



State Funding for Cancer Research

Joint Commission on Health Care
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Presentation Outline

- Purpose of Study
- Health Impact of Cancer in Virginia
- Economic Impact of Cancer in Virginia
- National Cancer Institute (NCI) Designation of Cancer Centers
- Virginia's NCI Cancer Centers
 - VCU Massey Cancer Center
 - University of Virginia Cancer Center
- Funding for Virginia's NCI Cancer Centers
- Benefits of Increased Support for Virginia's NCI Cancer Centers
- Policy Options



Purpose of Study

- 2009: SJR 292 (Senator Martin) directed the Joint Commission on Health Care (JCHC) to conduct a 2 year study to:
 - Examine the sufficiency of current funding sources for both the Massey Cancer Center and the University of Virginia Cancer Center
 - Review the history and successes of cancer research at each center
 - Explore benefits to the Commonwealth of expanding state support of both centers
 - Research additional funding opportunities for both centers
- Left in House Rules Committee, but agreed to by JCHC members
- Study work group (15 members) was created in 2009

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Key Points

- Cancer continues to be a major health and economic problem in Virginia
- Neither of Virginia's NCI-designated Cancer Centers has *Comprehensive* status
 - Reflects limited movement of their research into the community, especially clinical trials
- The two NCI Cancer Centers in Virginia receive less annual state support than the national average
- Increased state support for each Cancer Center would:
 - Facilitate greater financial support from federal, non-profit, and philanthropic sources
 - Allow more and better clinical trials, advanced cancer care, and enhanced outreach and prevention efforts for Virginians throughout the Commonwealth



Health Impact of Cancer

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2010 Estimated U.S. Cancer Deaths

		Men	Women		
		299,200	270,290		
Lung & bronchus	29%			26%	Lung & bronchus
Prostate	11%			15%	Breast
Colon & rectum	9%			9%	Colon & rectum
Pancreas	6%			7%	Pancreas
Liver & intrahepatic bile duct	4%			5%	Ovary
Leukemia	4%			4%	Non-Hodgkin lymphoma
Esophagus	4%			3%	Leukemia
Non-Hodgkin lymphoma	4%			3%	Uterine corpus
Urinary bladder	3%			2%	Liver & intrahepatic bile duct
Kidney & renal pelvis	3%			2%	Brain/Other nervous system
All other sites	23%			24%	All other sites

Source: American Cancer Society, 2010.

Source: American Cancer Society, 2010.



US Mortality, 2007

Rank	Cause of Death	No. of deaths	% of all deaths
1.	Heart Diseases	616,067	25.4
2.	Cancer	562,875	23.2
3.	Cerebrovascular diseases	135,952	5.6
4.	Chronic lower respiratory diseases	127,924	5.3
5.	Accidents (unintentional injuries)	123,706	5.1
6.	Alzheimer disease	74,632	3.1
7.	Diabetes mellitus	71,382	2.9
8.	Influenza & pneumonia	52,717	2.2
9.	Nephritis*	46,448	1.9
10.	Septicemia	34,828	1.4

*Includes nephrotic syndrome and nephrosis.

Source: US Mortality Data 2007, National Center for Health Statistics, Centers for Disease Control and Prevention, 2010.

