

Strategic Plan Georgia Cancer Coalition

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Strategic Plan Georgia Cancer Coalition

Executive Summary

Through the Georgia Cancer Coalition, the State of Georgia aims to reduce the human suffering caused by cancer, one of the deadliest diseases in our country. The Coalition will move Georgia to the front in the nationwide race to reduce cancer deaths by creating a statewide network that will offer the most comprehensive attack on the disease anywhere in the United States. By coordinating Georgia's considerable resources to improve cancer education, screening, treatment, training and research, the Coalition represents an unprecedented opportunity to develop a world-class, comprehensive cancer control program for the benefit of all of our citizens.

Nationally, cancer kills over 550,000 Americans each year. In Georgia, cancer is the cause of almost a quarter of all deaths and the second leading cause of death in the state. And, 30 percent of all Georgia cancer deaths are due to lung cancer. In the year 2000 alone, a projected 13,700 Georgians will die of cancer and 32,900 Georgians will develop the disease. Unless these trends are reversed, one in two men and one in three women in Georgia will develop cancer sometime during their lifetime.

Despite having one of the highest incidences of cancer in the country, Georgia does not have a world-class, comprehensive cancer program to prevent, detect and treat cancer. Georgians who wish to participate in cutting-edge clinical trials or obtain state-of-the-art treatment for cancer must often travel to medical centers in other states. Uninsured or underinsured Georgians have only limited access to some types of cancer screening, detection and treatment efforts.

While these statistics are discouraging, Georgia has many components necessary to develop a comprehensive cancer control effort. These include nationally recognized medical schools and world-renowned research universities, a strong public health system, a vibrant and growing technology sector, an excellent network of health care providers, an entrepreneurial business environment, and the national headquarters for the Centers for Disease Control and Prevention, and the American Cancer Society. And, we have a history of forging partnerships with private, nonprofit, academic and public organizations.

The challenge for the Georgia Cancer Coalition is to provide focus and coordination to these strong, but independent, programs. Through leadership and funding, the Coalition will provide overall direction to enable the state to leverage its resources towards enhancing cancer prevention, early detection and screening. The Coalition will strive to offer access to quality cancer care and treatment, caregiver

training and public education to all Georgians, as well as cutting-edge cancer research and biotechnology business incubation.

The governance of the state's cancer initiative through the Georgia Cancer Coalition provides a unique opportunity to promote and foster collaboration. Recognizing Georgia's vast statewide network of resources, no single entity, facility or agency will be designated as Georgia's cancer "center". Rather, these existing resources, as well as new and leveraged investments in cancer care, will be linked together to collectively form the state's comprehensive cancer system.

The Georgia Cancer Coalition's strategic plan identifies the goals of the state's cancer initiative and details the components necessary to reduce the number of cancer patients and cancer deaths in Georgia and beyond. The goals include screening and education, treatment and research.

First, the Coalition will develop a statewide education and screening program to prevent cancer and to diagnose the disease earlier. Advertising campaigns and other educational efforts will focus on the cancers that are the major causes of death. Georgians will be encouraged to alter lifestyle choices such as smoking, exposure to sun, and exercise in order to reduce their risk of cancer. Because early detection remains the best guarantee for successful treatment, the Coalition will develop a statewide screening and early detection network of public and private healthcare providers so that every Georgian will have access to cancer screenings.

Second, the Coalition will establish a statewide network of cancer centers and upgrade the availability of world-class cancer treatment for all Georgians. The Coalition will create a tiered system of healthcare providers to offer every Georgian basic cancer care close to home. More advanced treatment, utilizing cutting-edge technology will be available at several key medical centers throughout the state, making it unnecessary for Georgians to go elsewhere in the nation. All Georgia cancer providers will become part of the Coalition's efforts.

Third, the Coalition will coordinate and help fund a nationally recognized research effort to find cures and better treatments for cancer. Using a model similar to Yamacraw and the Georgia Research Alliance, the Cancer Coalition will attract world-class cancer experts to Georgia universities and medical centers and will coordinate research efforts among them to achieve key results. All cancer researchers will have access to a statewide database of blood, tissue and body fluid specimens to study the disease from an epidemiological and genetic perspective.

Fourth, the Coalition will leverage the overall effort to benefit future generations by enhancing Georgia's system of basic and graduate education oncology programs for physicians, nurses, dentists, nutritionists, and social workers to train the next wave of Georgia's cancer researchers and caregivers. Georgia will also coordinate and enhance continuing education training programs for all health care providers and caregivers. Finally, the Coalition will create and enhance existing partnerships with

pharmaceutical and biotechnology companies that will provide quality jobs to Georgians.

Through comprehensive treatment and research efforts, the Coalition will create a new body of knowledge and products that contribute to the ultimate eradication of cancer. By aligning public education, cancer screening, the care of cancer patients with cutting-edge treatment in clinical trials, research and technology, Georgia will do what no other state has succeeded in doing. The unquestionable result will be breakthroughs in understanding cancer and a tremendous reduction in cancer deaths. Through the Georgia Cancer Coalition, Georgia can and will become a national leader in cancer intervention and eradication.

Strategic Plan Georgia Cancer Coalition

Introduction

Today we have the opportunity to become a leading contributor in the effort to eradicate deaths from cancer. Cancer kills over 550,000 American citizens each year – one death every minute of every day. Without some intervention, cancer will be diagnosed in one of two men and one of three women during their lifetimes. These statistics are staggering in terms of human suffering and economic impact on our citizens. Cancer care costs the U.S. economy an estimated \$107 billion. Over one-half of the medical cost is expended in a patient's last six months of life – often for cancers that might have been curable had they been detected early.

Almost a quarter of all deaths in Georgia are caused by cancer, the second leading cause of death in the state. Thirty percent of these cancer deaths are due to lung cancer. Many Georgians make life choices, such as smoking and eating high-fat diets, that increase their risks for cancer. These increased risks contribute to the high cancer mortality rates in our state. Georgia ranks among the top five states in the number of citizens diagnosed with cancer each year. The National Institutes of Health (NIH) estimate the overall annual cost of cancer in Georgia at \$2.9 billion.(reference: Georgia Cancer Data Report 2000). Since the risk of developing cancer increases with age, the aging of the state's population will continue to increase the burden of cancer in Georgia.

Despite these discouraging statistics, more is known about the effective prevention, detection, and treatment of cancer than ever before. Currently over 8.4 million U.S. citizens are cancer survivors. Almost 60 percent of those diagnosed with cancer will survive five or more years. We know that over two-thirds of cancer deaths can be linked to modifiable risk factors such as tobacco use, diet, excessive consumption of alcohol, and lack of exercise, and we have made significant

Georgia's cancer mortality rates vary by race:

- African-American Georgians are 27% more likely to die of cancer than white Georgians.
- African-American men in Georgia are twice as likely as white men to die of prostate cancer.
- African-American males have higher mortality rates than white males in all three of the types of cancers most common to males.

Georgia's cancer mortality rates vary by gender:

- Men in Georgia are about 50% more likely to develop cancer than women and 70% more likely to die of cancer than women.
- Lung cancer is the leading cause of cancer-related deaths for both men and women in Georgia.
- The cancer mortality rate for Georgia's women has steadily increased over the past two decades – primarily due to deaths from lung cancer.
- More women die from lung cancer than any other cancer.
- Although prostate cancer is the most common type of cancer diagnosed among men, more men die of lung cancer.

progress in cancer research and treatment methodologies. With the completion of the mapping of the human genome, new sciences and treatments are being developed that will help treat and might eventually eliminate cancer deaths.

Georgia is uniquely positioned to take advantage of the new advances in cancer research and treatment. We already have many of the components necessary for a comprehensive cancer control effort – excellent universities, many fine medical centers, a strong public health system, a growing technology sector, and an entrepreneurial business environment. Equally important, our state has a history of forging alliances among the public and private sectors to solve difficult problems. By taking advantage of these resources, we can help our citizens prevent many cancers, detect many cancers early enough to be successfully treated, and improve the quality of life and survival rates of cancer patients.

This strategic plan provides a map for creating the Georgia Cancer Coalition, a cooperative venture that will include public and private agencies. The Coalition will enable the state to leverage its resources to bring world-class cancer clinical and research opportunities to Georgia's health care providers and educational institutions. This effort will provide cutting edge cancer prevention, early detection, and treatment to all Georgians. The Coalition not only will allow the development of one of the largest cancer data collection, screening, prevention and research efforts in the country, but also will provide Georgians with access to world-class cancer treatment without leaving the state.

Vision for the Georgia Cancer Coalition

Georgia's population will have the lowest incidence, prevalence, and mortality rates for cancer in the nation. Georgians will know and practice cancer-preventing behaviors. We will know about and have access to early cancer detection and screening. Georgia will be a nationally recognized center for cancer research and will have a network of unparalleled, state-of-the-art cancer treatment facilities.

We will achieve this vision by:

- Providing education to Georgians about how to prevent cancer and stressing the importance of early detection of cancer.
- Ensuring that the most innovative and effective cancer-screening programs are available and accessible to all Georgians.
- Establishing and providing every cancer patient in Georgia access to the highest quality of cancer care.
- Developing the most aggressive and innovative cancer research effort in the nation and using it to provide Georgians with cancer prevention, screening, early detection, and treatment strategies that are individualized to each person.

- Ensuring that every cancer treatment facility in the state has the best-trained caregivers who are proficient in every cancer treatment.
- Enhancing the cancer data collection and management system to collect complete and quality incidence data in a timely manner, expanding the cancer screening surveillance system to include new and improved screening modalities; and expanding the Behavioral Risk Factor Surveillance System to collect county level data on the knowledge, attitudes, and behaviors of Georgians regarding cancer prevention and screening. This enhanced system will provide the data to monitor cancer trends, develop community cancer plans and strategies, and evaluate the impact of the Georgia Cancer Coalition strategies on the health of Georgians.
- Developing an entrepreneurial environment that facilitates biotechnology, genomics, and pharmaceutical companies to use the world-class research environment to enhance the state's economic development.

To accomplish this mission, the Georgia Cancer Coalition will establish a comprehensive statewide consortium of all public and private sector cancer research, prevention, screening, and treatment programs; medical institutions; physicians' groups; medical colleges; cancer interest groups; and cancer survivors. Individuals who are served through the Coalition will be able to move seamlessly through the network of Coalition members with a minimum level of disruption. This Coalition will strive to enhance cancer prevention, early detection and screening, cutting edge research, biotechnology business incubation, standards and quality of care and treatment, cancer surveillance, caregiver training, and public education.

The Georgia Cancer Coalition will be created to serve as the "hub" and clearinghouse of Georgia's comprehensive cancer system. The Coalition will be incubated under the Georgia Research Alliance during its initial developmental stages. It will coordinate and link all of the cancer activities and resources statewide, and assess progress towards the goals of Georgia's cancer initiative.

Utilizing the GRA's successful strategy for turning scientific research into economic development outcomes, the Coalition will coordinate and help fund a nationally recognized research effort to find cures and better treatments for cancer. The Coalition will attract world-class cancer experts to Georgia universities and medical centers and will coordinate research efforts among them to achieve key results.

An advisory board comprised of national and local experts in cancer research, detection and treatment, leaders in public education and prevention efforts, business and biotechnology leaders, and most importantly, cancer survivors and caregivers will govern the Coalition. Such a [system](#) will ensure a true coordinated coalition of programs, maximum participation among a number of public and private partners, and create an ultimate entrepreneurial environment for advances in cancer.

Mission of the Georgia Cancer Coalition

The mission of the Georgia Cancer Coalition is to make Georgia a national leader in cancer prevention, treatment and research by accelerating research, prevention, early detection and treatment.

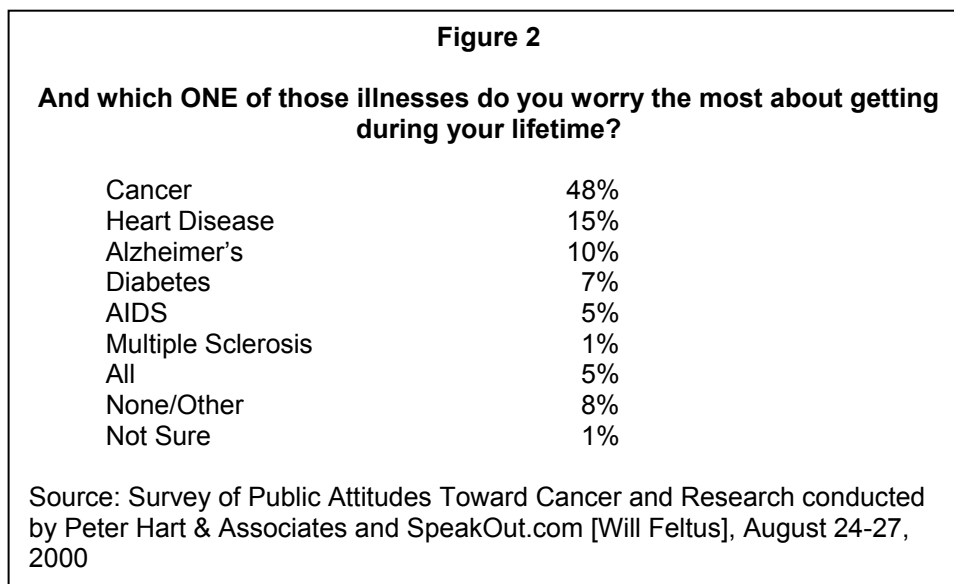
Background

Virtually everyone knows someone who has had cancer. In fact, one in two males and one in three females in the United States will develop cancer in their lifetime. Cancer care costs the U.S. economy an estimated \$107 billion. Over one-half of the medical cost is expended in a patient's last six months of life – often for cancers that might have been curable had they been detected early enough.

