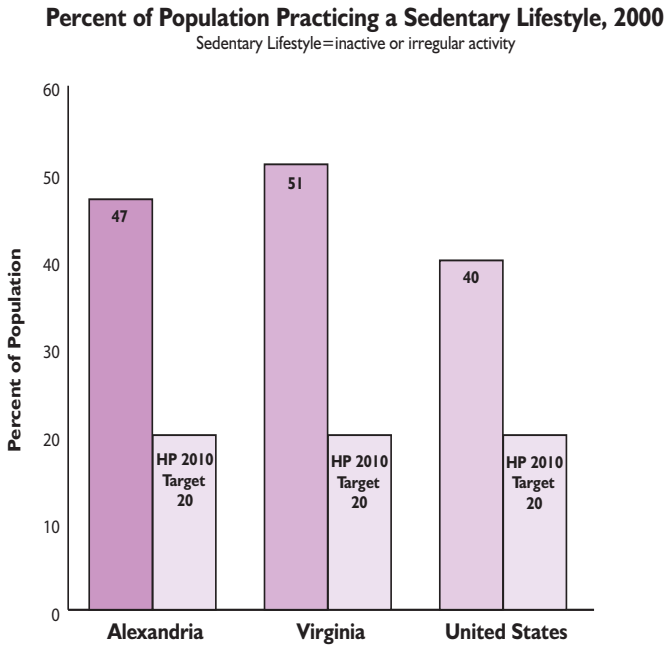


Chart 3-3



Behavioral and Mental Health, Cont'd.

Chart 3-4



Mental Health

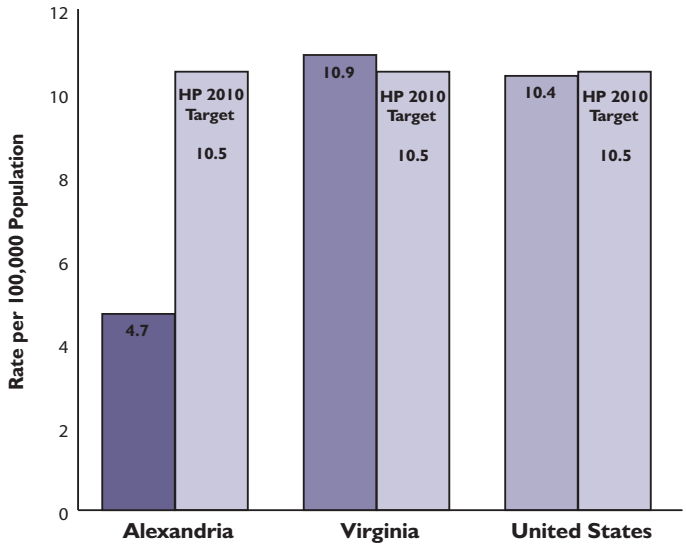
Mental health is a subjective state of well-being experienced when individuals feel that they are reasonably in control of their lives, able to face challenges, take on responsibility, manage emotions, maintain fulfilling relationships, adapt to change, and cope with adversity specific to the individual's values and cultures.

In FY 2004, Alexandria MH/MR/SA:

- Served 4,346 persons, with 2,547 of them seen for Mental Health issues, 465 for Mental Retardation and 1,857 for Substance Abuse (many of them were served in more than one disability area).
- Served 377 children and their families in the schools, community, home setting or central offices providing evaluations, therapy, and case management.
- Assisted 173 narcotic addicts to cease the use of illicit drugs as part of the Methadone program.
- Provided residential services to 238 adults in either a group home or supervised apartment setting.
- Provided vocational supports to 84 adults to secure employment using three different employment programs geared to varying needs of consumers.
- Provided medication, counseling, and substance abuse treatment services to 478 inmates at the Alexandria Detention Center.
- Provided case management and outreach services to 892 adults with mental health and substance abuse problems.
- Provided assessments, therapy, medication and psychiatric care to 2,000 adults with mental health and substance abuse problems.

Chart 3-5

Age-Adjusted Death Rates due to Suicide, 2000



Health Indicators: Secondary Analysis

Injury and Violence

Injuries are a leading cause of death among Americans of all ages, regardless of gender, race or economic status. The financial cost of injuries is estimated at more than $224 billion each year. Injuries and death can result from motor vehicle crashes, falls, fires, and poisonings. Firearms, robberies, and assaults can also lead to homicides and injury.

Chart 4-1

Age-Adjusted Death Rates due to Unintentional Injuries, 2000

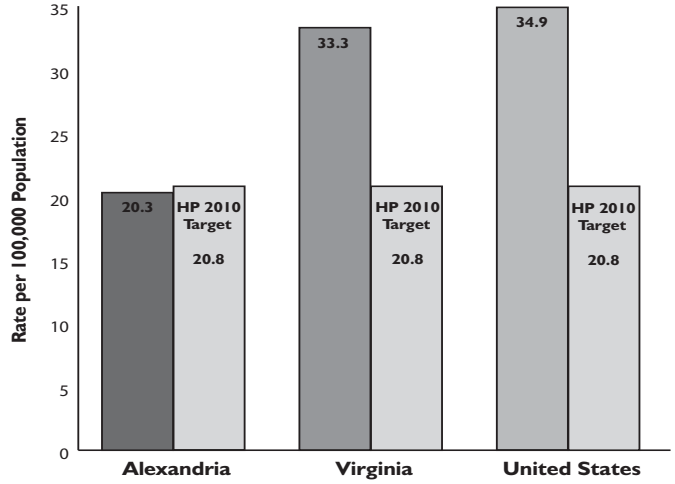
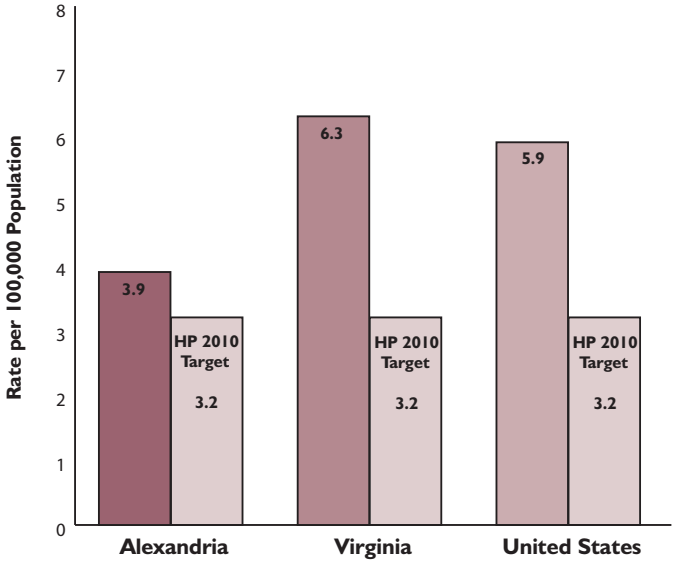


Chart 4-2

Age-Adjusted Death Rates due to Homicide and Legal Intervention, 2000



Chronic Diseases

Chronic diseases, such as diabetes, cardiovascular disease, and cancer, are extremely expensive to treat and among the most preventable health conditions. Many of these diseases relate back to behavioral health indicators listed previously, such as smoking and a sedentary lifestyle.

Chart 5-1

Age-Adjusted Death Rates due to Cardiovascular Disease, 2000

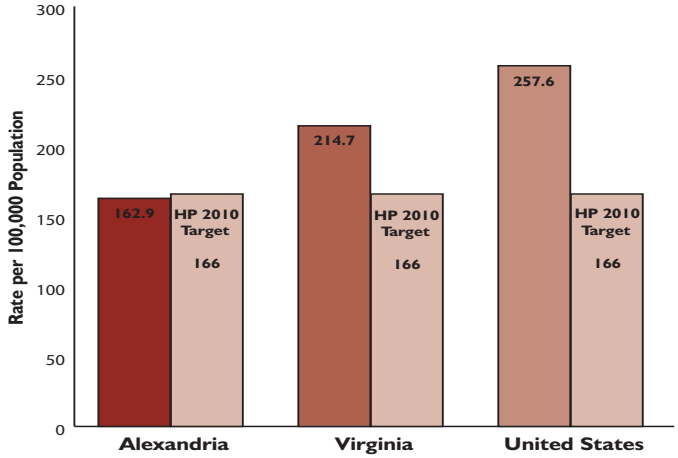
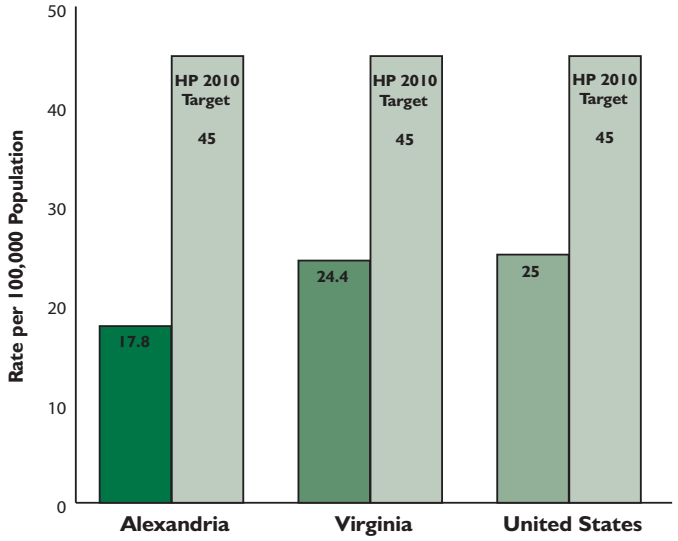


Chart 5-2

Age-Adjusted Death Rates due to Diabetes, 2000



Chronic Diseases, Cont'd.