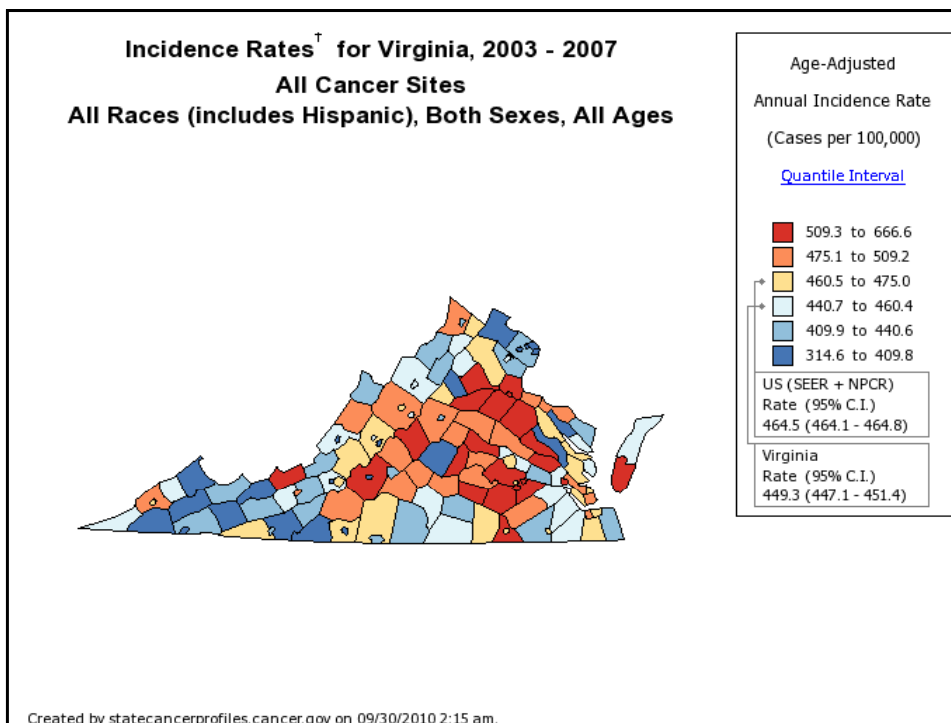
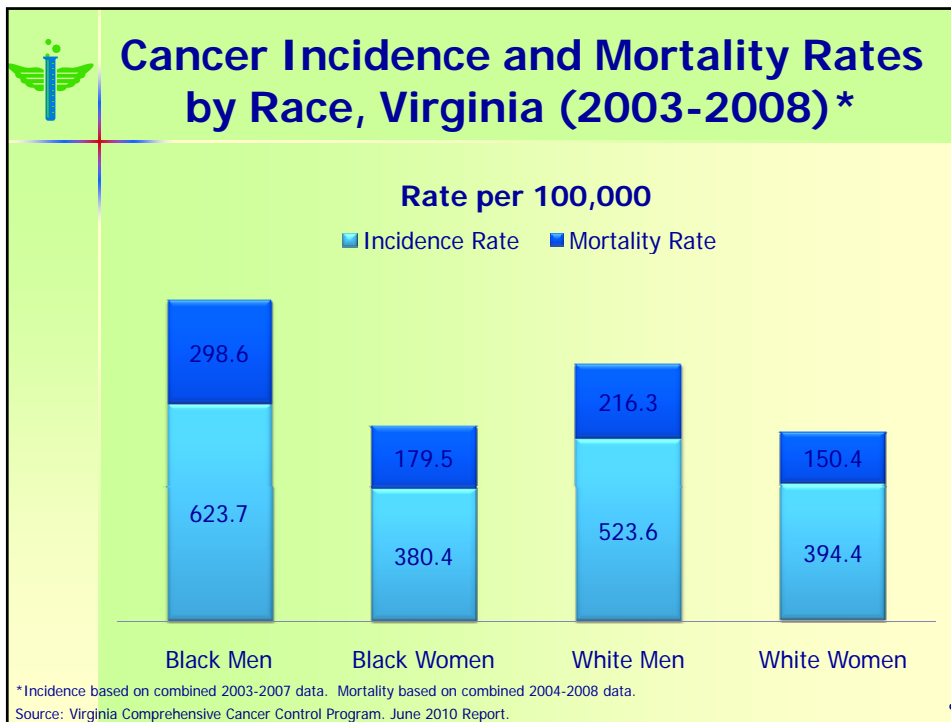


Health Impact of Cancer in Virginia

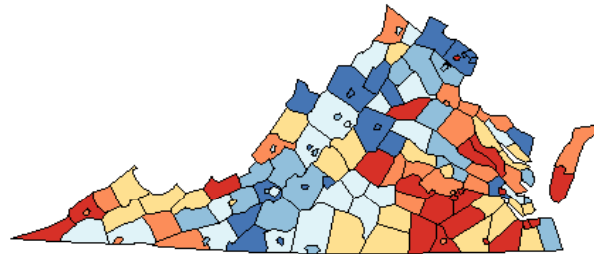
- From 2003-2007, the incidence rate of cancer was 452.4 cases per 100,000 in Virginia (U.S. rate = 461.6)
- In 2008, there were 35,590 new cancer cases and 13,990 deaths in Virginia
- This year, 36,410 new cases of cancer will be diagnosed in Virginia and 14,230 Virginians will die of cancer
- Health districts with highest incidence rates for cancer:
 - Chesterfield, Crater, Rappahannock, Chickahominy, and Hampton
- Health districts with highest mortality rates for cancer:
 - Crater, Portsmouth, Western Tidewater, Chesterfield, and Norfolk

Source: CPAC's [2008-2012 Virginia Cancer Plan](#), pg. 5; American Cancer Society 2010 Facts & Tables

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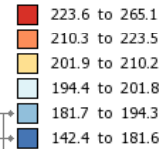


Age-Adjusted Death Rates for Virginia, 2003 - 2007
All Cancer Sites
All Races (includes Hispanic), Both Sexes, All Ages



Age-Adjusted
Annual Death Rate
(Deaths per 100,000)

[Quantile Interval](#)



United States
Rate (95% C.I.)
183.8 (183.6 - 184.0)

Virginia
Rate (95% C.I.)
188.6 (187.2 - 190.1)

Healthy People 2010
Goal 03-01
159.9

Created by statecancerprofiles.cancer.gov on 09/30/2010 1:56 am.