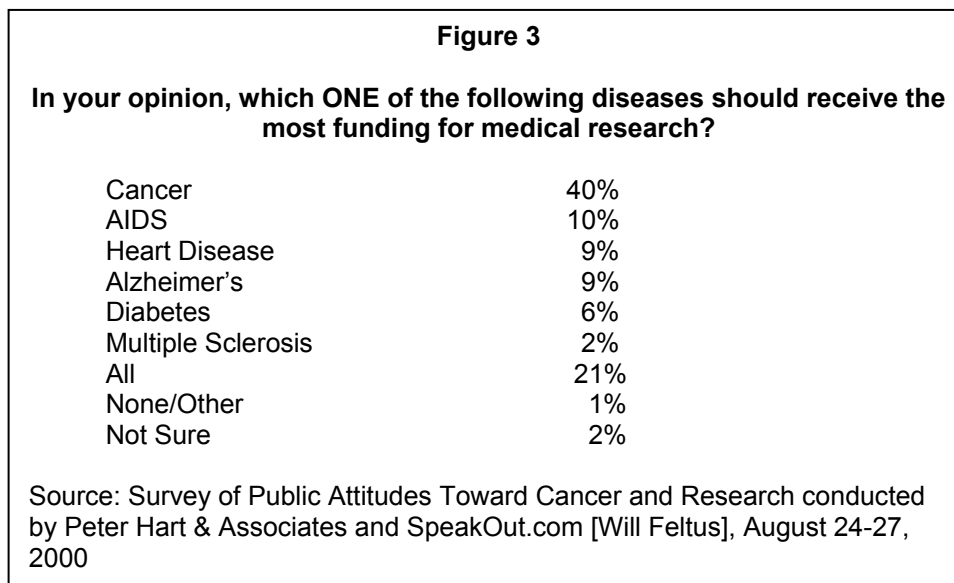
A survey of 1002 registered voters' attitudes toward cancer and research was conducted in August 2000. In response to a question concerning issues that caused the most worry, a majority of those polled said their greatest worry was getting cancer. (Figure 1)



When asked what disease they worried the most about, the majority of respondents said cancer. (Figure 2)



When asked what disease should receive the most funding for medical research, the majority of respondents thought cancer should receive the most funding. (Figure 3)



In response to a question concerning the personal applicability of several statements about cancer, 81 percent said they had a family member or close friend who has had cancer; 73 percent said they had a family member or close friend who had died of cancer; 45 percent said they had a family member or close friend who had cancer and was cured; and 11 percent responded that they had had cancer themselves.

When asked what they thought their odds of developing cancer in their lifetimes, 24 percent thought their odds were 1 in 1000; 26 percent believed their odds were 1 in 100; 10 percent said the odds were 1 in 10; 8 percent thought their odds were 1 in 5; 3 percent believed their odds were 1 in 3; 4 percent said the odds were 1 in 2; 4 percent said there was no chance of their getting cancer; and 3 percent of the respondents either have cancer or have had cancer. From the response to this last question, it is clear that Georgians do not perceive that they themselves are very likely to have cancer; i.e., one in two males and one in three females will develop cancer in their life time.

The following background information provides an overview of the:

- Impact of cancer in Georgia;
- Cost of cancer to Georgians;
- Steps Georgians can take to reduce the cancer mortality;
- New developments in cancer identification and treatment, including the potential for a symbiotic relationship between cancer research and economic development in Georgia; and

- Ways other states have attempted to put together a comprehensive approach for controlling cancer.

Impact of Cancer in Georgia

Almost a quarter of all deaths in Georgia are due to cancer. Between 1994 and 1998, almost 13,000 Georgians died from cancer each year. The Division of Public Health projects that almost 33,000 Georgians developed cancer and almost 14,000 Georgians died of cancer during the year 2000. Since the risk of developing cancer increases with age, the aging of the state's population will continue to increase the burden of cancer in Georgia.

Lung, colorectal, prostate, breast, and cervical cancer (the five types of cancer upon which the proposed Cancer Coalition will focus) account for almost 55 percent of the cancer deaths in Georgia. Lung cancer alone accounts for 30 percent of the state's cancer deaths, making it the second leading cause of death.

Cancer rates vary by both gender and race. Men in Georgia are about 50 percent more likely to develop cancer and 70 percent more likely to die of cancer than women. Rates among women have been increasing, thereby narrowing the gender differences in cancer rates. While the cancer mortality rates for males declined between 1991 and 1998, the overall mortality rate among females has steadily increased over the past two decades.

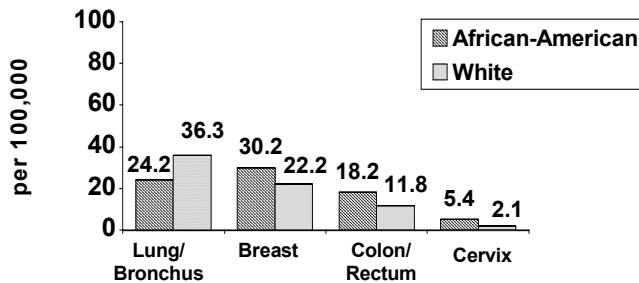
Figure 4: Cancer Mortality in Georgia and the United States by Gender¹				
Cancer Site	Male		Female	
	GA	U.S.	GA	U.S.
All Cancer Sites	227.3	209.7	135.5	139.8
Lung & Bronchus	83.0	69.4	33.0	34.0
Colon & Rectum	18.4	21.0	13.0	14.4
Prostate	29.3	24.7	N/A	N/A
Breast	N/A	N/A	23.6	24.8
Cervix	N/A	N/A	2.9	2.7

¹Average annual rate per 100,000, age-adjusted to the 1970 U.S. standard population; Georgia (1994-1998) – U.S. (1993-1997)

Male and female cancer mortality rates in Georgia for all cancer sites are similar to rates nationwide. (Figure 4) Although prostate cancer is the most common type of cancer diagnosed among men, more men die of lung cancer than any other type. The mortality rate for lung cancer in Georgia men is twice as high as that of any other cancer. Like the mortality rate for lung cancer, Georgia's mortality rate for men with prostate cancer is also significantly higher than the national average. On the other hand, Georgia's mortality rate for colorectal cancer among males is lower than the national rate.

The mortality rate for Georgia women with lung cancer has doubled since 1980, replacing breast cancer as the leading cause of cancer death among women. The

**Figure 5:
Female Cancer Mortality
in Georgia by Race and Type**



Mortality rates also vary by race. African-American Georgians are 27 percent more likely to die of cancer than white Georgians. Between 1994 and 1998, the average cancer mortality rate for African-American Georgians was 205.1 per 1,000, and the mortality rate for white Georgians was 161.1 per 100,000.

Georgia's mortality rate for lung cancer is almost 50 percent higher for white women than African-American women.

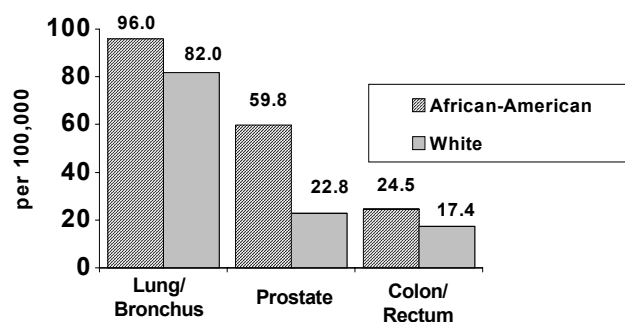
(Figure 5) However, African-American women are 36 percent more likely than white women to die of breast cancer; 54 percent more likely to die of colorectal cancer; and 157 percent more likely to die of cervical cancer.

African-American men in Georgia are more than twice as likely to die of prostate cancer than white men. In fact, African-American men have higher mortality rates than white men in all three of the most common types of cancer. (Figure 6)

Georgia's African-American citizens have higher mortality rates for cancer than both the state's and the nation's white citizens. The mortality rate for prostate cancer among Georgia's African-American residents is the among the highest in the nation. However, African-American women living in Georgia have lower mortality rates from lung cancer.

Cost of Cancer to Georgians

**Figure 6
Male Cancer Mortality in Georgia
by Race and Type**



Cancer is not only emotionally and financially costly to patients and their loved ones but it also imposes significant costs on Georgia's economy. The National Institutes of Health estimate the overall annual costs for cancer in Georgia at \$2.9

billion: \$760 million for direct medical costs (total of all health expenditures); \$230 million for indirect morbidity costs (cost of lost productivity due to illness); and \$1.2 billion for indirect mortality costs (cost of lost productivity due to premature death). The costs associated with treating breast, lung, and prostate cancers alone account for over half of all the direct medical costs.

Steps to Reduce Cancer Mortality

Many cancers can be prevented. Nearly two-thirds of cancer deaths can be linked to modifiable risk factors such as tobacco use, diet, obesity, lack of exercise, and overexposure to the sun. (Figure 7)

Lung cancer. Smoking is the leading cause of preventable death in Georgia and our nation. Tobacco use accounts for almost 30 percent of all cancer deaths and 87 percent of all lung cancer cases in Georgia.

Although the percentage of Georgians who smoke declined between 1984 and 1992, smoking has increased by more than 4 percent a year among males and 5 percent a year among females since 1992. Approximately 28 percent of males and 20 percent of females smoke. Tobacco use among Georgia's young people is also high. During 1999, 21 percent of male and 16 percent of female middle school students reported current tobacco use.

Figure 7 Causes of Cancer in the United States	
Risk Factors	%
Tobacco	30%
Adult diet/obesity	30%
Sedentary lifestyle	5%
Occupational Factors	5%
Family History of Cancer	5%
Viruses/biologic agents	5%
Perinatal factors/growth	5%
Reproductive factors	5%
Alcohol	3%
Socioeconomic status	3%
Environmental pollution	3%
Ionizing/ultraviolet radiation	2%
Prescription drugs/medical procedures	2%
Salt/ other food additives/contaminants	1%
Source: Cancer Causes & Control, Harvard Report on Cancer Prevention, 1996	

The importance of reducing tobacco use to decrease the mortality rate due to lung cancer is crucial because there is no effective way to routinely screen for lung cancer and because symptoms often do not appear until the disease is advanced.

Skin cancer. Exposure to the sun for prolonged periods and blistering sunburns greatly increase the risk of various types of skin cancer. Melanoma, considered the most serious type of skin cancer, can cause death. Basal and squamous skin cancer can cause disfigurement. Protecting the skin from prolonged exposure to the sun and using sunscreen when outdoors greatly reduces the risk of skin cancer.

Other cancers. A combination of regular physical activity and a healthy diet can also reduce cancer risk. Scientific evidence suggests that dietary factors

contribute to about one-third of the country's cancer deaths. Modifying one's diet to include five or more servings of fruits and vegetables daily and limiting the intake of high-fat foods, (particularly those of animal sources) can reduce the risk of developing cancers of the colon, rectum, prostate and uterus. Limiting consumption of alcoholic beverages also can help reduce the risk of cancers of the mouth, esophagus, pharynx, larynx and liver.

Altering a moderate number of essential life choices (such as stopping tobacco use, limiting exposure to the sun, eating wisely and exercising regularly) can go a long way in reducing the risk of cancer. Unfortunately, Georgians make some of the most unhealthy lifestyle choices among all states. According to the *1999 Behavioral Risk Factor Surveillance Survey*, almost a quarter of Georgians smoke; only 25 percent of adult Georgians participate in regular physical activity (30 percent reported no leisure time physical activity at all), and only 21 percent eat the recommended five or more servings of fruits and vegetables each day. (Figure 8.)

Figure 8
Problems with Cancer Prevention and Early Detection in Georgia

- 24% of Georgians smoke.
- 75% do not participate in regular physical activity.
- 79% do not eat 5 or more servings of fruit and vegetables daily.
- 79% of Georgians 50 & older have never had a fecal occult blood test for colorectal cancer.
- 54% have never had a sigmoidoscopy for colorectal cancer screening.
- 47% of women 50 & older have not had mammograms & clinical breast exams within the last 2 years
- 12% of women have not had Pap test within the past 3 years.

While prevention is the first line of defense against cancer, screening and early detection can also prevent cancer morbidity and mortality. We do not yet know how to prevent some types of cancers; however, the earlier cancer is detected, the better the chances for successful treatment and survival. For example, the medical community has made significant strides in reducing death from cervical cancer because more women are obtaining regular pap tests. Mammograms and clinical breast examinations are effective in diagnosing breast cancer while it is still localized and easier to treat. Regular fecal occult blood tests, sigmoidoscopies, and colonoscopies are effective in the screening of colorectal cancer. While all of these screening and early detection options save lives, many Georgians are not routinely screened for

cancer. (Figure 8)

New Developments in Cancer Identification and Treatment

New technologies to identify and treat cancer hold great promise. These new technologies are due in part to the mapping of the human genome and an improved genetic understanding of cancer. One of the most promising new techniques is genomics, which will allow medical professionals to use a person's DNA code to predict his or her likelihood of developing cancer.