Chart 5-3

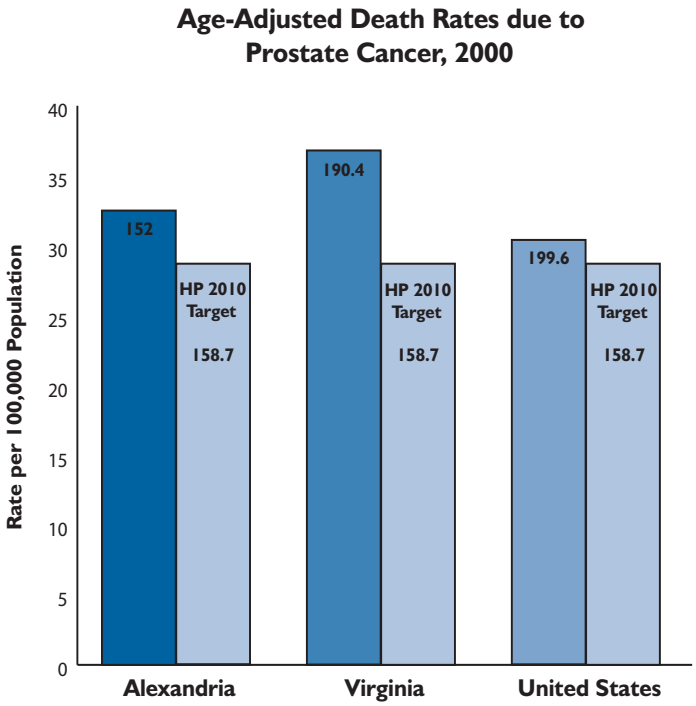


Chart 5-5

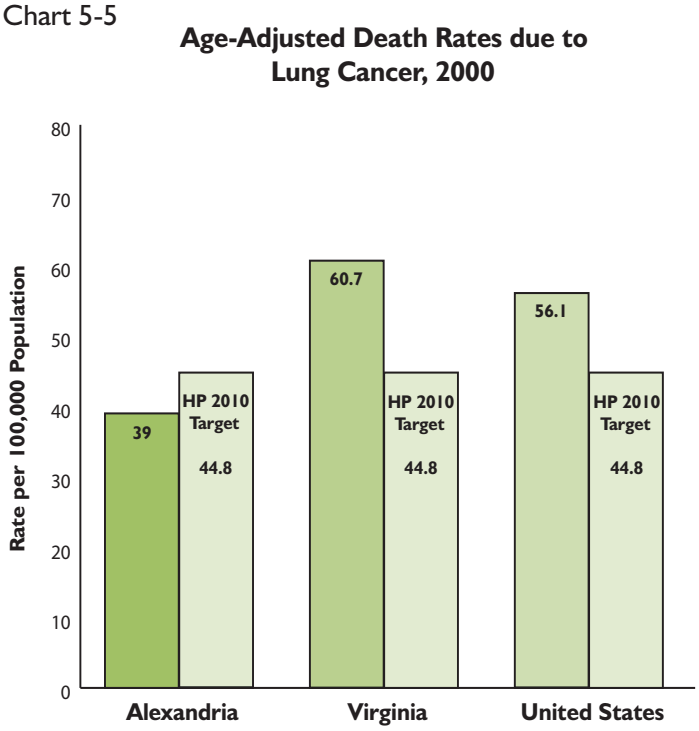
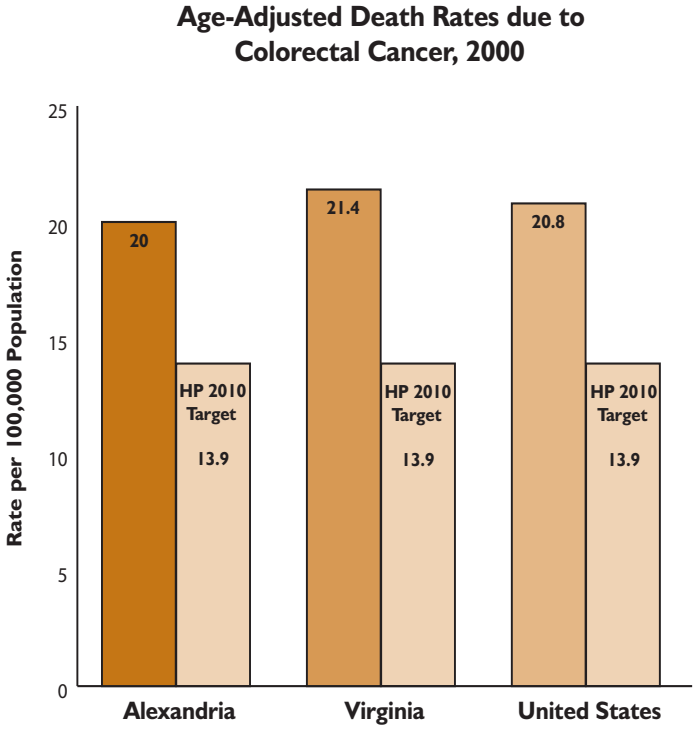


Chart 5-4



Health Indicators: Secondary Analysis

Infectious Diseases

Infectious diseases were once the leading causes of death in the United States. However, public health actions such as improving sanitary conditions, implementing vaccine initiatives, and introducing the concept of post-exposure prophylaxis and other interventions helped to stem disease transmission.

Infectious diseases can be transmitted directly from person-to-person, through the air, by inanimate objects (such as food), or through intermediate live carriers, such as mosquitoes or fleas. Examples of infectious diseases include tuberculosis, Hepatitis A, HIV (which can lead to AIDS), and influenza.

Chart 6-1

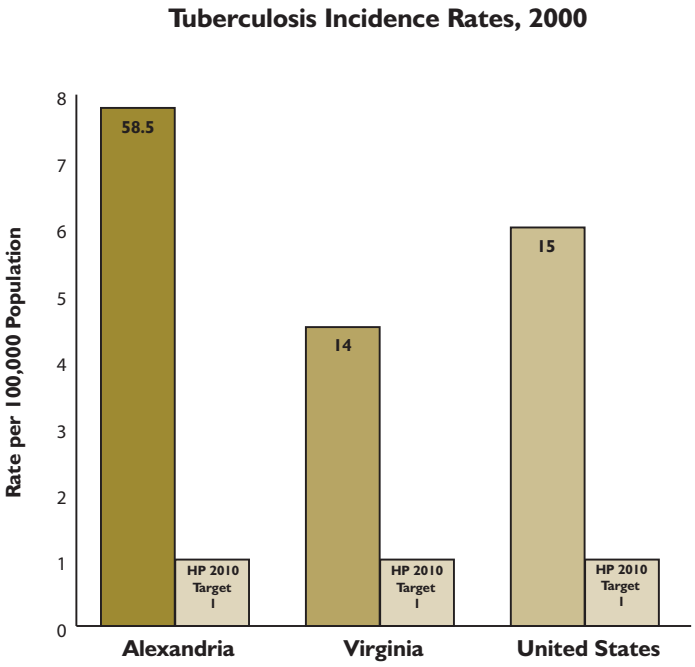
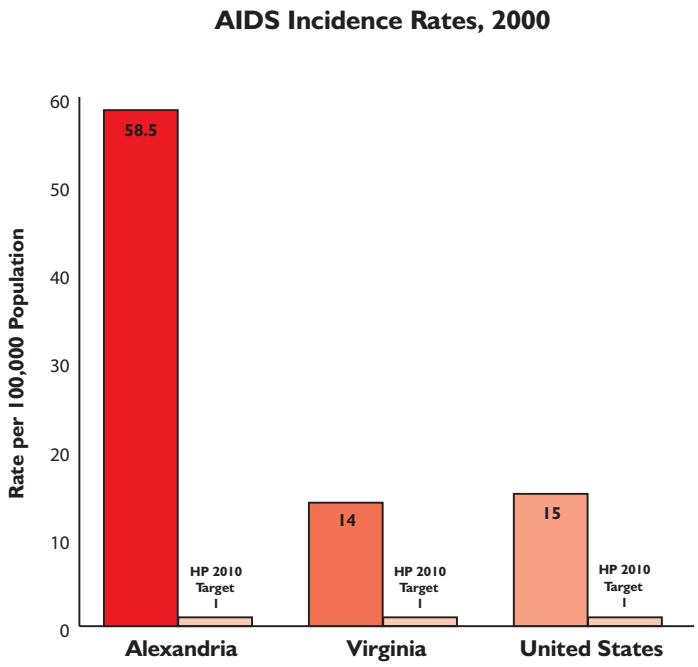


Chart 6-2



Infectious Diseases, Cont'd.