Individuals who are identified as predisposed to cancer can benefit from new methods of discovering cancer long before such detection would have been possible using traditional methods such as chest X-rays and mammograms. These individuals can also work with their health providers to identify strategies to prevent premature death from cancer. These strategies may include dietary changes, more frequent testing, or preventive chemotherapy called chemoprevention. Genomics research is also unveiling previously unrecognized protective agents in the diet. With research, these may be safely used as drugs (called nutraceuticals) that can protect partially damaged cells from developing into cancer.

New developments in cancer identification and treatment are also presenting excellent opportunities for collaboration between the medical and business communities. Most analysts agree that the 21st century will be the century of biotechnology and genomics-based opportunities just as the 20th century was for electronics and chemical engineering.

Georgia has a successful track record of stimulating the economy through scientific research and transferring research results to practical applications. Georgia's strategy for turning scientific research into economic development outcomes has been credited by the Wall Street Journal as redefining economic competition among the states. The Georgia Research Alliance's (GRA) recruitment of eminent scholars has formed the nucleus of a strategy to nurture an environment for economic development. This strategy is based upon an assumption that businesses are attracted to areas where scientific talent congregates. Between July 1998 and June 1999, companies locating or starting businesses in Georgia due to GRA projects created over 1,200 jobs. There were seven start-up companies during the same period.

The Georgia Research Alliance established the Yamacraw initiative with a more comprehensive strategy for telecommunications. The strategy includes extensive marketing efforts, the recruitment of nonacademic talent to the state's workforce, and a venture capital fund. The venture capital fund has already funded one start-up company since its April inception. In just one year, seven companies have joined Yamacraw's design center and have received royalty-free, non-exclusive five-year licenses to Yamacraw research in exchange for an annual fee. Six of the seven companies committed to create at least 100 new jobs over the next five years.

Based on past results, we can expect the announcement of a focused large-scale cancer initiative to lead to the immediate recruitment of firms, with new start-ups following in the fields of genomics, proteomics and bioinformatics. The mapping of the human genome is likely to result in a flurry of new company formations. The state already has some successes in biotechnology company formation, notably Avigenics and Atherogenics. Georgia has taken the lead in the Southeast with technology investments – in 1999, alone, biotechnology investment

tripled. Based on the increasing availability of venture capital for Georgia biotechnology, the outlook for the formation of biotechnology companies is promising. With the experience of the Advanced Technology Development Center applied to EmTech Biosciences and other university-related technology development centers, Georgia is well positioned to assist these new companies with becoming profitable ventures.

Other State Experiences

Cancer is a national problem; thus, other states are also attempting to develop effective strategies for comprehensive cancer control initiatives. Six states (California, Colorado, Illinois, Massachusetts, Pennsylvania, and Texas) reported they had formal, statewide comprehensive cancer control programs. Information from these states, plus the State of Alabama, was obtained to provide an overview of some of the ways other states are addressing this issue.

The National Cancer Institute (NCI) has designated 37 comprehensive cancer centers in 19 states and the District of Columbia. These centers meet specific criteria for "comprehensiveness", including such components as: innovative patient-oriented research studies; high-priority patient clinical trials for therapies with unusual promise; a mechanism for transferring research findings into patient care; cancer prevention and control research programs; and research training and continuing education for health care professionals. These centers provide the backbone of the nation's cancer prevention and control efforts. No NCI-designated comprehensive cancer control center currently exists in Georgia.

While NCI designations are awarded to medical facilities rather than state networks of cancer services, the absence of such a center is often considered a weakness in a state's cancer control effort. Each of the seven states from which we obtained information has at least one NCI-designated center. These states have used the NCI-designated centers as significant components of their comprehensive cancer control programs

State agencies often are the lead organizations in planning and coordinating networks of public and private cancer programs and, frequently provide state funds or federal grant funds to other organizations that participate in their cancer control programs. Based upon the information collected, three state programs have potential for providing some useful guidance for developing a comprehensive cancer control coalition in Georgia.

- **California's** comprehensive program coordinates with two NCI-designated cancer control centers, one at a public institution, the University of California at Los Angeles (UCLA) and the other at a private institution, the University of Southern California (USC). Four separate advisory boards oversee the California program: a statutorily mandated Tobacco Board, the Tobacco Education Research board, the Breast and Cervical Cancer board,

and the Cancer Research board. The state provides funding for 85 cancer research grants to USC and between 15 and 20 grants to UCLA. California is the only state that reported formal linkages between its state cancer control program and pharmaceutical and biotechnology companies.

- The **Texas** Cancer Control Council was created as a state agency with the goal of reducing the impact of cancer on Texas. The Council, which is composed of cancer professionals, prepares the *Texas Cancer Plan* which coordinates a full array of cancer programs. The programs are provided by state, local, and nonprofit organizations throughout the state. Various medical institutions, including the University of Texas MD Andersen Cancer Center (rated as the foremost comprehensive cancer control center in the nation by *U.S. News and World Report*), provide a network of services throughout Texas.
- The University of **Alabama** at Birmingham operates the only comprehensive cancer center in a five-state region that includes Georgia. The center provides a comprehensive set of services for those seeking diagnosis and treatment options for cancer. It also has a comprehensive set of cancer prevention and control research programs for individuals at risk of developing cancer. The center is nationally known for its dual roles as a regional cancer referral center and a cutting-edge research entity. The center consists of the University of Alabama Hospital, the Kirklin Clinic in Birmingham, and three affiliated hospitals throughout Alabama.

All of the states surveyed were very positive regarding the establishment of statewide comprehensive programs for cancer control. While some states acknowledge periodic problems with coordination among the various participants, virtually all the states with comprehensive plans said the advantages far outweighed existing problems. Most states reported that:

- A coordinated coalition of programs with leveraged cancer resources would improve inter-program communications and help prevent program "silos."
- Better coordination and communications helped reduce duplication of effort and allowed the implementation of priority strategies.
- Broad geographic, organizational, and interdisciplinary participation contributed to program "richness" and helped ensure that statewide needs were addressed.

Opportunities for Georgia

The State of Georgia is rich with resources for a statewide cancer control coalition. We have nationally recognized institutions of higher learning, a vibrant and growing technology community, excellent medical facilities, a strong public health system, active public service and advocacy groups, ready access to the nation's primary public health organization (the Centers for Disease Control and Prevention) and the public and

political will to improve the health and lives of Georgia's citizens. However, we will have to augment our existing efforts if we are to develop a world-class cancer control coalition. The following explains some of the challenges our present program will have to address. These challenges form the basis for the strategies and goals of this strategic plan.

Prevention and Early Detection

- Georgia does not have an on-going and comprehensive statewide multimedia campaign to promote the prevention and early detection of the major cancers.
- Although many hospitals and physicians conduct their own screening programs, there is no statewide coordinated screening effort for colorectal cancer or skin cancer.
- Opportunities for breast and cervical cancer screening for the uninsured and underinsured are limited. Funding for the state program serves only 15 percent of the target population. Few hospitals offer free or low cost mammograms.
- Few outreach initiatives exist to encourage effective types of cancer screening.
- Most Georgians do not follow the National Cancer guidelines for reducing cancer risks.
- Georgia does not have a statute or regulation which requires both third party insurers and self-insured companies to provide cancer screening tests to their enrollees as part of their coverage regardless of deductible and co-payment status.
- Georgia does not have a coordinated network for cancer screening to ensure that both insured and uninsured Georgians benefit from screening and early detection for the most common types of screenable cancers, for example:
 - * Although there are 274 mammography facilities in Georgia, 55 of Georgia's 159 counties have no facilities, and only eight mobile units are located in four metropolitan areas.
 - * Georgia has insufficient mammography facilities statewide to deliver mammograms to all Georgia women 40 years of age and older within 25 miles or 25 minutes of their homes, particularly in rural south Georgia.
 - * The Department of Human Resources' Division of Public Health's (DHR) Breast and Cervical Cancer Screening Program has funding sufficient to screen only a small percentage of the women eligible for its services. Funding is sufficient to provide:
 - Breast and cancer screening for 15 percent of uninsured women who are 50 and older and at or below 200 percent of the poverty level; and
 - Cervical cancer screening for 33 percent of uninsured, low income women under 50.

- There is no inventory of facilities and capacities for further diagnostic tests for breast and colorectal cancer.
- There are limited public health colposcopy clinics for the diagnostic evaluation of cervical cancer. Based on this inventory, only nine of the state's 19 health districts have colposcopy equipment for diagnostic evaluation for cervical cancer for the uninsured. This is augmented by the county hospital facilities in the major urban areas and the Medical College of Georgia.

Early Intervention and Treatment

- Georgia lacks a critical mass of faculty in academic health centers and clinical trial facilities who are engaged in the types of clinical research necessary to provide cutting edge treatments.
- Many Georgians lack access to health care either because they are uninsured or under-insured or because they live far away from the facilities that provide the care they need.

Cancer Research

- Georgia does not have an NCI-designated comprehensive cancer control center that provides innovative treatment and research opportunities to attract renowned cancer researchers.
- Georgia does not have a world-class research base in genomic-oriented cancer research.
- There is no state network for genomics-based detection research in product development for FDA approval.
- The state lacks a mechanism like the Georgia Research Alliance to stimulate technology transfer in cancer detection to clinical site testing.
- Georgia has not taken advantage of bioinformatics opportunities, which is essential to genomics-based research. This genomics-based research is the basis for the next wave of cancer advances.
- There is no cancer informatics center for the biotechnology sector field-testing of new tests around existing screening technologies.
- The state receives very limited research funding from NCI in pediatric and other oncology areas.
- There are barriers to patients participating in world-class clinical trials. [These barriers are not problems for world-class cancer centers like the MD Anderson NCI center in Texas or Johns Hopkins, University of Maryland NCI Centers in Maryland.]

Cancer Epidemiology, Surveillance, and Evaluation

- Georgia's Comprehensive Cancer Registry does not contain complete data. Although reporting has been mandatory since 1995, not all health care providers report new cancer cases to the registry. Without complete and timely cancer incidence data, the state and both private and public health care providers are unable to identify problems and trends; effectively plan and evaluate programs to meet the needs of Georgians; and conduct effective research programs.
- The Georgia Comprehensive Cancer Registry depends on health care providers to submit complete, accurate data. Although 40 of Georgia's 159 hospitals have American College of Surgeons' Approved Cancer Programs with hospital-funded registries, the registries are often under-staffed. The state-level registry does not have sufficient funding to send abstractors statewide to collect data from small hospitals, outpatient cancer treatment centers, and laboratories that have no dedicated cancer registry staff. Georgia has only two epidemiologists for cancer registry management, data analysis, and surveillance.
- Georgia surveys a sample of Georgians for the Behavioral Risk Factor Surveillance (BRFSS) program. However, the sample is not large enough to give a county-by-county description of the behaviors of Georgians to be used for planning and evaluating statewide cancer prevention, early detection, and educational efforts. Georgia has only one dedicated epidemiologist for the BRFSS.
- There is no statewide system of surveillance for participation in cancer screening tests. Some states have a mammography registry, but Georgia does not.

Georgia Cancer Registry Level of Completeness by Year			
1995	94%	1997	75%
1996	78%	1998	66%

1995	94%	1997	75%
1996	78%	1998	66%

Provider Education

- The state has no comprehensive program of continuing education for caregivers on cancer prevention, early detection, and treatment.
- There is no inventory of provider education offered in the private sector by health care professional organizations and agencies, making it difficult to coordinate public and private efforts.

Strategic Goals, Objectives, and Strategies

Five primary goals must be addressed to successfully develop, implement, and operate the Georgia Cancer Coalition:

Goal 1: Prevent Cancer and Detect Existing Cancers Earlier.

Reduce the number of deaths due to cancer through a focused cancer prevention and early detection effort; and provide education to and screen Georgians for cancer, emphasizing the cancers that are the major causes of death.

Objectives:

1. Make all Georgians aware that death from some of the most common cancers can be reduced through prevention and early detection.
2. Educate health care providers about the importance and availability of early detection programs and the value of counseling patients about cancer prevention behaviors.
3. Provide education to Georgians about how to prevent cancer.
4. Increase participation in early detection programs.
5. Provide accurate and useful data to guide the planning and evaluation of cancer prevention and early detection programs.

Strategies:

Public Education

1. Engage all public and private partners collectively to guide the development of a public education plan and leverage all resources for statewide implementation.
2. Develop, implement, and evaluate a statewide multimedia communications campaign leveraging resources of public and private partners.
3. Use existing materials and, as needed, develop new materials for cancer prevention and early detection.
4. Develop and implement challenge grants and other programs for statewide organizations and agencies to leverage the execution of the statewide public education campaign.
5. Foster the development and implementation of district and community public education plans.

Provider Education

1. Engage all public and private partners to guide the development of a provider education plan and leverage key organizational resources for statewide implementation.
2. Develop or adapt provider educational materials for distribution in selected media channels such as web-based modules, and medical education channels.
3. Develop, implement and evaluate a statewide multimedia communications campaign plan with public and private partners through selected channels targeting health care providers.
4. Develop and implement programs for health care providers and professional organizations to leverage the execution of the statewide provider education plan.
5. Foster the development and implementation of district and community provider education plans.

Cancer Screening and Early Detection

1. Develop a statewide screening and early detection network of public and private health care providers. The network will guide the development of plan components for delivering essential cancer screening and early detection tests to all Georgians, who are in priority age groups, and will leverage public and private resources to implement this initiative.
2. Develop an inventory of health care providers who deliver essential cancer screening and early detection tests. Link this inventory with an inventory of treatment programs and centers (such as community oncology programs, regional cancer centers and the Georgia centers of excellence) which deliver needed diagnostic and treatment services.
3. Develop a medical advisory committee to guide the implementation of the screening plan, including strategies to use the results of research and clinical trials to improve ongoing programs that screen target populations.
4. Foster the development of local and district screening and early detection networks to develop and implement local plans for the delivery of key cancer screening and early detection tests.
5. Create programs with partner health care providers to develop public and provider incentive initiatives to increase screening in the insured population.
6. Create innovative ways to increase capacity in under-served populations where service delivery is limited by the capacity and availability of fixed sites or mobile units.

Cancer Epidemiology, Surveillance, and Evaluation

1. Monitor the incidence, prevalence, and mortality of cancer in Georgia to address and target disparate incidence rates in the population based on characteristics such as race, geography, age and sex.
2. Assess the current systems and methods of collecting epidemiological, surveillance and performance data in light of available technological tools and implement modern, streamlined systems to:
 - a. Increase the comprehensive cancer registry's capacity to collect at least 95 percent of cancer incidence data in a timely manner so that data is available for research, surveillance, and evaluation.
 - b. Conduct statewide population surveys of Georgian's knowledge, attitudes, and behaviors regarding cancer prevention and early detection in order to plan, target and evaluate efforts in this area.
 - c. Conduct statewide surveys of health care providers in order to plan, target and provide support in cancer control efforts.
 - d. Create a system to monitor participation in and outcomes of early detection programs.

Goal 2: Improve Access to Quality Care for All Georgians with Cancer.

Increase access to quality care and upgrade the availability of world-class medical care for Georgians with cancer through state-of-the-art technology and methods.

Objectives:

1. Implement a cancer treatment delivery system that provides statewide access to a full range of quality cancer treatments for all Georgians.
2. Implement an information system that allows cancer-related data to be shared among all cancer treatment programs.

Strategies:

1. Create a delivery system for cancer care that both provides quality services to Georgians at facilities close to their homes and access to more specialized services within Georgia. This delivery system will consist of the following:
 - a. The first level of cancer care will consist of American College of Surgeons (AcoS) –approved community hospital cancer programs that will provide initial cancer diagnosis and provide state-of-the-art cancer treatments for the most commonly diagnosed cancers. When patients have uncommon

cancer sites or when cutting-edge treatment is needed, he or she will be referred to a regional AcoS-approved cancer center. The AcoS-approved community hospital cancer programs will be networked with the regional cancer centers.

- b. The second level will consist of regional hospitals located throughout the state, which meet specified standards of cancer care. These hospitals will provide more specialized care to patients referred by community hospital cancer programs. These regional cancer centers will be part of the comprehensive cancer center network and will be connected with the Georgia Cancer Coalition Centers of Excellence.
 - c. The third level of cancer care will be designated the Georgia Cancer Coalition Centers of Excellence and will consist of up to three sites that will be selected to ensure both urban and rural coverage. The first center will be in leased space at Grady Memorial Hospital in Atlanta. It will be staffed by physicians and scientists from area medical schools and universities, oncology nurses, social workers, and nutritionists. The additional hospitals will be selected later. The three centers will provide innovative clinical investigations utilizing cutting-edge treatment modalities to patients referred from the regional and community hospital cancer programs. Clinical faculty and scientists from Georgia's medical schools, oncology nurses, and pharmaceutical and biotechnology firms will advance the quality of care for all Georgians with cancer by using these sites to conduct clinical trials, provide cutting-edge treatment, and develop new standards of care for cancer. These Centers of Excellence will also conduct clinical trials using new strategies to detect cancer earlier.
 - d. A network of physicians, local clinics, hospices, and other types of medical providers will support all three levels. They will participate in and contribute to the Coalition's cancer screening, early detection, treatment, and educational strategies and will collaborate with the Coalition to ensure that their patients receive appropriate, effective and seamless care.
2. Establish a system among the cancer care delivery providers to share information on the care of cancer patients to assure quality and continuity of care while protecting the confidentiality of patient information.
 3. Evaluate the options for ensuring that all Georgians have access to quality cancer care and map out a course of action which addresses identified needs.

Goal 3: Save More Lives In The Future.

Create a new leading body of knowledge and leading products that contribute to the ultimate eradication of cancer in Georgia and for humankind.

Objectives:

1. Establish a program to expand the number of world-class experts in Georgia's universities and medical centers. The program will contribute to understanding the causes and mechanisms of cancer and to developing more effective cancer diagnostics and therapies.
2. Establish programs and funding incentives to attract world-class cancer clinicians and researchers.
3. Achieve an NCI designation for the Georgia Cancer Coalition as a comprehensive cancer center.
4. Address cancer incidence and mortality disparities experienced by Georgia's African-American population.
5. Establish a statewide network of tissue and bodily fluid specimens that ensures patient confidentiality and that is accessible to the research community.
6. Create a direct and accelerated link between cancer research and the commercialization of that research into new products and treatments.

Strategies:

1. Begin the planning process for being designated a Comprehensive Cancer Center by the National Cancer Institute.
2. Establish an Eminent Cancer Scientist and Eminent Cancer Clinician program to expand the number of world-class cancer clinicians and scientists in Georgia's universities and medical centers. The Georgia Cancer Coalition will assist in and coordinate the internationally recognized experts who have made significant contributions in their fields. These contributions will lead to understanding the causes and mechanisms of cancer and to developing more effective cancer therapies.

Eminent cancer researchers will help shape the Georgia Cancer Coalition's research direction by taking a leadership role in:

- Defining and carrying out active, internationally-recognized programs related to cancer research and development;
- Defining and conducting epidemiologic research;
- Forming and assisting interdisciplinary teams of university scientists to address the associated research problems;
- Identifying and securing additional external funding needed for program expansion, and;
- Training a new generation of cancer researchers and caregivers.

Eminent cancer clinicians will take a leadership role in:

- Enhancing state-of-the-art treatment at Georgia's medical centers, and
- Developing and applying new diagnostic approaches and therapeutic strategies for cancer and cancer prevention through clinical investigation.

The world-class cancer clinicians and scientists will further the objectives of the Georgia Cancer Coalition and encourage collaboration among the participating institutions. Investing in these world-class clinicians and scientists will help to attract and retain additional outstanding faculty and students and bring new research funding and capabilities to Georgia's research institutions and medical centers.

This new infusion of excellence in cancer care and research will be part of the Georgia Cancer Coalition and will be distributed throughout the state. These cancer clinicians and scientists will be recruited to such fields as Oncology Nursing, Epidemiology, Health Services Research, Pediatric Oncology, Adult Oncology, Basic Research, Bioinformatics, Molecular Genetics, Experimental Therapeutics, and Structural Biology.

Goal 4: Train Future Cancer Researchers and Caregivers.

Leverage the overall effort to benefit future generations by training the next wave of cancer researchers and caregivers.

Objectives:

1. Establish a process through which training programs for new entrants into the healthcare field, as well as continuing education programs for existing practitioners, are regularly updated to incorporate new developments in cancer screening, detection and treatment.
2. Promote educational and training opportunities that attract students and professionals to pursue careers in cancer research, treatment, and care giving.

Strategies:

1. Develop standards of excellence for healthcare training programs relative to cancer prevention, screening, detection and treatment.
2. Assess the ability of existing training programs to meet those standards of excellence and work with the institutions and organizations that deliver the training to adjust those programs as necessary to meet these standards.
3. Identify groups which do not currently have relevant training and work with those groups to implement appropriate programs.

4. Work with medical schools, educational institutions, professional associations and other related organizations to identify mechanisms to attract and retain qualified professionals in cancer research, treatment and care giving. Examine various options including the following:
 - a. Establish post-doctoral training opportunities and fellow scholarship programs for researchers.
 - b. Establish training programs for cancer caregivers
 - c. Establish scholarship programs in Georgia's schools for training persons in the detection and treatment of cancer.
 - d. Establish continuing education courses in cancer prevention, early detection, treatment, care giving, and research.
 - e. Utilize Georgia's network of Area Health Education Centers to attract and encourage students to pursue cancer fields.

Goal 5: Turn the Eradication of Cancer into Economic Growth.

Create and enhance existing partnerships with pharmaceutical and biotechnology companies, that will provide quality jobs to Georgians and environmentally clean additions to the economy.

Objectives:

1. Establish the means to attract and leverage public and private funds and other resources to foster economic growth.
2. Create an entrepreneurial environment for biotechnology and biomedical companies using the rich research capacity of the Georgia Cancer Coalition.
3. Leverage the talent of the assembled world-class clinicians and scientists.

Strategies:

1. Establish the Center for Applied Bioinformatics that will be responsible for the collection, storage, retrieval and distribution of the vast clinical and epidemiological data resources of the state to enhance research and development and to enable new commercial activities. The primary goal of the Center will be to forge and maintain links to partner institutions and the local commercial development community while assuring the confidentiality of patient information. Also, the Center will provide the necessary board expertise in bioinformatics.
2. Identify cancer technologies that are in development or are established elsewhere and encourage their relocation to Georgia.

3. Create a direct and accelerated relationship between cancer research and commercialization.
4. Research and, if feasible, establish a seed capital fund for business incubation.

Appendix A: Methodology

Public and private sector stakeholders throughout the state actively participated in the open process through which the Governor's Cancer Initiative was developed. The process also included substantial input from nationally known experts to both validate the overall thrust of the initiative, as proposed, and to refine its direction and content. Specific steps in that process were:

- Assembled as many stakeholders as could be identified for a kickoff meeting. The Governor and his staff presented the overall concept of the Governor's Cancer Initiative and asked each attendee to submit an inventory of current capabilities and resources.
- A representative of the Governor's Office chaired a working group that included representatives from the Georgia Research Alliance, the Department of Community Health, the Department of Human Resources' Division of Public Health, the Board of Regents and the Governor's Office of Planning and Budget. The group:
 - Compiled the responses from the stakeholders detailing existing capabilities and resources;
 - Surveyed other states to learn of their capabilities and experiences in cancer prevention, detection and treatment and compiled the results;
 - Identified and researched a number of policy issues that would impact creation of a statewide cancer initiative; and
- Drafted a strategic plan that presents the overall vision, mission, goals, objectives and strategies for a statewide cancer initiative. Established a vision group that:
 - Refined the vision, mission and goals for the initiative;
 - Guided the overall framework of the initiative; and
 - Reviewed and helped refine the draft strategic plan.

This group was chaired by a representative of the Governor's Office. Members included representatives from the Georgia Research Alliance, the Department of Community Health, the Department of Human Resources' Division of Public Health; the Governor's Office of Planning and Budget and several individuals with programmatic expertise.

- A panel of individuals who are highly respected and knowledgeable in the fields of cancer prevention, detection and treatment; genomics; or commercialization of fact-based research were asked to review the draft strategic plan and offer their advice and comments on enhancing its vision and content. Following submission of their written comments, several members of this group met with

the Governor and other project participants in a face-to-face meeting at which they provided additional comments and responded to questions. The draft strategic plan was then revised to incorporate their considerable advice and comments.

- Distributed the draft strategic plan to the members of the initial stakeholders' group, obtained comments and suggestions, and, as appropriate, incorporated them into the strategic plan.
- Charged teams from the working group, supplemented by other individuals with relevant expertise as needed, to develop an overall implementation strategy and plan, associated cost projections and budgetary requirements, and a communication plan, and to draft legislation as required to implement the initiative.

Appendix B: Summary of Existing Cancer Resources

As one of the first steps of developing Georgia's cancer initiative, it was crucial to identify existing efforts in cancer that were underway in the state. Recognizing that Georgia has many strengths and existing resources in cancer detection, prevention, screening and treatment, it is important to identify and build on that foundation.

To that end, the many public and private stakeholders of this initiative – the hospital and physician community, universities, medical schools, national organizations, and others – were invited to submit an “inventory” of their current activities, resources and capabilities around the five goal areas. Over 35 submissions were received and those are summarized in this appendix. However, this appendix cannot be construed to represent the complete picture of Georgia's vast cancer activities. There may be many more organizations, practice groups, etc. that were not identified during the initial stages of this plan. The Georgia Cancer Coalition will continue to identify and work with the many cancer partners that exist in this state.

Goal 1: Reduce the number of deaths due to cancer through a focused cancer prevention and early detection effort; and provide education to and screen Georgians for cancer, emphasizing the cancers that are the major causes of death.

Introduction

The goal of education and early detection is to prevent the occurrence of cancer when possible and/or to detect cancer early when treatment is most effective. Lung, breast, prostate, colon, and skin cancers are the most commonly occurring cancers and are the cancers in which prevention and early detection are most likely to make a difference. The risk of lung, oral, kidney, bladder, pancreatic, and cervical cancers is increased by use of tobacco products. Tobacco use accounts for at least 30% of all cancer deaths, including 87% of all lung cancer deaths. Prevention of tobacco use through educational activities is a priority. Diet accounts for approximately one-third of cancer deaths. Dietary intervention is also a priority. Skin cancer can be prevented through avoidance of intense, prolonged sun exposure, especially during childhood. Population-based screening modalities have been demonstrated to be efficacious for breast, cervical, and colorectal cancer. Deaths have been reduced with widespread screening. Clinical trials are underway for prostate cancer screening.