Chart 6-3

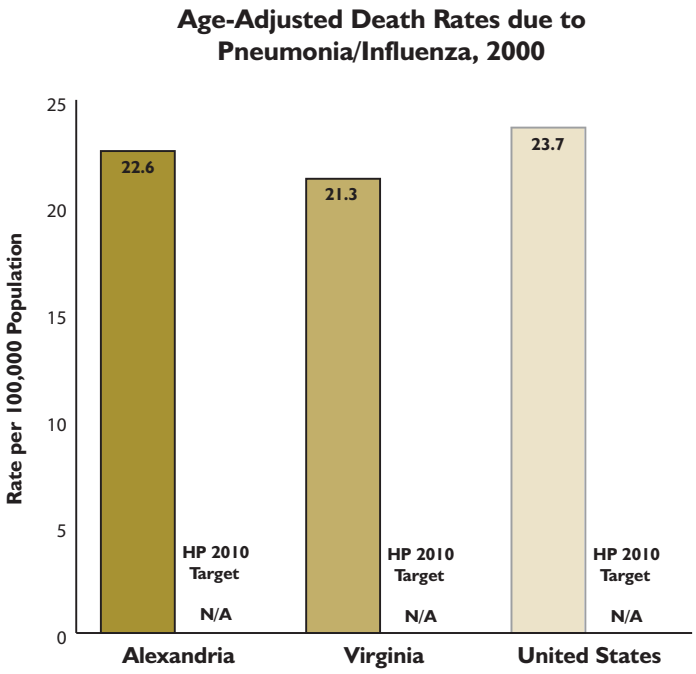
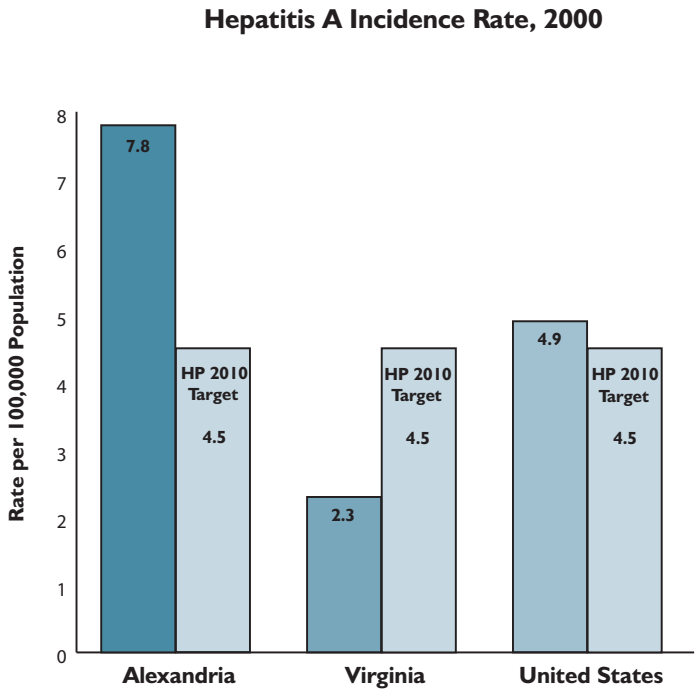


Chart 6-4



Ranking and Prioritization

All health problems in a community are important; however, resources are often limited. In order for resources to be most effectively used, the CHA Steering Committee considered which health issues present the best opportunity to make a difference in the quality of life and overall health status of Alexandrians.

To determine priorities for the assessment, the Steering Committee decided the most important factors were 1) changeability and 2) importance. All health indicators were ranked using a 2x2 table for High or Low changeability and importance.

Changeability – defined to include effectiveness of interventions and preventability of a condition.

- Considerations: Is the problem amenable to interventions? Are interventions scientifically feasible and acceptable to the community? What resources are necessary to effect a change, and is this problem preventable? Are there any associated risk behaviors, preventive behaviors, adherence concerns, known treatments, or successfully reported programs?

Importance – defined to include urgency, seriousness, and magnitude of the problem.

- Considerations: How many persons does the problem affect, actually or potentially? What are the morbidity, mortality, incidence, prevalence, and disability rates in Alexandria? What is the duration of the condition, and how does it affect the health care system? What degrees of disability or premature death occur because of the problem? What potential burdens, economic or social, could it cause for Alexandria?

All indicators that were considered to have high importance and high changeability (quadrant I) were then ranked according to the following selection factors: 1) Economic impact, 2) Political support, 3) Affordability of action, and 4) Legal constraints.

For the remaining factors, each issue was rated on a scale of 1-4, 1 being most desirable, and 4 being least desirable.

- **Economic Impact** – defined as the impact this condition has on Alexandria in terms of work loss and treatment.

- **Political Support** – defined as the amount of national, state and local support that is currently shown, or that could be obtained.

- **Affordability of Action** – defined as how much it will cost to prevent the condition, promote healthy behaviors, and implement an intervention. The group also considered how much it would actually cost Alexandria, since some conditions provide the opportunity for grants and assistance from other organizations.

- **Legal Constraints** – are there legal constraints that would hinder an intervention?

These factors were weighted and combined with the factors from the 2x2 table.

Changeability		
	High/Low (II)	High/High (I)
	Low/Low (III)	Low/High (IV)

Importance

Secondary Data Priority List

	Changeability/ Importance	Economic/ Political	**Secondary Data Priority List**
1	Obesity	Obesity	Obesity
2	Substance Abuse	Cardiovascular Disease	Tobacco Use
3	Tobacco Use	Breast Cancer	Substance Abuse
4	HIV / AIDS	Tobacco Use	Cardiovascular Disease
5	Teen Pregnancy	Substance Abuse	Influenza
6	Influenza	Colorectal Cancer	Teen Pregnancy
7	Cardiovascular Disease	Influenza	HIV / AIDS
8	Breast Cancer	Tuberculosis	Breast Cancer
9	Colorectal Cancer	Teen Pregnancy	Colorectal Cancer
10	Tuberculosis	HIV / AIDS	Tuberculosis

Engaging the Community: Primary Data Analysis

Survey of Residents' Health Perspectives: A Social Assessment

To augment the Community Health Assessment, the CHA Steering Committee turned to gathering public opinion via a Community Perspectives Survey (see Appendix 1), designed to identify any differences between the priority list developed from the secondary data analysis and the knowledge and opinions of community members. This information helped the Committee ensure that the needs and concerns of the community were addressed.

Goal:

Gather perceptions of Alexandria residents on various health issues to augment the secondary data analysis.

The Community Perspectives Survey was conducted in partnership with George Washington University (GWU). Two graduate students from GWU's School of Public Health and Health Services led this process in conjunction with a subcommittee of the CHA Steering Committee. The subcommittee served as an expert panel to the GWU students for survey development and review of the survey design.

The survey consisted of 44 items to supplement the five focus areas identified during the secondary data analysis, e.g., maternal and child health, behavioral and mental health, injury and violence, chronic disease, and infectious diseases. The survey also asked questions pertaining to health services for future use in the development of action plans to address the identified health problems from this CHA.

Validity of the survey was achieved by cognitive and pilot testing of the instrument. A sample of 383 surveys was determined to be necessary to achieve statistical significance. Telephone numbers were called at random using a method illustrated in the *Journal of Health Studies (see Appendix 5)*. The survey was also translated into Spanish and administered by bilingual interviewers to ensure responses from the non-English speaking Hispanic/Latino population.

Steering Committee members and volunteers from GWU and Alexandria's T.C. Williams High School conducted interviews from January 5, 2004, to February 7, 2004, 6:30pm to 9:30pm on weekdays, and 12:00pm to 5:00pm on weekends. For survey details, see Appendix 2.

Ranking & Prioritization

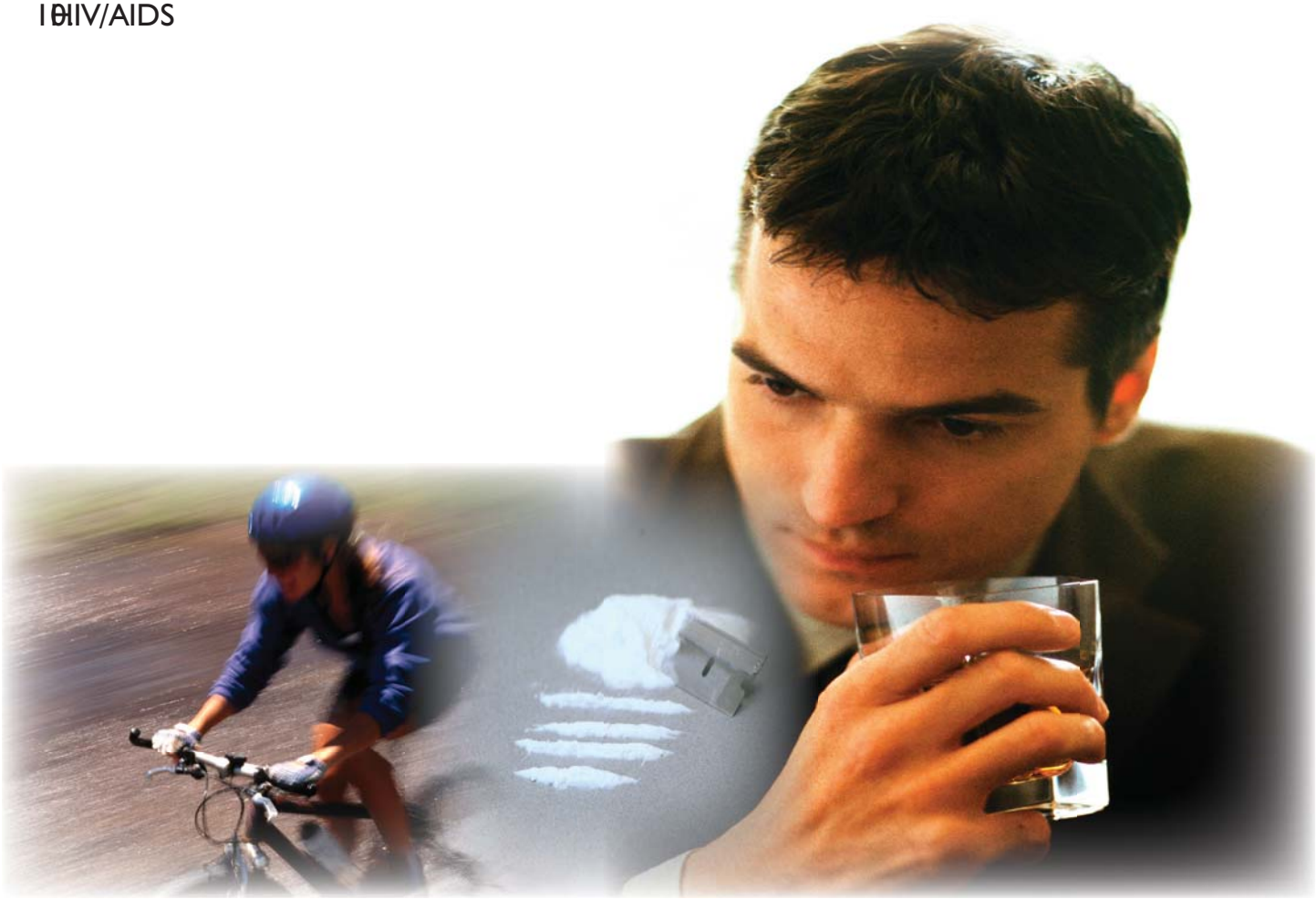
A list of priority health indicators, in order of importance, was created based on the problems Alexandria residents felt were the greatest threats to the health of their community. These ranked as follows:

1 Influenza
2 Obesity
3 Poor Eating Habits
4 Lack of Exercise
5 Mental Health Illness
6 Diabetes
7 Cardiovascular Disease
8 Substance Abuse
9 Severe Accidents and Injuries
10 HIV/AIDS

No significant gaps were discovered in awareness or knowledge of health issues within the community. External confounders may have introduced an emphasis on community concern for influenza due to the high media coverage of the 2003-2004 flu season. Obesity, exercise and nutrition were also prominent in the media with the announcement of obesity as a national epidemic.

The largest proportion of residents identified obesity and mental illness as problem areas in the community. Poor eating habits and lack of exercise ranked as the most problematic health behaviors. Both of these behaviors contribute to obesity, the chronic disease considered to be the worst problem in the United States.

The next step was to compare the results of the survey to the results of the secondary data analysis.



A Priority List for Action

After careful consideration of the objective data available from both the secondary and primary data collections, the CHA Steering Committee formed a priority list for action. The final list shown below incorporates all factors previously mentioned and items that are already being addressed in Alexandria:

	Secondary Data Priority List	Primary Data Priority List	Final Priority List
1	Obesity	Influenza	**Obesity**
2	Tobacco Use	Obesity	**Tobacco Use**
3	Substance Abuse	Poor Eating Habits	**Substance Abuse**
4	Cardiovascular Disease	Lack of Exercise	**Influenza**
5	Influenza	Mental Health Illnesses	**Cardiovascular Disease**
6	Teen Pregnancy	Diabetes	**Diabetes**
7	HIV / AIDS	Cardiovascular Disease	**Teen Pregnancy and HIV / AIDS**
8	Breast Cancer	Substance Abuse	**Breast Cancer and Colorectal Cancer**
9	Colorectal Cancer	Severe Accidents / Injuries	**Severe Accidents / Injuries**
10	Tuberculosis	HIV / AIDS	**Tuberculosis**

1) Obesity

In the United States, obesity has risen at an epidemic rate during the past 20 years. The 1999-2000 National Health and Nutrition Examination Survey (NHANES) estimates that 64% of U.S. adults are either overweight or obese, defined as having a Body Mass Index (BMI) of 25 or more.

Body Mass Index is a common measure expressing the relationship (or ratio) of weight to height, in which a person's body weight in kilograms is divided by the square of their height in meters:

$$\mathbf{BMI = wt/(ht)^2}$$

Individuals with a BMI of 25 to 29.9 are considered overweight, while individuals with a BMI of 30 or more are considered obese.

- The percentage of children and adolescents who are defined as overweight has more than doubled since the early 1970s.
- About 15% of children and adolescents are now overweight.

Risk Factors and Contributing Factors

Sedentary lifestyle
Poor eating habits
Genetic factors
Metabolic disorders

Adverse Consequences

High blood pressure
High cholesterol
Diabetes
Heart disease
Stroke
Gallstones
Arthritis
Respiratory problems
Some types of cancers (such as breast, endometrial, prostate and colon)
Complications of pregnancy
Psychological disorders (such as depression, eating disorders, distorted body image, and low self esteem)

A Priority List for Action

2) Tobacco Use

Tobacco use, especially cigarette smoking, is the single most preventable cause of disease and premature death in the United States. Each year, 440,000 people die of diseases caused by smoking or other forms of tobacco use. This represents 20% of all deaths in the U.S. and more than five million years of potential life lost.

- Studies suggest that every dollar spent on stop-smoking programs for pregnant women would save $3 in neonatal intensive care costs.
- Smokers who successfully stop smoking reduce their potential medical costs associated with heart attack and stroke by about $47 during the first year, and by about $853 during the following seven years.

Risk Factors and Contributing Factors

Peer pressure

Availability

Attitude of no-risk associated with tobacco use

Parent/guardian/mentor who smokes or uses chewing tobacco

Adverse Consequences

Lung cancer

Chronic lung disease

Heart disease

Stroke

Smoking is linked to miscarriages, premature delivery, low birth weight, and SIDS (Sudden Infant Death Syndrome)

Lung and ear infections attributed to second-hand smoke

Cancer of the mouth, pharynx and larynx, esophagus, and/or stomach

3) Substance Abuse

According to the U.S. Centers for Disease Control and Prevention (CDC), each year there are about 100,000 deaths in the United States related to alcohol consumption, and at least another 12,000 deaths are related to illicit drug abuse and related AIDS deaths. The economic impact of substance abuse is also phenomenal, with an estimated cost of $276 billion in 1995.

Risk Factors and Contributing Factors

- Peer pressure
- Availability
- Attitude of no-risk associated with substance abuse
- Parent/guardian/mentor who has substance abuse problem

Adverse Consequences

- Motor vehicle crash deaths and injuries
- Cirrhosis deaths
- Drug-induced deaths
- Drug-related hospital emergency department visits
- Alcohol-related hospital emergency department visits
- Alcohol-and-drug related violence
- Lost productivity
- HIV infection associated with drug use
- Increased risk for high blood pressure, heart disease and stroke, and cancer
- Memory loss

A Priority List for Action

4) Influenza

Influenza (commonly called "the flu") is a contagious respiratory illness caused by influenza viruses. The virus is spread from person to person in respiratory droplets from coughs or sneezes. Infection with influenza viruses can result in illness ranging from mild to severe with life-threatening complications.

An estimated 10% to 20% of U.S. residents get the flu each year. In an average year, the flu causes 36,000 deaths in the U.S.

Symptoms of the flu include fever, headache, fatigue, dry cough, sore throat, runny or stuffy nose, and muscle aches. Gastrointestinal symptoms, such as nausea, vomiting and diarrhea, are more common among children than adults.

Risk Factors and Contributing Factors

The young and the elderly

Individuals not receiving their yearly influenza vaccination

Communal living, such as assisted living, nursing homes or jails

Adverse Consequences

Pneumonia

Reye's syndrome (primarily seen in children who take aspirin)

Myocarditis

Death

Hospitalization

5) Cardiovascular Disease

The leading components of cardiovascular disease are heart disease and stroke. Heart disease and stroke are, respectively, the first and third leading causes of death in the U.S. and Alexandria. About 950,000 Americans die of cardiovascular disease each year, which amounts to one death every 33 seconds.

Looking only at deaths due to heart disease or stroke often understates the health effects of these conditions. Almost one-fourth of Americans are living with some form of cardiovascular disease.

Risk Factors and Contributing Factors

- Tobacco use
- Obesity
- High blood pressure
- High cholesterol
- Type 2 diabetes
- Poor nutrition
- Physical inactivity

Adverse Consequences

- Death
- Heart attack
- Surgical procedures
- Decreased quality of life
- Medication requirements

A Priority List for Action

6) Diabetes

Diabetes occurs when the body either does not make enough insulin or cannot use its own insulin as well as it should. Diabetes is the seventh leading cause of death in the U.S., and the ninth leading cause of death in Alexandria.

Type 1 Diabetes is also known as insulin-dependent diabetes mellitus (IDDM) or juvenile-onset diabetes. Type 1 diabetes may account for 5% to 10% of all diagnosed cases of diabetes.

Type 2 Diabetes is also known as non-insulin-dependent diabetes mellitus (NIDDM) and until recently was only seen in adults. Type 2 diabetes accounts for about 90% to 95% of all diagnosed cases of diabetes.

Risk Factors and Contributing Factors

Type 1 Diabetes:

Autoimmune conditions

Genetics

Environmental factors

Type 2 Diabetes:

Unhealthy behaviors

Obesity

Family history of diabetes

Prior history of gestational diabetes

Physical inactivity

Race/ethnicity-African Americans, Hispanic/Latino Americans, American Indians and some Asian Americans and Pacific Islanders are at high risk for Type 2 Diabetes

Adverse Consequences

Heart disease

Blindness

Kidney failure

Lower-extremity amputations

Decreased quality of life

Medication requirements

7) Teenage Pregnancy & HIV/AIDS

Teenage Pregnancy

According to the National Campaign to Prevent Teen Pregnancy, reducing teen pregnancy rates "is one of the most strategic and direct means available to improve overall child well-being and to reduce persistent child poverty.

Despite the recently declining teen pregnancy rates, 34% of teenage girls get pregnant at least once before they reach age 20, resulting in more than 820,000 teen pregnancies a year. At this level, the U.S. has the highest rate of teen pregnancy in the fully industrialized world."

Risk Factors and Contributing Factors

Unhealthy home environment (physical abuse, substance abuse)

Low self-esteem

Adverse Consequences

Decreased prenatal care

Low birth weight baby

Fetal death

Induced terminations

HIV/AIDS

The human immunodeficiency virus (HIV) was first reported in the U.S. in 1981 and since has caused a major worldwide epidemic. By attacking the body's immune system, HIV progressively destroys the body's ability to fight infections and leads to acquired immunodeficiency syndrome (AIDS). Untreated, AIDS results in death; however, through complex and expensive treatment, some people are able to live productive lives.