Statewide Education and Early Detection Efforts

The following organizations have statewide educational programs focused on one or more of the following: tobacco use prevention, dietary intervention, promotion of

breast, cervical, and colorectal cancer screening, skin cancer prevention, prostate cancer awareness:

- American Cancer Society
- The Georgia Department of Human Resources, Division of Public Health
- University of Georgia, Extension Service
- The Centers for Disease Control and Prevention
- The National Cancer Institute, Cancer Information Service
- The Department of Community Health, Office of Women's Health.

The following organizations have statewide screening programs focused primarily on breast and/or cervical cancer:

- The Department of Human Resources, Division of Public Health through its 159 county health departments and their local clinics.
- The Department of Community Health through Indigent Care Trust Fund support of local screening efforts.

Local and Regional Education and Screening Efforts

Based on the 13 inventories submitted by hospitals, including both large and small facilities, local hospitals support breast, prostate, and skin cancer education and screening promotional programs at least once per year during breast, prostate, and skin cancer awareness months. Some, but not all hospitals, offer free screenings. Five of the 13 have mobile units to reach out into the community. One hospital offered colon cancer screening. Some hospitals provide education in tobacco use prevention and nutrition. If these 13 are representative of the 150 hospitals statewide, there is potential to increase education and screening activities through this collaborative network of hospitals.

One Health Maintenance Organization (HMO) that serves 19 counties in the greater Atlanta area has an active breast, cervical, skin cancer education and screening program. Their goal is to provide breast and cervical cancer screening to 80% of the age-eligible women. If this one HMO is representative of the other HMO's in Georgia, there is great potential for widespread screening of the insured population.

Two organizations, Georgia Oncology Partners and the University of Georgia, are involved with promotion of work site education and screening programs. The potential impact of collaborative educational and screening efforts with industries is great for both the industry and Georgia.

Educational Institutions

The four medical schools offer education and screening to patients through their clinical service programs. Mercer and Morehouse have outreach screening and education programs (Mercer to rural Georgia and Morehouse to African Americans).

Morehouse is funded by the National Cancer Institute to direct the National Black Leadership on Cancer (NBLIC) program. NBLIC funds regional and local cancer education and awareness activities with a focus on breast, prostate, diet and nutrition and smoking cessation. Georgia State University has developed cancer risk educational programs for schools. There are many educational institutions throughout Georgia with the potential to be involved in cancer prevention and education.

Goal 2: Increase access to quality care and upgrade the availability of world class medical care for Georgians with cancer through state-of-the-art technology and methods.

Findings that emerged from the review of the submissions revealed six major areas:

1. Existing Treatment Programs

The majority of the respondents cited the following treatment programs currently existing in their respective institutions: cancer detection pathology, radiation oncology, medical and surgical oncology, nuclear medicine, diagnostic imaging, chemotherapy, nutritional therapy, infusion therapy and pharmaceutical therapy. Other respondents listed more advanced treatments such as, multimodality radiation surgery, pathological diagnosis of tumor biopsies, adult leukemia, and ultra sensitive digital imaging. Emory University, through the establishment of the Winship Cancer Institute, reported more advanced state-of-the-art treatment programs including viral oncology, neurooncology, and a prostate gene therapy program.

2. Respondents Reporting Treatment Programs at Their Respective Institutions:

Many respondents reported that they provided programs to treat cancer patients. These institutions are grouped and presented as follows: Medical Centers and Hospitals, Academic Institutions, and Public/Private Organizations. Some institutions cited cancer services but did not describe the services they provided. Therefore, these institutions were not included in this summary.

MEDICAL CENTERS AND HOSPITALS

Southern Regional Medical Center. Offers medical and surgical oncology services including outpatient chemotherapy. Services also include radioisotope procedures and a mobile mammography unit.

DeKalb Medical Center. Operates the stem cell transplant program and the prostate cancer treatment program. DMC has two centers (radiation therapy and diagnostic imaging) and a lymphedema management program.

Medical Center of Central Georgia. Provides full diagnostic and therapeutic services for cancer. In addition, a full range of support services is provided including pastoral care, nutritional care, and rehabilitation and support groups.

Children's Healthcare of Atlanta. Provides a children's hematology-oncology program that involves treatments for leukemias and lymphomas, stem cell therapy neuroblastomas, brain tumors, Wilms and other kidney tumors and pediatric retinoblastomas.

Phoebe Putney Memorial Hospital. Has all major treatment modalities for cancer provided by two radiation oncologists. A dedicated breast center is located in the hospital. Stem cell transplants and clinical trials are among the cutting-age therapies offered.

Atlanta Medical Center. Provides inpatient and outpatient services including surgical oncology, medical oncology, radiation oncology, infusion therapy, nuclear medicine, pathology, clinical research and support services.

Wellstar Health System. Both Kennestone and Cobb Hospitals have radiation therapy facilities and inpatient oncology units. Other treatment programs provided include neuroradiology, MRI's and the PET Scan. The Sarah Cannon Cancer Center Clinical Trial program is also offered.

Saint Joseph's Hospital. Offers a 50-bed inpatient unit and an outpatient care unit for the diagnostic and treatment phases of cancer care. A radiation therapy department also exists.

Columbus Regional Healthcare System. Provides cancer programs through the John B. Amos Community Center. Advanced technologies and treatment modalities include brachytherapy, prostate seed implants, networked imaging conformal therapy, outpatient chemotherapy and infusion therapy.

Redmond Regional Medical Center. Provides a variety of programs including medical and surgical oncology. Other services include inpatient and outpatient chemotherapy, infusion therapy and Camp Blue Bird for cancer survivors.

Floyd Healthcare Management, Inc. Offers programs related to radiation, chemotherapy, stereotactic radiosurgery, prostate seed implants, and brachytherapy. The InterCommunity Cancer Center in Rome is associated with Floyd and provides a radiation therapy program.

Tift General. Provides a wide-range of cancer treatment services, including surgery, radiation therapy, chemotherapy, hormone-mediated treatment, palliative cancer and diagnostic imaging.

ACADEMIC INSTITUTIONS

Morehouse School of Medicine. Provides medical care to a wide range of people. Services include screening, diagnosis, treatment and support for people with cancer. MSM faculty provide care to patients at Grady Health System and its other teaching affiliates including South Fulton Medical Center and Southwest Hospital Medical Center. Morehouse School of Medicine maintains linkages with African American physicians in private practice.

Mercer University. Has long-term affiliation and partnership agreements with the Medical Center of Central Georgia and Memorial Health University Medical Center. Each hospital offers a comprehensive cancer diagnosis and treatment program and a full range of clinical services for treatment of cancer. Mercer University has both adult medical oncology and pediatric oncology clinical resources. The University is also affiliated with institutions that have hospice services and active hospital tumor registries.

Emory University. Established the Winship Cancer Institute in 1999. This Institute provides multi-disciplinary care for 2010 newly diagnosed cancer patients at the Emory Clinic. Faculty also provides cancer care to patients at Grady Hospital and Crawford Long Hospital. Emory has numerous specialized treatment programs headed by faculty leaders including prostate cancer gene therapy, neuro-oncology, pediatric oncology and multidisciplinary cancer programs to name a few. In addition to these programs, Emory faculty is heavily involved in the breast center, radiology oncology, medical and surgical oncology service and hospice at Grady Hospital.

Medical College of Georgia. Has extensive experience in serving cancer patients in the urology, family medicine, surgical oncology, medical oncology and other clinical services. Health professionals in training, including physicians, nurses and allied health personnel, are part of the programming at MCG. Ancillary and support services to cancer patients are available in genetic counseling, cytogenetics, social work and community outreach. MCG is known for its expertise in delivering services via telemedicine through the Georgia Statewide Academic and Media System.

PRIVATE AND PUBLIC ORGANIZATIONS

American Academy of Pediatrics. Urged that the cancer initiative include a pediatric component. This organization conducted a survey of seven children's hospitals to determine current efforts in the state of Georgia on cancer in children. They concluded that to achieve national stature for excellence, research, lab space, and professional personnel must be included.

Georgia Oncology Partners, LLC. Consists of a network comprised of 69 physicians who practice in 46 locations throughout metropolitan Atlanta and North

and Central Georgia. Expertise includes radiation oncologists and medical oncologists. Has a bone marrow transplant affiliate.

Department of Community Health. Works to ensure that quality health care services are provided to a variety of individuals: state employees, school personnel and retirees; and the aged, low-income and disabled on Medicaid. DCH's State Health Benefit Plan provided coverage to 44,911 individuals with a primary diagnosis of cancer and its Medicaid program treated over 21,220 individuals with a primary diagnosis of cancer. DCH reports that the Indigent Care Trust fund is a potential source to address treatment costs for clinical trials. Lastly, the Department provides reimbursement to medical schools for the costs of medical education.

Department of Human Resources, Division of Public Health. Administers the Cancer State Aid Treatment program aimed at serving medically indigent cancer patients. The program funds diagnostic and treatment services for medically indigent patients. Private oncologists practicing at 22 ACOS-approved cancer treatment centers, 15 free standing radiation therapy or medical oncology facilities, and private pharmacies statewide provide these cancer treatment services.

Georgia Hospital Association. Offered a proposal on behalf of the Georgia Hospital Research and Education Foundation Partnership for Health and Accountability (The Partnership). The Partnership is capable of providing data to drive decisions regarding health resources. They provided three documents, developed by the DCH Division of Health Planning, that describe cancer services provided by hospitals.

3. Cancer Types That Show Promise for High Impact Application

Most respondents listed the number of cancer cases seen in the population that they serve. For example, cancer types that were treated most frequently included lung, gastrointestinal and breast cancers. Other commonly treated cancer types included: cervical, colorectal and prostate cancers. A few studies indicated that childhood cancers needed to be included, such as brain tumors, the leukemias and the neuroblastomas. Melanoma, head and neck cancers were also cited as cancer killers of Georgians.

4. Ways to Strengthen Academic Health Centers and Clinical Trial Facilities to Improve Cancer Care to Clients

Many of the respondents indicated that a major action that would improve cancer treatment and provide world class medical care in Georgia is to create a critical mass of faculty who would be engaged in clinical research. According to most respondents, a well-developed research program in cancer treatment and therapies is greatly needed by all faculty and researchers. Physician medical education and effective, efficient patient referral processes were listed in several proposals. In addition, faculty development grants were proposed to develop junior faculty for scientific careers. In addition, it was suggested that all Georgians should have access to clinical trials and

toll-free clinical trials hotlines to obtain current information on clinical trials. Several proposals cited that the state of Georgia would need adequate space for conducting expanded cancer research. Others mentioned that the lack of access to health care must be recognized as the principal barrier to care. Lastly, many proposals indicated that Georgia would need to train a variety of personnel, including nurses, social workers and nutritionists to make this initiative a success.

5. Assets that Could be Leveraged to Implement a Program of Improved Cancer Treatment

Many of the proposals cited what their respective institution could do on an individual basis to implement a program of enhanced cancer treatment. For example, most of the academic institutions indicated that they had links with community professional and health care networks that could create a broad pool of primary care physicians and specialty physicians in cancer care. Other institutions noted that they have grants from the National Institutes of Health that will expand the cancer research efforts. Some academic institutions stated that they have a well-developed curriculum evaluation, improvement and innovation process for teaching different disciplines to improve cancer treatment. Emory University mentioned that they have over 300 full time School of Medicine faculty representing subspecialties of radiology, pathology, dermatology, urology, gastroenterology, gynecology, radiation oncology and clinical genetics. Medical College of Georgia, Mercer, and Morehouse have Family Medicine Departments that train interns and residents in primary care.

6. Other Assets Needed to Deploy An Improved Treatment Program Statewide

A number of proposals listed the following resources as assets necessary for providing world class medical care:

- Attracting, supporting and retaining top talent;
- Creating adequate laboratory space;
- Decreasing the cost of health care;
- Developing a well-stocked library that includes books, publications, and an interactive computer system that is updated monthly; and
- Preparing and making available oncology certified nurses who can answer patients' questions regarding cancer issues.

Several proposals suggested that they would need to recruit medical oncologists and other cancer specialty researchers. Research scholar's awards were also suggested to attract world class faculty to the state of Georgia. A young investigator's scholarship award was also mentioned. High impact clinical trial support in basic research, detection, prevention and cutting-edge treatment at Grady Hospital was mentioned. A statewide program to notify Georgia practitioners of the availability of clinical trials was also suggested.

Goal 3: Create a new leading body of knowledge and leading products that contribute to the ultimate eradication of cancer in Georgia and for humankind.

All cancer research and cancer biotechnology opportunities can be classified broadly into improving methods of early detection when the cancer is curable and improving treatment options with new technology in patients who are detected at risk, or diagnosed with cancer. This includes new chemo-prevention of cancer, not just surgery, radiation, or chemotherapy. Georgia is behind the rest of the U.S. in both sectors of vital faculty research and development. Patient access to better detection and treatment research through expanded insurance coverage in Georgia is a political and critical element of the Governor's Plan not addressed in the inventories. Also lacking are substantial numbers of NIH grants and clearly designated space and faculty where cancer research is already underway.

Existing essential assets include:

Detection and Screening Research

Fundamental Science Technology of Genes and Pathways in Cancer that allow detection before spread:

- Chromosomal DNA based "Gene chips": Emory, Georgia Tech, CDC, Morehouse
- Mitochondrial DNA based detection: Emory
- RNA based: Emory, MCG
- Carbohydrate based: MCG, Emory
- Lipid based: Emory
- Proteomics based: Emory, Georgia State, MCG, CDC
- New Cancer Radiographic Detection Imaging: Georgia Tech, Emory

Clinical Trials Testing Populations for Primary Detection Technology throughout State; Biotech detection clinical sites with high risk Georgians for FDA testing:

- MCG, Mercer, Morehouse, Emory: All are assets and have infrastructure for screening; greater than 80% of the county population is covered in the referral network; urban and rural high risk populations have potential entry.

Improved Treatment Research for Patients with Cancer

Fundamental sciences of discovering new breakthrough drugs, and making them available in clinical trials in Georgia as they gain FDA approval.

- Basic Research: Chemoprevention of Cancer: Emory
- Basic Research: Novel Treatment of Cancer: New drugs, vaccines, antibodies, immunotherapy: Emory, MCG, CDC, Georgia State
- Clinical Research/ New Clinical Trials 2000:
Adult: Emory, MCG
Pediatric: Emory, MCG

Goal 4: Leverage the overall effort to benefit future generations by training the next wave of cancer researchers and caregivers

Research Training

The mission of training cancer researchers was addressed by most of the academic institutions that submitted documents. The proposals for training researchers are broadly stated, not specific in terms of comprehensive goals or content, with a few exceptions. Some of the general goals include:

- Develop world class human capital in the cancer control and cancer treatment fields with scholarships and fellowships
- Recruit more world class teachers
- Provide more opportunities for minorities to develop careers in cancer research and treatment
- Provide financial support for career development in cancer research
- Provide support for existing and new degree programs emphasizing cancer research

The majority of institutions suggested scholarship and research fellowship programs as the primary means to train the next wave of cancer researchers. This would require allocation of substantial funding to allow graduate students and post-doctoral fellows to be assigned to established researchers in order to advance existing lines of research and to facilitate the education of the students and post-docs through a mentoring process.

Support for research-oriented degree programs, such as the MD/Ph.D. and the MD/MPH, was recommended by several institutions.

Generic research training programs were recommended by three of the institutions. These programs are part of the educational mission of most universities and are not necessarily specific to cancer research. “Pipeline” programs at the high school level were also noted as an important component of the process of developing interest in research careers, particularly with regard to minority students.

Georgia has significant resources that can be leveraged to achieve the goal of training the next generation of cancer researchers. A comprehensive plan addressing the types of researchers needed, the numbers of researchers needed, the support

facilities, research faculty needs, and budgetary requirements is necessary in order to determine deficits in resources to meet this goal.

An organizational structure to focus this effort is the only obvious deficit at this stage. A collaborative organizational model, such as the example described in the Morehouse University proposal, is needed.

Health Care Provider Training

The four medical schools and their affiliated teaching hospitals are the key resource to achieve the goal of training physicians who are equipped to provide optimal care to cancer patients, provide cancer control and screening services to populations in their communities, and who will facilitate the advancement of cancer research through participation in clinical trials and other research studies. Georgia has excellent undergraduate, graduate, and continuing medical education programs. There are clearly opportunities to enhance cancer education directed to physicians and to maintain physician knowledge and skill at the highest level, both for primary care physicians and for the subspecialty physicians who are involved in the care of cancer patients.

The nursing schools, dental school, public health schools, and other health professions schools were not as prominently featured in the documents as the medical schools and teaching hospitals, but are clearly essential resources to achieve the goal of training the next wave of caregivers.

Public health agencies such as the Centers for Disease Control and Prevention and the Georgia Department of Human Resources, Division of Public Health, are critical in terms of training cancer control and surveillance experts, and in providing technical assistance and training for health care providers in prevention, screening, and epidemiology services.

The networks of providers, such as the Georgia Hospital Association, the Medical Association of Georgia, and the Georgia State Medical Association, as well as the resources of the hospitals and provider agencies in the state that maintain cancer related services, are particularly important to meeting the continuing education needs of health professionals who practice at these facilities or agencies.

Although no glaring deficiencies were identified in the existing cancer training programs for health care providers, the adequacy of graduate medical education programs to train cancer specialists is one area that must be reviewed in more detail. The adequacy of programs to train oncology certified nurses, programs to increase the number of minorities trained to provide cancer-related services, and programs to train dentists in cancer related services should also be reviewed. The effectiveness of programs to train and update primary care physicians on cancer screening and prevention services should be evaluated.

There is a clear need to continually train individuals who provide data to the cancer registries in order to assure the quality of the cancer registry data meets national standards.

The most obvious need is for a comprehensive, coordinated plan to serve as a guide to the enhancement of cancer training programs for health professionals throughout the state. The need for collaboration among the education and training programs in the state is also obvious if the investment in training is to achieve desired results.

Goal 5: Create and enhance existing partnerships with pharmaceutical and biotechnology companies, that will provide quality jobs to Georgians and environmentally clean additions to the economy

In order for the cancer initiative to result in economic development, our challenge is to convert research discoveries to products that will benefit patients and in the process attract corporate alliances, recruit research divisions of existing companies, and generate new company start-ups based on the development of new technology in the universities and medical centers. Therefore, a leading edge, world-class research and development competency is critical to the cancer initiative. To be a recognized force in cancer research and, more specifically, outcomes – talent needs to be encouraged, recruited and retained. From the standpoint of cancer treatment and prevention, our existing clinical and research talent is very good. It is clear that the Georgia initiative would benefit from either the growing or recruiting of more world-class cancer clinicians and researchers who are experienced in the art of bringing products to the patient.

Two essential factors will enable the research efforts of the cancer initiative to be converted into economic development: scientific progress and scientific information. Each requires the talent described earlier in combination with the tools of the trade – infrastructure. Georgia has research tools that are the envy of many. Moreover, we have the expertise, research facilities and knowledge to fully exploit advances in genomics. At AGTEC (UGA) and CollabTec (GSU) we will be able to prepare the essential components for gene therapy. At EmTech (Emory/Georgia Tech), we will be in a position to drive commercial research and development in the arena of genomics and informatics and drug discovery. As part of our infrastructure we already have unparalleled basic research facilities and the ability to commercialize these advances rapidly. AGTEC, CollabTec and EmTech each provide environments for commercialization. We believe we have a unique opportunity to speed technology to market.

When discussing infrastructure, we are referring to more than buildings, more than machines and certainly more than laboratories. An effective research and development infrastructure will be required: research facilities from the private and public sectors being available to those who need them; seamless technology transfer; and the wherewithal to design and conduct visionary clinical studies.

By leveraging our infrastructure and talent, we should be able to jump-start the commercialization process. However, the road to successful commercialization of an innovative therapy or diagnostic is long. Clearly, the creative use of our infrastructure and talent gets us started. Ultimately, the additional funds in the form of seed capital are necessary to finance the start-up of new businesses and to help attract early-stage, out-of-state companies. The availability of seed capital is presently one of our most pressing needs.

Appendix C: Survey of Other States

State comprehensive cancer programs were surveyed to obtain information about their organization, governance, and experiences. Based upon information from the National Governor's Association's Center for Best Practices, 16 states were selected for structured telephone surveys. Interviewers were able to contact and obtain information from 11 states; information from a 12th state (Alabama) was obtained from that state's web page to ensure the inclusion of at least one southeastern state. The following states provided information:

- Alabama
- California
- Colorado
- Illinois
- Kansas
- Kentucky
- Massachusetts
- New York
- Ohio
- Pennsylvania
- Texas
- Washington

The following summarizes some of the key responses to the survey. The web page for Alabama's Comprehensive Cancer Center did not include information for all the questions in the survey and not all states responded to every question. Therefore, when appropriate, the total number of states responding to each question is shown.

State Comprehensive Cancer Control Centers or Programs

Ten of the 12 states have at least one National Cancer Institute (NCI)-designated Cancer Control Center. There were no NCI-designated comprehensive cancer control centers in Kansas and Kentucky. The NCI has designated 37 such centers nationwide. These centers are considered the finest institutions for cancer research, prevention, early detection, and treatment in the country.

Eight states also reported state comprehensive cancer control programs. Six of the eight states reported formally organized programs:

- Two of the eight states, Texas and Pennsylvania, have statutorily mandated comprehensive programs.

- Advisory boards or committees oversee six states (California, Massachusetts, New York, Ohio, Pennsylvania, and Texas).
- Most state programs are coalitions of state, local, nonprofit, and private programs with state organizations playing lead roles in convening and/or coordinating their state's comprehensive cancer programs.
- Only one state, California, reported collaborating with and funding biotechnology companies as part of its program. Kansas and Pennsylvania reported they were considering the feasibility of such collaborations.

Program Components of States' Comprehensive Cancer Programs:

[The chart shows the states that include each component in their comprehensive cancer programs.]

Program Components	State Programs with Each Component
Education and Prevention	CA IL KS MA NY OH PA TX
Early detection and Screening	CA KS NY OH PA TX
Research	CA KS NY PA
Intervention and Treatment	CA KS NY PA
Surveillance	CA IL KS MA NY OH PA
Linkages with Community-Based Programs	CA IL KS MA NY OH PA TX
Linkages to Pharmaceutical Companies	CA
Linkages to Biotechnology Companies	CA
No Response: Alabama, Colorado, and Washington	

Types of Coordinating Activities Performed by States' Comprehensive Cancer Programs:

[The chart shows the states that include each component in their comprehensive cancer programs.]

Type of Activities Coordinated	States Using Type of Coordination
Systemwide Planning	CA IL KS MA NY OH PA TX
Information Sharing	CA IL KS MA NY OH PA TX
Joint Research Projects	CA IL ¹ MA NY PA
Intra-System Referral	CA IL MA NY OH TX
Joint Contracting	CA KS MA NY TX ²
Shared Staffing	CA KS OH

Shared Administrative Functions	CA	IL	KS	MA	OH	TX	
Joint Evaluation	CA	IL	KS	MA	OH	PA	TX
Note: ¹ Illinois plans joint research projects ² Texas – partnered with Breast & Cervical Cancer Screening Program at Health Department when the department could not pay for diagnostic services. No Response: Alabama, Colorado, and Washington							

Types of Organizations Participating in States' Comprehensive Cancer Programs:

Types of Participating Organizations	State in Which Organizations Participate							
State Agencies	CA	IL	KS	MA	NY	OH	PA	TX
Local Agencies	CA	IL		MA	NY	OH ¹	PA	TX
Regional Agencies	CA	IL	KS	MA		OH	PA	TX
Federal Agencies	CA	IL		MA	NY		PA	TX
Public Medical Schools and Universities	CA	IL	KS	MA	NY	OH	PA	TX
Private Medical Schools and Universities	CA	IL		MA		OH	PA	TX
Nonprofit Organizations	CA	IL	KS	MA	NY	OH	PA	TX
Private Businesses and Companies	CA			MA	NY		PA	TX
Other		IL ²				OH ³	PA ⁴	
Note: ¹ Statewide Public Health Association ² State legislators are now volunteering to work with program ³ Medical Association and American College of Surgeons ⁴ Consumers and cancer survivors No Response: Alabama, Colorado, and Washington								

***Program Components Most Emphasized;
Program Components That Are Over-Emphasized or Under-Emphasized:***

Program/Component	Heavily Emphasized	Some Emphasis	Over-Emphasized	Under-Emphasized
Education & Prevention	CA, IL, KS, MA, NY, OH, PA, TX			CA, OH, TX
Early Detection & Screening	CA, IL, KS, NY, PA, TX	MA, OH	CA, OH	MA, TX
Research	CA	KS, NY, PA	OH	MA, CA

Intervention & Treatment	CA	KS, NY, PA	OH	MA, CA
Surveillance	CA, IL, KS, MA, NY, OH, PA	TX	CA	OH, TX
Links with Community cancer Prevention	KS, MA, NY, PA, TX	CA, IL, OH		CA
Links with Pharmaceutical Companies		CA, KS		CA, OH, PA
Links with Biotechnology Companies		CA, KS		CA, OH, PA
No Response: Alabama, Colorado, and Washington.				

Advantages of State Comprehensive Cancer Programs:

- More coordination
 - A team effort
 - Coordination of diverse efforts
 - Coordination between programs internally and externally
 - More coordinated efforts
 - More collaboration
 - Integrated, coordinated approach
 - Fewer programs operate in a "silo"
 - Gets away from narrowly categorizing programs
 - Strengthens coalitions and partnerships
- Better decision-making
 - Easier to resolve issues
 - More participants provide better advice
 - Easier to implement priority strategies
 - Broad input
- Financial Resources
 - Federal funding becomes more readily available
 - Block Funding
 - Can leverage resources
- Programmatic Improvements
 - Easier to increase surveillance of risk factors without compromising integrity of specific programs

- Easier to build awareness that cancer can be prevented and that cancer is not a death sentence
- Easier to educate public and private sectors
- Efficiency
 - Leverage of resources from multiple partners,
 - Efficient use of common resources
 - Avoid duplication of effort
 - Helps leverage manpower
 - Reduces duplication of effort
 - Can leverage resources
 - Working together makes effective use of all resources

Disadvantages of State Comprehensive Cancer Programs:

- No disadvantage;
 - None
- Chronic disease does not get as much attention as other public health programs.
 - Funding
 - Staffing
- Coordination
 - It can be difficult to get buy-in from various partners
 - Difficult to coordinate multiple partners
 - Coordination can be labor intensive
 - Benefits and recognition meant to be shared by state, not just the research centers
 - All partners not always on the same level
- Inherent challenges of developing new organizational structures
- Hard to eliminate line item funding that sometimes has strong advocacy group support.
- Problems only when comprehensive programs are not mandated and funded

Appendix D: Evaluation Criteria and Planning

The following evaluation component for the Georgia Cancer Coalition is preliminary and will be refined as the initiative begins to take shape. For discussion purposes, the information is divided into two primary sections: (1) Evaluation Criteria and (2) Evaluation Planning and Process. The first section provides potential evaluation criteria for assessing and managing the program and criteria for assessing progress towards successful implementation. The second section is a plan for developing and instituting the evaluation function.