Risk Factors and Contributing Factors

Unprotected sex

Multiple sex partners

Intravenous drug use

STDs

Adverse Consequences

Complex and expensive treatment

Increases susceptibility to other infections

A Priority List for Action

8) Breast Cancer & Colorectal Cancer

Breast Cancer

Breast cancer is second to lung cancer as the leading cause of cancer-related deaths among women in the U.S. Except for skin cancer, breast cancer is the most commonly diagnosed cancer among American women.

Risk Factors and Contributing Factors

- Obesity
- Family history of breast cancer
- Previous breast disease
- Advanced age

Adverse Consequences

- Death
- Surgical procedures
- Medication requirements
- Mental health issues
- Decreased quality of life

Colorectal Cancer

Colorectal cancer (cancer of the colon and/or rectum) is the second leading cause of cancer-related deaths in the U.S., and one of the most commonly diagnosed cancers. The American Cancer Society estimates that 57,100 Americans will die of colorectal cancer in 2004.

Risk Factors and Contributing Factors

- Advanced age
- Inflammatory bowel disease
- Personal or family history of colorectal cancer or colorectal polyps
- Certain hereditary syndromes
- Lack of regular physical activity
- Low fruit and vegetable intake
- Low-fiber and high-fat diet
- Obesity
- Alcohol consumption and tobacco use

Adverse Consequences

- Death
- Surgical procedures
- Medication requirement
- Mental health issues
- Decreased quality of life

9) Severe Accidents and Injuries

As stated previously, injuries are a leading cause of death among Americans of all ages. Millions of Americans are injured each year. Although they may survive, their lives are often drastically altered by disability and/or pain.

Risk Factors and Contributing Factors

- Substance abuse
- Major vehicle crashes
- Firearms
- Poisonings
- Fires
- Violence

Adverse Consequences

- Mental/physical disability
- Medical care costs
- Rehabilitation

A Priority List for Action

10) Tuberculosis

Tuberculosis (TB) is a disease caused by the bacteria *Mycobacterium tuberculosis*. The bacteria can attack any part of the body, but usually attacks the lungs. However, not all persons infected with TB develop the disease.

Tuberculosis was once the leading cause of death in the United States, but with the discovery of new drugs in the 1940s, TB began to decrease in the U.S. Although TB can be treated, it can become life-threatening when combined with other medical conditions.

Risk Factors and Contributing Factors

- HIV infection
- Recently infected with *M. tuberculosis*
- Certain medical conditions, such as diabetes and end-stage renal disease
- Injection of illicit drugs
- History of inadequately treated TB

Adverse Consequences

- Long-term drug treatment
- Susceptibility to other lung infections
- Painful shortness of breath
- Anorexia
- Chest pains
- Pleural effusion
- Affects other organ systems (e.g., joints and bones, lymphatic, central nervous system, genital and urinary systems)
- Respiratory failure
- Death

Creating a Healthier Alexandria: A Foundation for the Future

This Community Health Assessment presents Alexandria with a picture of its community's health status. The report also provides the community with some targets of opportunity to improve its health status in some key areas. While Alexandria is healthier as a whole than many areas of Virginia, there is definitely room for improvement. The priority list should not come as a surprise.

- The epidemic of obesity in this nation has been well documented and publicized recently.
- Annually, over 400,000 deaths are directly attributable to tobacco use.
- Type 2 diabetes is also on the rise in the nation.
- Lifestyle factors, including nutrition, exercise, tobacco use, and others, all interrelate to contribute to the excessive burden of chronic disease.
- Screening and early detection are essential to lowering the cancer death rates in Alexandria.
- Influenza can be largely prevented with a safe and effective vaccine.
- The city has recognized for over a decade the stubborn and seemingly intractable problem of teen pregnancy.
- Injuries and violence are preventable conditions and can be thought of as public health problems.

Community-based interventions to lower the burden of chronic diseases, cancers, violence, and other factors can be effective. Examples include lowering the exposure to secondhand tobacco smoke; improving the built environment to make the community a safer place to drive and walk; and improving screening, early detection and early treatment for cancers, heart disease, hypertension, diabetes, and other diseases.

Improving the health of our citizens is a community issue. The challenge to the community, not just for a particular agency, is to decide upon a small number of these targets of opportunity where some extra efforts will make a difference over time. There are no quick fixes, but small changes over a period of time can make a difference in morbidity and mortality.

It is proposed that a Partnership for a Healthier Alexandria be created and staffed to follow up on this report and organize efforts to improve a select number of priority health issues. These efforts should be linked to ongoing and additional efforts to ensure that every Alexandria resident has access to preventive and primary care so that screening, diagnosis and health education can be a reality for all.

An investment by Alexandria in the health of all its people can only pay off in the long run, with lower health care costs, better quality of life, and a more productive community.

Appendix 1:
Community Health Perspectives Survey

Survey of Residents' Health Perspectives/Social Assessment

Public Opinion was gained through a Community Perspectives Survey, which was used to make any final adjustments to the priority list by identifying any gaps between the statistics and the knowledge and opinions of the community members. The information from this survey will also help us to assess where the community is ready for change, and indicate if they will be accepting to a community intervention. It also helps to ensure that we are meeting the needs of the community and addressing their concerns.

The Community Perspectives Survey was done in partnership with George Washington University. This process was led by two graduate students from GWU's School of Public Health and Health Services.

A sub-committee was formed from the larger steering committee to serve as an expert panel for ideas, advice and review of the survey design and implementation strategies.

Mission: Gather perceptions of Alexandrians on various health issues to augment the Community Health Assessment.

The result was a 44-item survey focusing on: Health Status, Chronic and Infectious Diseases, Health Behavior, and Health Services. Demographic information was also gathered to provide a more complete analysis of the results.

Perceptions regarding chronic and infectious diseases were gathered using a modified Likert Scale with answers ranging from "major problem, minor problem, no problem, or don't know," and perceptions regarding health behaviors were answered using a yes/no format. Finally, health services questions were asked using a combination of two questions to discover the community's beliefs in the importance of the service and to learn where they would seek these services.

Instrument:
Telephone Survey
44 Questions

Focus Areas: Health Status
Chronic and Infectious Diseases
Health Behavior
Health Services
Demographics

Sample Size: 383 Respondents
Translation: Spanish

Telephone Survey:

- Appropriate for those with limited literacy skills
- Results in more complete responses because interviewer fills out questionnaires
- Can control question sequence

Limitations of Telephone Survey:

- Potential respondents without phones cannot participate
- Respondents may hang up if they believe the survey is part of a solicitation call or they don't want to take time to participate

Sampling

The sample size was established by estimating the number of responses needed to ensure the desired level of validity and to guarantee confidence in the results by using the population size of Alexandria, 128,314. A sample of 383 was determined to achieve the desired level of precision with a sampling error no greater than +- 5% at a 95% confidence level. Phone numbers were called at random using a method described in the *Journal of Health Studies*.

Testing and Validity

Content and face validity of the survey tool were achieved through ongoing communication with the expert panel and cognitive and pilot testing of the instrument (5%). Cognitive testing was conducted to evaluate the language of the survey questions by asking probing questions after each item to determine if the interviewee understands all components of the question. Pilot testing was then conducted to ensure face validity. There were no major changes as a result of the pilot study, so these surveys were included as part of the study sample.

Translation

To ensure a diversity of responses from potential participants, the survey was translated into Spanish, and bi-lingual interviewers were available to conduct these calls.

Recruitment and Training of Volunteer Workforce

Health Assessment staff and volunteers from Alexandria's T.C. Williams High School and George Washington University conducted interviews. Volunteers were trained by the health assessment staff prior to their first session of calls. The calling schedule varied to maximize number of citizens at home willing to answer the survey. The most common times were weekdays from 6:30-9:00pm and weekends from 12:00-5:00pm.

Hi, my name is _____. And, I'm calling from the Alexandria Health Department; we are conducting a survey to get opinions about health issues in Alexandria. Your phone number was chosen at random, and I would appreciate your help. The survey will take less then ten minutes of your time. Would you be willing to answer our questions? Thank you

No information you provide will identify you.

Is English your primary language?
If No- Are you comfortable taking this survey in English?
If No- Is there an adult in your home who speaks English?

1. **Are you 18 years of age or older?** *If no, may I please speak to an adult member of the household?*

If no, thank you this survey is for adults only. Good night

2. **What is your zip code?**

3. **Please tell me if you think the following conditions are a problem in Alexandria.** For each, please tell me if you think it is a Major problem - Minor Problem – or No problem. If you are unsure, you may answer that you do not know: (repeat if necessary- after each).

- Obesity
- Severe accidents or injuries
- High blood pressure
- Stroke
- Breast Cancer
- Heart Disease
- Liver Disease
- Mental Health Problems, including depression
- Lung Cancer
- Diabetes

4. **Please tell me if you think the following behaviors are a problem in Alexandria.** For each, please answer, it is are a problem or no it is not a problem, or if you don't know.

- Child Abuse/Neglect *Yes/No/DK*
- Second Hand Smoke *Yes/No/DK*
- Substance Abuse such as the use drugs and alcohol *Yes/No/DK*
- Gun or Firearm Use *Yes/No/DK*
- Teenage Pregnancy *Yes/No/DK*
- Seatbelt use *Yes/No/DK*
- Smoking *Yes/No/DK*
- Lack of Exercise *Yes/No/DK*
- Poor eating habits *Yes/No/DK*

Now I have a few questions about health services in Alexandria.