Evaluation Criteria

- I. Overall goal of the Coalition: Reduce cancer incidence, prevalence, and mortality.
- II. The Georgia Cancer Coalition's program components:
 - A. Prevention Program:
 1. Goal: Reduce the rate of preventable cancers.
 2. Measures:

[By special risk groups, race, age group, gender, consumer payment method (Medicaid, Medicare, uninsured, insurance), income group, and rural/urban]

 - a. Outcome measure(s): rate of incidence for preventable cancers (for example: lung and bronchus, colorectal, melanoma, cervical, throat/mouth)
 - b. Outcome indicators, including life choice and other risk factors:
 - i. Percent of population not smoking.
 - ii. Percent of population obtaining annual check-ups.
 - iii. Percent of population reporting sun avoidance or covering up when in sun.
 - iv. Percent of population eating five or more fruits and vegetables daily.
 - v. Percent of population exercising for 30 minutes or longer at least five days a week.
 - vi. Exposure to known carcinogens.
 - c. Process measures; for example, percent of population reached by type of each strategy.
 - d. Implementation measures are included in implementation plan.

B. Screening and Early Detection Program:

1. Goal: Reduce cancer morbidity and mortality.

2. Measures:

[By special risk groups, race, age group, gender, consumer payment method (Medicaid, Medicare, uninsured, insurance), income group and rural/urban]

a. Outcome measures:

- i. Incidence of cancer.
- ii. Prevalence from cancer.
- iii. Mortality from cancer.
- iv. Percent of late stage cancers.

b. Outcome indicators, such as:

- i. Percent of cancers diagnosed in early stages.
- ii. Percent of adult or sexually active females who have pap tests at least every three years.
- iii. Percent of females 40 and over who have annual mammograms.
- iv. Percent of adults who have one of the recommended screening tests for colorectal cancer at age 50 and at recommended intervals thereafter (by type of test).
- v. Percent of adult males who have annual prostate examinations.

c. Process measures, such as:

- i. Coverage and access measures.
- ii. Number and percent of total and specified target populations screened.
- iii. Number and percent of patients referred to treatment that sought treatment.

d. Implementation measures are included in the implementation plan.

C. Intervention and Treatment Program:

1. Goal: Reduce cancer morbidity and mortality.

2. Measures:

[By special risk groups, race, age group, gender, consumer payment method (Medicaid, Medicare, uninsured, insurance), income group, and rural/urban]

- a. Outcome measures:
 - i. Morbidity of cancer.
 - ii. Mortality from cancer.
 - iii. Reported levels of pain.
- b. Outcome indicators, for example:
 - i. 5- and 10-year survival rates.
 - ii. Median length of remission (disease-free survival rates).
- c. Process measures, for example:
 - i. Access to treatment options, including
 - a) Proximity.
 - b) Cost.
 - c) Insurance coverage.
 - ii. Percent of referrals who obtain treatment.
 - iii. Comprehensiveness of treatment options (types of treatment offered by type of cancer and facility).
- d. Implementation measures are included in the implementation plan.

D. Hospice and End-of-Life Services Program:

- 1. Goal: Support cancer patients and their families when cancer is terminal.
- 2. Measures:

[By special risk groups, race, age group, gender, consumer payment method (Medicaid, Medicare, uninsured, insurance), income group, and rural/urban]

- a. Outcome measures and indicators:
 - i. Reported levels of pain.
 - ii. Satisfaction with care.
- b. Process measures:

- i. Average number of hospice services per patient.
- ii. Number of cancer patients on waiting lists for services.
- iii. Number of cancer patients receiving in-home nursing services.
- iv. Number of cancer patients receiving in-home nonmedical support services.
- v. Number of cancer patients receiving inpatient services.
- vi. Average cost per patient-day.

c. Implementation measures are included in the implementation plan.

III. Initiative infrastructure

- A. Overall infrastructure goal: Provide the infrastructure support necessary for cancer prevention, screening, and treatment programs to achieve the goals of reducing cancer incidence, morbidity, and mortality and hospice and end-of-life care to support terminally ill patients and their families.
- B. Enabling objectives:
 - 1. Collaborate with university, government, nonprofit, and private sector organizations to form a world-class Comprehensive Cancer Coalition throughout Georgia.

a. Measures:

- i. Outcome Measures and Indicators, for example
 - a) National Cancer Institute designation as a Comprehensive Cancer Center.
 - b) Patients' proximity to care.
 - c) Comprehensiveness and quality of services provided.
 - d) Percentage of Georgia's health insurance providers covering cancer screening, clinical trials, and hospice care.
 - e) Percentage of Coalition services that can be accessed through one point of entry into the system.
 - f) Cancer Programs approved by the American College of Surgeons.
 - g) Full JCAHO accreditation with commendation.
 - h) Nationwide physicians and other health care providers will rank center as one of the 10 best cancer consortia in the United States.

- i) Physician and clinician satisfaction with services and support received from member organizations.
 - j) Patient satisfaction.
 - k) Increased patient referrals.
 - ii. Process measures, for example:
 - a) Cross-institution collaboration on research (for examples, number of joint research proposals and memoranda of agreement).
 - b) Level of partner involvement in initiative.
 - c) Access to shared data.
 - d) Shared equipment.
 - e) Number of tissue/body fluid samples obtained.
 - f) Number of tissue/body fluid samples analyzed.
 - g) Number of patients seen.
 - h) Implementation measures are included in the implementation plan.
- 2. Conduct research that creates a new body of knowledge that contributes to the ultimate eradication of cancer.
 - a. Program Measures:
 - i. Outcome measures:
 - a) Incidence of cancer.
 - b) Prevalence of cancer.
 - c) Mortality from cancer.
 - ii. Outcome indicators, for example:
 - a) Number of articles on cancer-related topics in peer reviewed journals.
 - b) Amount of research and contract funding.
 - c) Number of clinical trials.
 - iii. Process measures:

Methods of sharing and disseminating data/research, such as articles published in refereed journals, papers presented at professional meetings, and the like.

- iv. Implementation measures are included in the implementation plan.
- 3. Develop and commercialize new products based on cancer research in order to create quality jobs for Georgians.

a. Program Measures:

i. Outcome measures:

- a) Number of biotechnology/medical jobs created.
- b) Biotechnology/medical job growth.
- c) New companies formed around Georgia cancer research and development.
- d) New companies recruited around Georgia cancer research and development.

ii. Outcome indicators, for example:

- a) Number of patents.
- b) Number of licensed and commercialized products.
- c) Number of licensed and commercialized products directly related to cancer.
- d) Intellectual property income.
- e) Number of venture capital agreements.
- f) Movement of technology through the various stages of development.

iii. Process measures, such as:

- a) Number of funded research projects in process.
- b) Number of ongoing consortia between university and/or medical facilities and biotechnology and pharmaceutical companies.
- c) Number of steps or criteria used to authorize resource investment at various developmental milestones of the technology.

iv. Implementation measures are included in the implementation plan.

4. Leverage overall effort by training cancer researchers and caregivers in state-of-the-art prevention, screening, and treatment research and methods—involving medical schools, residency programs, and continuing education.

a. Program Measures:

i. Outcome Measures and Indicators:

- a) Oncology residency program rankings.
- b) Number of articles on cancer-related topics published by faculty in peer-reviewed journals.

ii. Process measures, for example:

- a) Availability of continuing education seminars etc. on cancer prevention, screening, and treatment.
- b) Percent of primary care providers who receive continuing education credits in the area of cancer prevention, screening, and/or treatment.
- c) Number of newly certified nurse oncologists.
- d) Number of newly certified tumor registrars.
- e) Number of newly board certified physicians in one of the oncology specialties.
- f) Number of oncology fellowships.
- g) Average number of cancer surgeries performed by surgery residents.
- h) Availability of latest technologies and techniques.

iii. Implementation measures are included in the implementation plan.

Evaluation Planning and Process

I. Identify types of evaluation needed.

- A. Implementation evaluations to measure progress against timeline and plan in establishing and improving the program.

1. Process evaluation to obtain information for improving the operations of the program (internal monitoring) —looks at inputs, activities, workload, efficiency, and outputs.

2. Outcome evaluation to measure the impact of the program efforts and progress toward meeting goals.
- II. Identify questions that should be addressed for each type of evaluation.
- III. Identify the measurement indicators for each question.
 - A. Implementation measures:
 1. Deadlines.
 2. Other measures relevant to implementation.
 - B. Process measures:
 1. Inputs.
 2. Outputs.
 3. Activities.
 4. Workload.
 5. Efficiency.
 - C. Outcome measures:
 1. Long-term results.
 2. Short-term and intermediate indicators.
- IV. Identify and assess the data that must be collected for each indicator.
 - A. What types of comparators will be used?
 - B. What data need to be collected but are not now obtained?
 - C. What is the integrity of existing data?
 1. Comparability.
 2. Validity.
 3. Reliability.
- V. Identify data collection issues.
 - A. What are the sources of various types of data?
 - B. Will sampling be used?
 - C. What forms are needed?
 - D. Who is responsible for each type of or step in data collection and compilation?

- E. How will data integrity be ensured?
- F. How often will data be collected?
- VI. Determine data analysis needs and methods.
 - A. How will data be analyzed?
 - B. How often will data be analyzed?
 - C. What are the strengths and weaknesses of each type of analysis? How can weaknesses be minimized?
 - D. How will comparators be used?
- VII. Determine data reporting needs and methods.
 - A. Who is the primary audience(s) for reporting?
 - B. In what formats will analytical results be presented?
 - C. How can data best be presented to encourage:
 - 1. Layperson understanding?
 - 2. Decision-making?
 - 3. Accountability?
 - 4. Usability?
 - 5. Feedback into future planning?
 - D. How often will results be presented?
- VIII. Establish a process for feedback of evaluation results into program and overall initiative planning.

Appendix E: Actions Proposed to Address Identified Gaps in Service

Identified Gaps	Strategies To Address Gaps
<p>Prevention and Early Detection</p> <p>Georgia does not have a comprehensive statewide ongoing multimedia campaign to promote the prevention and early detection of the major cancers.</p> <p>There is no statewide screening program for colorectal cancer or skin cancer.</p> <p>Opportunities for breast and cervical cancer screening for the uninsured and underinsured are limited. Funding for the state program only serves 15 percent of the target population. Few hospitals offer free or low cost mammograms.</p> <p>Few outreach initiatives exist to encourage effective types of cancer screening.</p> <p>Most Georgians do not follow NCI guidelines for reducing cancer risk.</p> <p>Georgia does not have a statute or regulation that requires both third party insurers and self-insured companies to provide cancer screening tests to their enrollees as part of their coverage regardless of deductible and co-payment status.</p> <p>Georgia does not have a coordinated network for cancer screening to ensure that both insured and uninsured Georgians benefit from screening and early detection for the most common types of screenable cancers</p> <p>There is no inventory of facilities/capacities for further diagnostic tests for breast and colorectal cancer.</p>	<p>Goal 1, Public Education Strategies 1 & 2; Provider Education, Strategies 1 & 2</p> <p>Goal 1, Cancer Screening and Early Detection Strategies 1 & 4</p> <p>Goal 1, Cancer Screening and Early Detection Strategies 1 & 6; Goal 2, Strategy 1</p> <p>Goal 1, Public Education Strategies 1 & 2; Cancer Screening and Early Detection Strategies 1, 2, 4 & 6</p> <p>Goal 1, Public Education Strategies 1 & 2; Provider Education, Strategies 1 & 2; Cancer Epidemiology, Surveillance and Evaluation Strategy 2</p> <p>Goal 1, Cancer Screening and Early Detection Strategy 5</p> <p>Goal 1, Cancer Screening and Early Detection Strategies 1, 2, 4,5 & 6</p> <p>Goal 1, Cancer Screening and Early Detection Strategies 1 & 2</p>