5. Do you think it is - *important-somewhat important or not important* - for individuals to see a dentist?

- Important
- Somewhat Important
- Not Important

6. Where would you go to receive dental services?

- Private Dentist/HMO
- Health Department
- Hospital or Emergency Room
- Don't know
- Other

7. Do you think it is - *important-somewhat important or not important* - for individuals to seek mental health counseling when needed?

- Important
- Somewhat Important
- Not Important

8. Where would you go to receive mental health services?

- Private Counselor/HMO
- City Mental Health Services
- Services provided by your employer
- Don't know
- Other

9. Do you think it is - *important-somewhat important or not important* - for pregnant women to receive pre-natal care?

- Important
- Somewhat Important
- Not Important

10. If a woman in your family were pregnant, where would she go for pre-natal care?

- Private Physician/OBGYN/HMO
- Health Department
- Other clinic
- Don't know

11. Do you think it is - *important-somewhat important or not important* - for children to get immunizations?

- Important
- Somewhat Important
- Not Important

12. Where would you take a child to get immunizations?

- Private Physician/HMO
- Health Department
- An immunization day provided by school
- Don't know
- Other

13. Do you think it is - *important-somewhat important or not important* - for adults to get immunizations?

- Important
- Somewhat Important
- Not Important

14. Where would you go to receive immunizations?

- Private Physician/HMO
- Health Department
- Other
- Don't know

15. Please tell me if you think of the following diseases are a problem in Alexandria. For each, please tell me if you think it is a Major problem - Minor Problem – or No problem. If you are completely unsure, you may answer that you do not know: (repeat if necessary- after each).

- Pneumonia
- HIV/AIDS
- Other Sexually Transmitted Diseases, such as Herpes and Syphilis
- Tuberculosis/ TB
- Hepatitis
- Flu

16. In your opinion, what is the most important health problem in Alexandria?

Finally, we just have a few more questions about you.

17. Would you consider your health,

- Excellent
- Good
- Fair
- Poor

18. Are you between the ages of:

- 18-24
- 25-44
- 45-64
- 65+

19. Are you Male or Female? *Male/Female*

20. What is your ethnicity?

- White, non- Hispanic
- Black or African American
- American Indian or Alaska Native
- Asian
- Hispanic or Latino
- Native Hawaiian or other Pacific Islander
- Other please specify

21. What is highest grade that you completed in school?

- Less than High School
- High School
- Some College
- Associates Degree
- Bachelors Degree
- An Advanced Degree/s

22. Do you/your family have health insurance? *Yes/No*

That completes the survey. We will have the results shortly, If you would like to see the results, and how you helped the community health assessment you will be able to pick up a copy at the library or access the results on-line at the Alexandria Health Department website. Thank you very much for your time. Good night.

Appendix 2: CHP Survey Results

At the bottom of Table 1, infectious diseases have also been listed according to the proportion of responses indicating the condition was a problem in Alexandria. While nearly half of respondents felt flu was a major problem, less than one-tenth of those surveys felt tuberculosis was a major problem for the city.

Table 1: Chronic and Infectious Disease Results

	MAJOR PROBLEM # (%)	MINOR PROBLEM # (%)	NO PROBLEM # (%)	DON'T KNOW #(%)
CHRONIC DISEASES				
OBESITY	147 (38.6%)	149 (38.8%)	16 (4.2%)	70 (18.3%)
MENTAL ILLNESS	179 (47%)	99 (26%)	18 (4.7%)	85 (22.3%)
DIABETES	166 (43.6%)	95 (24.9%)	20 (5.2%)	101 (26.4%)
HEART DISEASE	191 (50.1%)	69 (17.8%)	20 (5.2%)	102 (26.7%)
SEVERE ACCIDENTS OR INJURIES	152 (39.8%)	102 (26.7%)	25 (6.5%)	103 (27%)
HIGH BLOOD PRESSURE	82 (21.5%)	165 (43.3%)	40 (10.5%)	95 (24.9%)
LUNG CANCER	88 (23%)	145 (38%)	33 (8.6%)	116 (30.4%)
BREAST CANCER	119 (31.2%)	110 (28.6%)	26 (6.8%)	127 (33.2%)
STROKE	101 (26.4%)	111 (29.1%)	29 (7.6%)	141 (36.9%)
LIVER DISEASE	38 (9.9%)	149 (39%)	38 (9.9%)	157 (41.1%)
INFECTIOUS DISEASES				
FLU	173 (45.3%)	149 (39%)	17 (4.5%)	43 (11.3%)
HIV/AIDS	130 (34%)	123 (32.2%)	18 (4.7%)	111 (29.1%)
SEXUALLY TRANSMITTED DISEASES	134 (35.2%)	115 (30.2%)	16 (4.2%)	116 (30.4%)
PNEUMONIA	45 (11.8%)	162 (42.4%)	47 (12.3%)	128 (33.5%)
HEPATITIS	64 (16.8%)	141 (36.9%)	50 (13.1%)	127 (33.2%)
TUBERCULOSIS	37 (9.7%)	155 (40.6%)	79 (20.7%)	111 (29.1%)

Respondents were asked if they believed each of the following health behaviors to be a problem in the City of Alexandria. Table 2 presents the results of this question in order of those considered a health problem. As seen, poor eating habits and lack of exercise rank as the most problematic behaviors, both of which contribute to the chronic disease considered the worst problem (obesity).

Table 2: Health Behavior Results

	YES # (%)	NO # (%)	DON'T KNOW # (%)
HEALTH BEHAVIORS			
POOR EATING HABITS	291 (76.2%)	38 (9.9%)	53 (13.9%)
LACK OF EXERCISE	283 (74%)	58 (15.2%)	41 (10.7%)
SUBSTANCE ABUSE	255 (66.9%)	59 (15.4%)	68 (17.8%)
SMOKING	249 (65.1%)	113 (29.6%)	20 (5.2%)
TEENAGE PREGNANCY	211 (55.2%)	57 (14.9%)	114 (29.8%)
SECOND HAND SMOKE	199 (52.2%)	154 (40.4%)	28 (7.3%)
CHILD ABUSE/NEGLECT	179 (46.9%)	70 (18.3%)	133 (34.8%)
GUN SAFETY	119 (31.2%)	173 (45.3%)	90 (23.6%)
SEATBELT USE	105 (27.5%)	233 (61%)	44 (11.5%)

Finally, respondents were asked if the following health services were important. As seen in Table 3, Alexandria as a whole considers dental care an important health service more frequently, while adult immunizations were considered important less frequently. Respondents were also asked where they go to obtain these services. However, many times the answers could not be coded to just one category. Therefore, results are not presented.

Table 3: Health Services Results

	IMPORTANT # (%)	SOMEWHAT IMPORTANT #	NOT IMPORTANT #	DON'T KNOW #
HEALTH SERVICES				
PRE-NATAL CARE	375 (98.2%)	3	2	2
CHILD IMMUNIZATIONS	370 (96.9%)	11	1	0
DENTAL CARE	359 (94%)	20	2	1
MENTAL HEALTH COUNSELING	357 (93.4%)	19	5	1
ADULT IMMUNIZATIONS	294 (77.1%)	66	18	3

Analysis:
In keeping with the goal of the health perspectives survey, a list of priority health issues was created. This list illustrates the problems Alexandrians feel are the greatest threat to the health of their community, and was generated by merging together the three health categories surveyed. For those using a Likert scale, responses for both "major" and "minor" problem were combined and a new proportion assigned. Using this procedure, the following list was created:

1. Flu 84.4%
2. Obesity 77.4%
3. Poor Eating Habits 76.2%
4. Lack of Exercise 74%
5. Mental Health Illness 73%
6. Diabetes 68.5%
7. Heart Disease 67.9%
8. Substance Abuse 66.9%
9. Severe Accidents & Injuries 66.5%
10. HIV/AIDS 66.3%

The next step in the identification of priority issues was to compare the results of the social assessment, as indicated above, to the results of the epidemiological assessment. Health conditions were ranked based upon importance and changeability, economic impact, political support, affordability of action, and legal constraints.

Further analysis was completed in order to identify groups with significantly different responses. Response frequency and proportions were assessed by ZIP code, gender, health insurance status, age group, and ethnicity. Each category represents a group of individuals that can be specifically targeted with interventions.

Table: Survey Responses based on Insurance Status/Gender

	Insurance Status		Gender	
	Yes	**No**	**Female**	**Male**
	(n=363)	(n=19)	(n=224)	(n=157)
CHRONIC CONDITIONS				
Obesity	78.2%	63.1%	77.2%	77.7%
High Blood Pressure	65.9%	42.2%	69.2%	58.6%
Severe Accidents and Injuries	66.7%	63.2%	66.5%	66.8%
Stroke	55.4%	57.9%	60.3%	49.1%
Breast Cancer	60.3%	52.6%	65.2%	52.9%
Heart Disease	68.6%	57.9%	71.0%	64.4%
Liver Disease	49.3%	42.1%	51.4%	45.9%
Mental Illness	73.2%	68.4%	75.8%	68.7%
Lung Cancer	61.4%	52.7%	61.2%	60.5%
Diabetes	68.4%	68.5%	71.0%	64.3%
HEALTH BEHAVIORS				
Child Abuse	47.7%	31.6%	50.9%	41.4%
Second Hand Smoke	52.5%	47.4%	54.7%	49.0%
Substance Abuse	67.2%	57.9%	71.0%	61.1%
Gun Safety	32.0%	15.8%	34.4%	26.8%
Teenage Pregnancy	55.6%	47.4%	59.4%	49.7%
Seatbelt Use	28.4%	10.5%	29.5%	24.8%
Smoking	65.3%	63.2%	69.2%	59.9%
Lack of Exercise	73.8%	78.9%	75.4%	72.0%
Poor Eating Habits	76.3%	73.7%	76.8%	75.2%
HEALTH SERVICES				
Dental (Important)	94.2%	89.5%	96.0%	91.7%
Mental Health (Important)	93.9%	84.2%	95.5%	91.1%
Pre-Natal (Important)	99.2%	78.9%	99.6%	96.2%
Child Immunizations (Important)	97.5%	84.2%	97.8%	96.2%
Adult Immunizations (Important)	77.1%	78.9%	75.3%	80.3%
INFECTIOUS DISEASES				
Pneumonia	54.6%	47.4%	55.8%	51.6%
HIV/AIDS	67.0%	52.6%	65.7%	67.5%
STDs	66.6%	42.1%	66.0%	64.7%
Tuberculosis	50.9%	36.8%	53.6%	45.8%
Hepatitis	54.3%	42.1%	55.0%	52.2%
Flu	84.3%	84.2%	84.8%	83.4%
Insurance Status (Insured)			97.3%	92.4%

Table: Survey Responses based on Ethnicity

	Asian	African-American	Hispanic	White	Other
	(n=13)	(n=41)	(n=19)	(n=298)	n=10
CHRONIC CONDITIONS					
Obesity	69.3%	82.9%	79.0%	77.5%	60%
High Blood Pressure	77.0%	78.0%	52.7%	63.7%	40%
Severe Accidents and Injuries	77.0%	70.8%	57.9%	65.8%	80%
Stroke	53.9%	61.0%	47.4%	55.0%	60%
Breast Cancer	53.9%	63.5%	52.7%	60.7%	50%
Heart Disease	69.3%	65.9%	57.9%	69.5%	50%
Liver Disease	46.2%	56.1%	47.4%	47.3%	70%
Mental Illness	53.9%	87.5%	68.4%	72.5%	60%
Lung Cancer	61.5%	56.1%	47.3%	62.4%	60%
Diabetes	61.6%	70.7%	73.7%	68.4%	50%
HEALTH BEHAVIORS					
Child Abuse	46.2%	48.8%	26.3%	48.0%	50%
Second Hand Smoke	61.5%	80.5%	52.6%	47.8%	50%
Substance Abuse	46.2%	73.2%	42.1%	68.5%	60%
Gun Safety	38.5%	46.3%	15.8%	29.2%	50%
Teenage Pregnancy	30.8%	73.2%	47.4%	55.0%	40%
Seatbelt Use	46.2%	48.8%	21.2%	23.8%	40%
Smoking	61.5%	90.2%	63.2%	62.1%	60%
Lack of Exercise	69.2%	68.3%	78.9%	74.8%	80%
Poor Eating Habits	76.9%	63.4%	94.7%	77.2%	70%
HEALTH SERVICES					
Dental (Important)	76.9%	92.7%	84.2%	95.6%	90%
Mental Health (Important)	76.9%	92.7%	84.2%	95.3%	90%
Pre-Natal (Important)	100%	100%	89.5%	98.3%	100%
Child Immunizations (Important)	92.3%	97.6%	89.5%	97.3%	100%
Adult Immunizations (Important)	61.5%	90.2%	84.2%	75.1%	90%
INFECTIOUS DISEASES					
Pneumonia	53.9%	56.1%	63.2%	54.4%	20%
HIV/AIDS	69.3%	68.3%	73.7%	65.1%	70%
STDs	69.3%	70.7%	68.4%	64.3%	70%
Tuberculosis	53.9%	48.8%	52.6%	50.7%	30%
Hepatitis	46.2%	56.1%	63.2%	53.7%	30%
Flu	77.0%	82.9%	94.7%	73.3%	80%
Insurance Status (Insured)	100%	95.1%	73.7%	97.0%	70%

Table: Survey Responses based on ZIP Code

	22301 (n=41)	22302 (n=65)	22304 (n=124)	22305 (n=40)	22306 (n=4)	22311 (n=9)	22312 (n=4)	22314 (n=92)
CHRONIC CONDITIONS								
Obesity	80.5%	73.8%	79%	80%	75%	88.9%	75%	75%
High Blood Pressure	70.7%	64.6%	68.6%	65%	50%	66.6%	75%	57.6%
Severe Accidents and Injuries	80.5%	67.7%	70.1%	65%	25%	44.4%	75%	58.7%
Stroke	65.9%	53.9%	58.8%	60%	50%	55.5%	50%	45.7%
Breast Cancer	68.3%	61.5%	63.7%	70%	50%	55.5%	75%	51.1%
Heart Disease	82.9%	69.2%	68.6%	72.5%	50%	66.6%	50%	58.7%
Liver Disease	63.4%	52.3%	46%	57.5%	25%	44.4%	25%	43.4%
Mental Illness	78.1%	80.0%	75.8%	87.5%	0%	55.5%	75%	61.6%
Lung Cancer	73.2%	67.7%	59.7%	67.5%	25%	55.5%	25%	53.3%
Diabetes	75.6%	75.4%	70.2%	77.5%	50%	77.8%	50%	55.5%
HEALTH BEHAVIORS								
Child Abuse	51.2%	49.2%	53.2%	45%	0%	44.4%	75%	38.1%
Second Hand Smoke	48.8%	49.2%	59.3%	70%	25%	44.4%	50%	41.3%
Gun Safety	24.4%	36.9%	29%	40%	50%	22.2%	25%	30.4%
Teenage Pregnancy	63.4%	58.5%	59.7%	67.5%	50%	44.4%	50%	40.2%
Seatbelt Use	31.7%	27.7%	26.6%	35%	50%	33.3%	75%	19.6%
Smoking	56.1%	67.7%	71%	77.5%	50%	55.6%	75%	56.5%
Lack of Exercise	78.0%	70.8%	80.6%	77.5%	75%	77.8%	50%	65.2%
Poor Eating Habits	82.9%	78.5%	78.2%	82.5%	75%	88.9%	50%	66.3%
Substance Abuse	65.9%	73.8%	71%	70%	50%	44.4%	50%	58.7%
HEALTH SERVICES								
Dental (Important)	100%	90.8%	91.9%	97.5%	100%	100%	100%	93.5%
Mental Health (Important)	92.7%	93.8%	92.7%	95%	75%	88.9%	75%	95.7%
Pre-Natal (Important)	100%	96.9%	97.6%	97.5%	75%	100%	100%	100.0%
Child Immunizations (Important)	97.6%	95.4%	96%	97.5%	100%	100%	100%	97.8%
Adult Immunizations (Important)	73.2%	78.5%	79.7%	80%	75%	55.6%	75%	76.1%
INFECTIOUS DISEASES								
Pneumonia	56.1%	60.0%	56.4%	65%	0%	55.6%	75%	43.5%
HIV/AIDS	73.1%	67.7%	65.4%	75%	25%	66.6%	50%	60.8%
STDs	73.1%	69.2%	64.3%	75%	50%	66.6%	50%	58.7%
Tuberculosis	53.7%	49.2%	55.7%	65%	0%	44.4%	25%	40.2%
Hepatitis	60.9%	58.5%	56.4%	67.5%	75%	66.6%	25%	36.9%
Flu	87.8%	81.6%	89.5%	82.5%	75%	77.7%	75%	79.4%
Insurance Status (Insured)	100%	90.8%	92.5%	97.5%	75%	100%	100%	97.8%

Table: Survey Responses Based on Age

	18-24 (n=23)	25-44 (n=154)	45-64 (n=155)	65+ (n=51)
CHRONIC CONDITIONS				
Obesity	78.3%	79.3%	75.5%	76.6%
High Blood Pressure	73.9%	65.1%	63.2%	63.8%
Severe Accidents and Injuries	82.6%	63.3%	65.8%	72.3%
Stroke	65.2%	48.4%	60.0%	59.5%
Breast Cancer	52.2%	60.6%	63.2%	51.1%
Heart Disease	65.2%	66.5%	69.0%	72.3%
Liver Disease	60.8%	51.6%	49.1%	34.1%
Mental Illness	87.0%	73.6%	72.1%	68.1%
Lung Cancer	82.6%	58.8%	62.6%	53.2%
Diabetes	86.9%	65.2%	69.1%	68.0%
HEALTH BEHAVIORS				
Child Abuse	52.2%	67.0%	51.0%	20.0%
Second Hand Smoke	82.6%	57.8%	46.5%	38.3%
Substance Abuse	78.3%	62.6%	71.6%	59.6%
Gun Safety	30.4%	24.5%	34.8%	42.6%
Teenage Pregnancy	78.3%	50.3%	58.1%	51.1%
Seatbelt Use	43.5%	25.8%	27.1%	25.5%
Smoking	78.3%	68.4%	61.3%	59.6%
Lack of Exercise	65.2%	72.3%	75.5%	78.7%
Poor Eating Habits	95.7%	74.8%	78.1%	66.0%
HEALTH SERVICES				
Dental (Important)	91.3%	94.8%	94.2%	91.5%
Mental Health (Important)	87.0%	93.5%	94.8%	93.6%
Pre-Natal (Important)	95.7%	98.7%	97.4%	100.0%
Child Immunizations (Important)	91.3%	96.1%	98.1%	97.9%
Adult Immunizations (Important)	82.6%	72.3%	78.7%	87.0%
INFECTIOUS DISEASES				
Pneumonia	52.2%	55.5%	52.9%	55.3%
HIV/AIDS	73.9%	63.8%	67.7%	66.0%
STDs	69.6%	65.8%	68.2%	55.3%
Tuberculosis	52.1%	47.1%	54.2%	56.8%
Hepatitis	60.8%	54.2%	56.2%	40.4%
Flu	87.0%	85.8%	83.8%	80.9%
Insurance Status (Insured)	91.3%	93.5%	96.8%	97.9%

Appendix 3: Glossary

"Age-Adjusted" Death Rate — calculating death rates by age group to control for differences in age distribution when comparing different locations, i.e., Alexandria and Virginia.