Identified Gaps	Strategies To Address Gaps
<p>There are limited public health colposcopy clinics for diagnostic evaluation of cervical cancer. Based on this inventory, only nine of the 19 health districts have colposcopy equipment for diagnostic evaluation for cervical cancer for the uninsured. This is augmented by the county hospital facilities in the major urban areas and the Medical College of Georgia.</p>	<p>Goal 1, Cancer Screening and Early Detection Strategies 1 & 2</p>
<p>Early Intervention and Treatment</p> <p>Georgia lacks a critical mass of faculty in academic health centers and clinical trial facilities who are engaged in the types of clinical research necessary to provide cutting edge treatments.</p>	<p>Goal 3, Strategies 1 & 2; Goal 5, Strategy 1</p>
<p>Many Georgians lack access to health care either because they are uninsured or underinsured or because they live far away from the facilities that provide the care they need.</p>	<p>Goal 2, Strategies 1 & 2</p>
<p>Cancer Research</p> <p>Georgia does not have an NCI-designated comprehensive cancer control center that provides innovative treatment and research opportunities to attract renowned cancer researchers.</p>	<p>Goal 3, Strategy 1</p>
<p>Georgia does not have a world-class faculty research base in genomics-oriented cancer research.</p>	<p>Goal 3, Strategies 1 & 2; Goal 5, Strategies 1 & 2</p>
<p>There is no state health network for genomics-based detection research in product development for FDA approval.</p>	<p>Goal 3, Strategies 1 & 2</p>
<p>The state lacks a mechanism like the Georgia Research Alliance to stimulate technology transfer in cancer detection to clinical site testing.</p>	<p>Goal 3, Strategy 2; Goal 5, Strategies 1, 2 & 3</p>
<p>There is no cancer informatics center for biotechnology sector field-testing of new tests around existing screening technologies.</p>	<p>Goal 5, Strategy 1</p>

Identified Gaps	Strategies To Address Gaps
The state receives very limited NCI funding for pediatric and other oncology research.	Goal 3, Strategy 1
There are barriers to patients participating in clinical world-class trials.	Goal 2, Strategy 3
<p>Georgia's Comprehensive Cancer Registry does not contain complete data. Although this reporting was made mandatory in 1995, not all health care providers report new cancer cases to the registry. Without complete and timely cancer incidence data, the state, private and public health care providers are unable to:</p> <ul style="list-style-type: none"> - Identify problems and trends, - Effectively plan and evaluate programs to meet the needs of Georgians, and - Conduct effective research programs. 	Goal 1, Cancer Epidemiology, Surveillance and Evaluation, Strategies 1, 3 & 5
Although Georgia surveys a sample of Georgians for the Behavioral Risk Factor Surveillance (BRFSS) program, the sample is not large enough to give a county – by – county description of the behaviors of Georgians to be used for planning and evaluating a statewide cancer prevention, early detection, and educational efforts.	Goal 1, Cancer Epidemiology, Surveillance and Evaluation, Strategies 2, 3, 4 & 5
There is no statewide system of surveillance for participation in cancer screening tests. Some states have a mammography registry, but Georgia does not.	Goal 1, Cancer Epidemiology, Surveillance and Evaluation, Strategy 4
The state has no comprehensive program of continuing education for caregivers on cancer prevention, early detection and treatment.	Goal 1, Provider Education, Strategies 1, 2, 3, 4 & 5: Goal 4, Strategies 1, 2, 3 & 4
There is no inventory of provider education offered in the private sector by health care professional organizations and agencies, making it difficult to coordinate public and private efforts.	Goal 1, Provider Education, Strategies 1, 2, 3, 4 & 5

Appendix F: Acknowledgements

Dr. Ahmed Abdelal

Dean, College of Arts and Sciences
Georgia State University

Dr. Julian Adams

Senior Vice President
Research and Development
Millennium Pharmaceuticals, Inc.

Dr. Dale G. Ando

Vice President
Clinical Research and Regulatory Affairs
Cell Genesys, Inc.

Mr. Tom Andrews

Administrative Representative
Georgia Oncology Partners

Dr. Colleen Austin

Vice Chair
Georgia Oncology Partners

Dr. Dee Baldwin

Executive Director
Office of Women's Health
Georgia Department of Community Health

Dr. Benedict Benigno

Southeastern Gynecologic Oncology Institute

Ms. Kristen Betts

Advocacy Manager
American Cancer Society, Southeast Division

Dr. Jane H. Bick

Jane H. Bick and Associates, Inc.

Dr. David Blake

Director of Clinical Affairs
Emory University

Ms. Renay Blumenthal

Policy Director
Office of the Governor (Georgia)

Mr. Kevin T. Brady

Chief, Office of Program and Policy Information
Division of Cancer Prevention and Control
National Center for Chronic Disease
Prevention & Health Promotion

Mr. Jim Brannon

Director
Chronic Disease Prevention &
Health Promotion Branch
Georgia Department of Human Resources

Dr. Otis Brawley

Director
Office of Special Populations Research
National Cancer Institute

Ms. Judith Brown

Division of Planning, Research and Evaluation
Governor's Office of Planning and Budget (GA)

Ms. Delvonnie Burris

Executive Director
Atlanta Medical Association, Inc.

Ms. Carol Callaghan

Manager
Cancer Prevention and Control Section
Michigan Department of Public Health

Ms. Dale Carroll

Chief Nursing Officer
Redmond Regional Medical Center

Dr. Ralph Caruana

Interim Chair, Department of Medicine
Medical College of Georgia

Mr. Mike Cassidy

President
Georgia Research Alliance

Ms. Betty Castellani

Administrator
Charles B. Eberhardt Cancer Center
DeKalb Medical Center

Dr. George M. Chastain

Senior Vice-President
Director of Medical Affairs
Phoebe Putney Memorial Hospital

Dr. Bart Chernow

SAGE Plus
GMP Companies, Inc.

Dr. Donald S. Coffey

Professor
Johns Hopkins University School of Medicine

Dr. Millard Collier

Chairman
Atlanta Medical Association, Inc.

Ms. Kris Copes

Vice President, Cancer Control
American Cancer Society, Southeast Division

Mr. Sean Cucchi

Director, Planning and Development
Georgia Department of Community Health

Dr. Jim Curran

Dean, Rollins School of Public Health
Emory University

Ms. M. Katherine Daniels

Executive Director
Georgia State Medical Association

Dr. Charlton Davis

Chair, Pediatric Cancer Task Force
American Academy of Pediatrics,
Georgia Chapter

Ms. Diane Davis

Vice President, Nursing
Floyd Medical Center

Dr. Bruce Deighton

Director, Department of Medical Education
Memorial Health
University Medical Center

Mr. Lee Echols

Chief Executive Officer
Georgia Institute for Lung Cancer Research,
Inc.

Ms. Linda Edwards

Senior Vice-President, Operations
American Cancer Society, Southeast Division

Dr. Peter J. Farley

President & CEO
Barnhill Genomics, Inc.

Dr. Don P. Giddens

Chair
Georgia Tech/Emory Department of
Biomedical Engineering

Dr. James Gilmore

Oncology Program Manager
Atlanta Medical Center

Dr. Louis Goolsby

Senior Vice-President, Medical Affairs
The Medical Center of Central Georgia

Dr. Martin Greenberg

President
American Academy of Pediatrics,
Georgia Chapter

Mr. John Guzowski

Vice President of Operations
MediZeus

Ms. Penny Hannah

Office of the Governor (Georgia)

Dr. Winfred Harris

Provost and Vice President
for Academic Affairs
Clark-Atlanta University

Dr. Nigel Harris

Dean and Senior Vice President
for Academic Affairs
Morehouse School of Medicine

Dr. Ronald Henry

Provost
Georgia State University

Dr. John Holaday

EntreMed, Inc.

Dr. Karen Holbrook

Provost
Senior Vice-President for Academic Affairs
University of Georgia

Ms. Audrey Horne

Commissioner
Georgia Department of Human Resources

Ms. Carol Hughes

Manager
WellStar Cancer Program
WellStar Health System

Ms. Annie Hunt Burriss

Assistant Vice Chancellor
Board of Regents of the
University System of Georgia

Mr. Ron Jackson

Director
Division of Strategic Planning
Governor's Office of Planning and Budget (GA)

Dr. Michael Johns

Executive Vice-President for Health Affairs
Emory University

Mr. Greg K. Johnson

Vice President, Professional Services
Colquitt Regional Medical Center

Ms. Nancy H. Johnson

Administrative Director
John B. Amos Community Cancer Center
Columbus Regional Healthcare System

Mr. Hamilton Jordan

Consultant

Ms. Danette Joslyn-Gaul

General Counsel
Georgia Technology Authority

Ms. Martha Katz

Deputy Director for Policy and Legislation
Centers for Disease Control and Prevention

Dr. John Kennedy

Chairman
Georgia Cancer Liaison Physicians Group
Commission on Cancer

Dr. Richard Klausner

Director
National Cancer Institute

Dr. Matthew Kluger

Dean, School of Graduate Studies
Vice President for Research
Medical College of Georgia

Dr. Barry Kramer

Director
Office of Medical Applications of Research
National Institutes of Health

Dr. Thomas Lawley

Dean
Emory University School of Medicine

Dr. Nancy Lee

Director
Division of Cancer Prevention and Control
National Center for Chronic Disease Prevention
and Health Promotion

Ms. Ruth Lee

Director of Oncology Services
Tift General Hospital

Dr. A. Hamblin Letton

Founder, Atlanta Cancer Center
Past President, American Cancer Society

Dr. Bernard Levin

Vice President and Betty B. Marcus Chair
in Cancer Prevention
MD Anderson Cancer Center
University of Texas

Dr. Dennis Liotta

Samuel Candler Dobbs Professor of Chemistry
Georgia Cancer Therapeutics Initiative
Emory University

Dr. Lars Ljungdahl

Director
Georgia Biotechnology Center
University of Georgia

Mr. Steve Mabry

Division of Planning, Research and Evaluation
Governor's Office of Planning and Budget (GA)

Mr. Dan S. Maddock

President
Taylor Health Care Network

Dr. Gail Madera

Genzyme Molecular Oncology

Dr. James S. Marks

Director
National Center for Chronic Disease
Prevention & Health Promotion

Mr. Pete McTier

President
Robert W. Woodruff Foundation

Mr. Steven Muller

Vice-President, Medical Affairs
Southern Regional Medical Center

Ms. Vi Naylor

Executive Vice President
Georgia Association of Hospitals and
Health Systems

Mr. Chris D. Offen

Senior Vice President and Managing Director
A.M. Pappas & Associates

Mr. Joe Parker

President
Georgia Association of Hospitals and
Health Systems

Dr. Stephen R. Portch

Chancellor
Board of Regents of the
University System of Georgia

Dr. J. David Puett

Department Head
Biochemistry and Molecular Biology
University of Georgia

Ms. Margaret Riley

Director
Specialty Center for Cancer Care and Research
Saint Joseph's Hospital of Atlanta

Ms. Lisa Ripoll

Office of the Governor (Georgia)

Mr. Joseph Robb

Director, Government and Legislative Affairs
Saint Joseph's Hospital of Atlanta

Dr. Kathleen Robichaud

Program Manager
Georgia Research Alliance

Ms. Dorothy Robinson

Charge Nurse, Mobile Clinic
Newton General Hospital

Mr. Bill Roper

Executive Vice President
Joe Tanner & Associates

Dr. Gary Schuster

Dean, College of Sciences
Georgia Institute of Technology

Mr. William A. Schwartz

Vice Chairman & CEO
National Prostate Cancer Coalition

Dr. Thomas E. Seay

Principal Investigator
Atlanta Regional Community
Clinical Oncology Program

Mr. Paul Shanor

Executive Director
Medical Association of Georgia

Dr. Stephen A. Sherwin

Chairman & Chief Executive Officer
Cell Genesys, Inc.

Mr. Jack Shipkoski

Chief Executive Officer
American Cancer Society, Southeast Division

Dr. Jonathan Simons

Director and Professor of Oncology
Winship Cancer Institute
Emory University

Dr. Doug Skelton

Dean
Senior Vice President for
University Research & Health Affairs
Mercer University School of Medicine

Dr. Michael V. Smith

President
Georgia Institute for Lung Cancer Research

Ms. Carol Steiner

Director
Cancer Control Section
Georgia Department of Human Resources

Dr. Juarine Stewart

Director
Center for Cancer Research and
Therapeutic Development
Clark Atlanta University

Ms. Kristina Stroede

Division of Physical and Economic
Development
Governor's Office of Planning and Budget (GA)

Dr. Louis Sullivan

President
Morehouse School of Medicine

Ms. Carie Summers

Division of Human Development
Governor's Office of Planning and Budget (GA)

Ms. Denise Swords

Vice President, Clinical Business Development
Children's Healthcare of Atlanta

Dr. Phang Tai

Chair, Biology Department
Georgia State University

Mr. Joe Tanner

President & Chief Executive Officer
Joe Tanner & Associates

Dr. Francis Tedesco

President
Medical College of Georgia

Dr. Robert Tepper

Chief Scientific Officer
Millenium Pharmaceuticals, Inc.

Dr. Michael Thomas

Provost
Vice President for Academic Affairs
Georgia Institute of Technology

Ms. Judy Thompson

Senior Associate
Joe Tanner & Associates

Mr. Russ Toal

Commissioner
Georgia Department of Community Health

Dr. Kathleen Toomey

Director
Division of Public Health
Georgia Department of Human Resources

Dr. Jeffrey Trent

Scientific Director
Division of Intramural Research
National Human Genome Research Institute

Mr. Joseph Vance

Varian NMR Systems

Ms. Kitty Vogt

Program Manager
Georgia Research Alliance

Mr. Rick Ward

Executive Director
American Academy of Pediatrics,
Georgia Chapter

Ms. Andrea Warren-Smith

Georgia Oncology Partners

Dr. Stephen W. Wyatt

Director for Cancer Control
Markey Cancer Center
University of Kentucky

Ms. Evonne Yancey

Manager
Government and Community Affairs
Kaiser Permanente