AHD — Alexandria Health Department

AIDS — Acquired Immune Deficiency Syndrome; a condition caused by the HIV virus in which an acquired deficiency of T cells results in a variety of infections, some forms of cancer, and the degeneration of the nervous system.

APHAC — Alexandria Public Health Advisory Commission

Autoimmune Conditions — diseases characterized by altered function of the immune system of the body, resulting in the production of antibodies against the body's own cells.

Behavioral Health — refers to an individual's actions with regards to drug, alcohol, and tobacco use, eating habits, exercise, sexual activity, and other self-care decisions that affect one's physical and mental health.

Body Mass Index (BMI) — a measure expressing the ratio of weight to height, in which a person's body weight in kilograms is divided by the square of their height in meters:

$$BMI = wt/(ht)^2$$

Breast Cancer — a malignant, neoplastic disease of breast tissue, a common malignancy in women in the United States.

BRFSS — Behavioral Risk Factor Surveillance System. Telephone survey conducted by the federal government to track health risks in the U.S.

Cardiovascular Disease — an abnormal condition characterized by dysfunction of the heart and blood vessels.

Changeability — the effectiveness of interventions on and the preventability of a condition.

Chronic Disease(s) — illnesses of long duration or frequent occurrence that resist all efforts to eradicate them.

Cirrhosis — a degenerative disease (esp. of the liver) marked by excess formation of connective tissue and subsequent painful swelling.

Colorectal Cancer — a malignant, neoplastic disease of the large intestine, characterized by a change in bowel habits and the passing of blood.

Community Health Assessment — "a broad-based, documented, and collaborative process conducted with community participation that produces a list of community health priorities and resources." (NACCHO)

Diabetes Mellitus — a chronic form of diabetes involving an insulin deficiency and characterized by an excess of sugar in the blood and urine, and by hunger, thirst, and a gradual loss of weight.

Goal — the purpose toward which an endeavor is directed.

Healthy People 2010 **—** a comprehensive, nationwide health promotion and disease prevention agenda developed by the U.S. Department of Health and Human Services, the goals of which are to increase the quality of life and years of healthy life, and to eliminate health disparities in the United States.

HIV — Human Immunodeficiency Virus; a retrovirus that infects human T cells and causes AIDS.

Illicit Drugs — unlawful drugs such as heroin, cocaine, marijuana, etc.

Importance — the urgency, seriousness, and magnitude of a problem or condition.

Infectious Disease(s) — any communicable disease, or one that can be transmitted from one human being to another or from animal to human by direct or indirect contact.

Influenza — an acute, infectious disease caused by any number of various viruses and characterized by inflammation of the respiratory tract, fever, and muscle pain.

Injury — harm or damage occasioned; a wrong received; damage or violation of another's person, property, rights or reputation.

Maternal and Child Health — various facilities and programs organized for the purpose of providing medical and social services for mothers and children (e.g., prenatal and postnatal services, family planning care, and pediatric care in infancy).

Mental Health — "the state of successful mental functioning, resulting in productive activities, fulfilling relationships, and the ability to adapt to change and cope with adversity." (*Healthy People 2010*)

Metabolic Disorders — any pathophysiologic dysfunction that results in a loss of metabolic control of homeostasis in the body.

MH/MR/SA — the City of Alexandria Department of Mental Health, Mental Retardation, and Substance Abuse.

Myocarditis — inflammation of the muscular substance (myocardium) of the heart.

Obesity — an abnormal increase in the proportion of fat cells, mainly in the viscera and subcutaneous tissues in the body. BMI equals 30% or more.

Objective — The steps in reaching a goal.

PACE-EH — Protocol for Assessing Community Excellence in Environmental Health.

Prenatal Care — medical management of patient during pregnancy to prevent complications of pregnancy and promote a healthy outcome for both mother and infant.

Primary Data — direct pieces of factual information (as measurements or statistics) used as a basis for reasoning, discussion, or calculation tied to a particular problem or question.

Public Health — the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts.

Quality of Life — an individual's expressed satisfaction with current life circumstances.

Renal Disease — disease of the kidneys sometimes requiring dialysis.

Secondary Data — factual information (as measurements or statistics) used as a basis for reasoning, discussion, or calculation derived from a primary data set to address a particular question or problem.

Sedentary Lifestyle - a pattern of daily living that requires a minimum amount of physical effort.

Substance Abuse — the over-indulgence in and dependence on a stimulant, depressant, or other chemical substance, leading to effects that are detrimental to the individual's physical or mental health or the welfare of others.

Teen Pregnancy — a gestational process, comprising the growth and development within a woman of a new individual from conception through the embryonic and fetal periods to birth in women ages 10-19 years of age.

Tobacco Use — the use of a plant whose leaves are dried and used for smoking and chewing and in snuff.

Tuberculosis — an infectious disease caused by the tubercle bacillus and characterized by the formation of tubercles in various tissues of the body, esp. the lungs.

Violence — behaviors in which an individual demonstrates that he or she can be physically, emotionally, and/or sexually harmful to others.

Appendix 4: Chart Sources

Background
Chart 1-1 Racial Breakdown -Alexandria

U.S. Census, 2000.

Table 1-1 Health Resources Availability

www.Inova.com

Alexandria Health Department Annual Report

Maternal and Child Health
Chart 2-1 Infant Deaths, 2000.

Health Profile, Alexandria City, 2000. Health Statistics/Statistical Reports and Tables. Virginia Department of Health.

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 121

Healthy People 2010 (Conference Edition in Two Volumes). U.S. Department of Health and Human Services. Washington, DC: January 2000.

Chart 2-2 Low Birth Weight, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:IV-25. Richmond, Virginia, May 2002

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 110

Healthy People 2010 (Conference Edition in Two Volumes). U.S. Department of Health and Human Services. Washington, DC: January 2000.

Chart 2-3 Percent of Live Births Beginning Prenatal Care during First Trimester, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:IV-28. Richmond, Virginia, May 2002

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 103

Healthy People 2010 (Conference Edition in Two Volumes). U.S. Department of Health and Human Services. Washington, DC: January 2000.

Chart 2-4 Teen Pregnancy Rates, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1: III-21. Richmond, Virginia, May 2002

National Vital Statistics Reports. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Vol 52:23, 2004

Healthy People 2010 (Conference Edition in Two Volumes). U.S. Department of Health and Human Services. Washington, DC: January 2000.

Chart 2-5 Age-Adjusted Rates due to Breast Cancer

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:VII-56. Richmond, Virginia, May 2002

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 136

Table 2-2 Early Screening in Alexandria

Inova Alexandria Hospital

Behavioral and Mental Health
Chart 3-1 Percent of Population Reporting Binge Drinking, 2000

Behavioral Risk Factor Surveillance System

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Chart 3-2 Percent of Population Reporting Tobacco Use, 2000

Behavioral Risk Factor Surveillance System

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Chart 3-3 Percent of Population Reporting Substance Abuse, 2000

Behavioral Risk Factor Surveillance System

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Chart 3-4 Percent of Population Practicing a Sedentary Lifestyle, 2000.

Behavioral Risk Factor Surveillance System

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and

Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Chart 3-5 Age-Adjusted Death Rates due to Suicide, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:VII-56. Richmond, Virginia, May 2002

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Injury and Violence
Chart 4-1 Age-Adjusted Death Rates due to Unintentional Injuries, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:VII-56. Richmond, Virginia, May 2002

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Healthy People 2010 (Conference Edition in Two Volumes). U.S. Department of Health and Human Services, Volume 1: 15-24. Washington, DC: January 2000.

Chart 4-2 Age-Adjusted Death Rates due to Homicide, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:VII-56. Richmond, Virginia, May 2002

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Healthy People 2010 (Conference Edition in Two Volumes). U.S. Department of Health and Human Services, Volume 1: 15-42. Washington, DC: January 2000.

Chronic Diseases
Chart 5-1 Age-Adjusted Death Rates due to Cardiovascular Disease, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:VII-56. Richmond, Virginia, May 2002

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Healthy People 2010 (Conference Edition in Two Volumes). U.S. Department of Health and Human Services. Washington, DC: January 2000.

Chart 5-2 Age-Adjusted Death Rates due to Diabetes, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:VII-56. Richmond, Virginia, May 2002

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Healthy People 2010 (Conference Edition in Two Volumes). U.S. Department of Health and Human Services. Washington, DC: January 2000.

Chart 5-3 Age-Adjusted Death Rates due to Prostate Cancer, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:VII-56. Richmond, Virginia, May 2002

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Healthy People 2010 (Conference Edition in Two Volumes). U.S. Department of Health and Human Services. Washington, DC: January 2000.

Chart 5-4 Age-Adjusted Death Rates due to Lung Cancer, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:VII-56. Richmond, Virginia, May 2002

Health, United States, 2003 With Chartbook on trends in the Health of Americans. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Hyattsville, Maryland. Pg 197

Healthy People 2010 (Conference Edition in Two Volumes). U.S. Department of Health and Human Services. Washington, DC: January 2000.

Infectious Diseases
Chart 6-1 Tuberculosis Incidence Rates, 2000.

Virginia Health Statistics Annual Report, 2000. Virginia Department of Health, Center for Health Statistics. Vol. 1:VII-56. Richmond, Virginia, May 2002

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