Economic Impact of Cancer

- In the U.S., it is estimated that \$264 billion will be spent on health care costs for cancer this year¹
 - \$103 billion for direct medical costs, including health expenditures
 - \$21 billion for lost productivity due to illness
 - \$140 billion for lost productivity due to premature death
- An estimated \$2.6 billion in lifetime productivity was lost in Virginia due to cancer in 2000²
- In Virginia (2008), there were 25,454 inpatient hospitalizations for cancer at a total cost of over \$1 billion³
 - Average length of stay: 6.8 days
 - Average charge per stay: \$42,954
- The Center for Public Policy at VCU currently is conducting an economic impact study for Massey. The report should be completed by January, 2011.

¹ American Cancer Society, Facts and Figures 2010.

² Massey phone conversation with Dr. C. Bradley, author of "Productivity Costs of Cancer Mortality in the United States: 2000-2020." J Natl Cancer Inst 2008; 100:1763-1770.

³ Virginia Comprehensive Cancer Control Program. June 2010 Report.



NCI Designation of Cancer Centers

- National Cancer Institute (NCI) designated Cancer Centers are recognized for scientific excellence and extensive resources focused on cancer
 - Pioneer new discoveries about cancer
 - Deliver medical advances to patients and their families
 - Educate health-care professionals and the public
 - Reach out to the community to ensure access to the best care
- The National Cancer Institute provides substantial grant funds to NCI designated Cancer Centers in order to foster these goals

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NCI Designation of Cancer Centers

- Of the approximately 1500 institutions in the country that treat cancer patients, only 66 are NCI-designated Cancer Centers and receive funds from the NCI to support their infrastructure
- There are two NCI-Designated Cancer Centers in Virginia:
 - Virginia Commonwealth University's Massey Cancer Center
 - University of Virginia Cancer Center

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NCI Designation of Cancer Centers

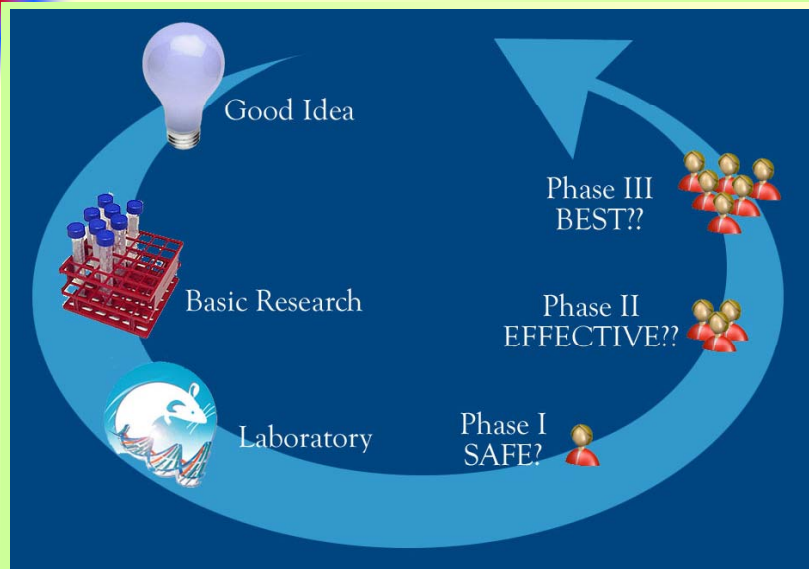
The Research Process

- NCI Centers' clinical trials advance cutting-edge research from the laboratory to the bedside
- Clinical trials offer access to promising new treatments before they are available as standard practice of care
 - Phase I Safety in humans
 - Phase II Efficacy of treatment
 - Phase III Comparison with best standard treatment available
- Early phase trials offer hope for patients who have not responded well to standard therapy



Translational Research

The Research Process





NCI Designation of Cancer Centers Comprehensive Status

- The NCI recognizes two types of centers:
 - Cancer Centers and Comprehensive Cancer Centers
- Comprehensive Cancer Centers are distinguished by:
 - Strength in all 3 areas of research: basic, clinical, and prevention/control
 - An emphasis on bringing research into their communities
 - Conducting public outreach and education
- Of the 66 NCI Cancer Centers, 40 are Comprehensive
 - There are no Comprehensive Cancer Centers in Virginia
- NCI Comprehensive Cancer Centers in surrounding states:
 - North Carolina: Duke University, University of North Carolina, Wake Forest University
 - Washington D.C.: Georgetown University
 - Maryland: Johns Hopkins University

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Virginia's NCI Cancer Centers

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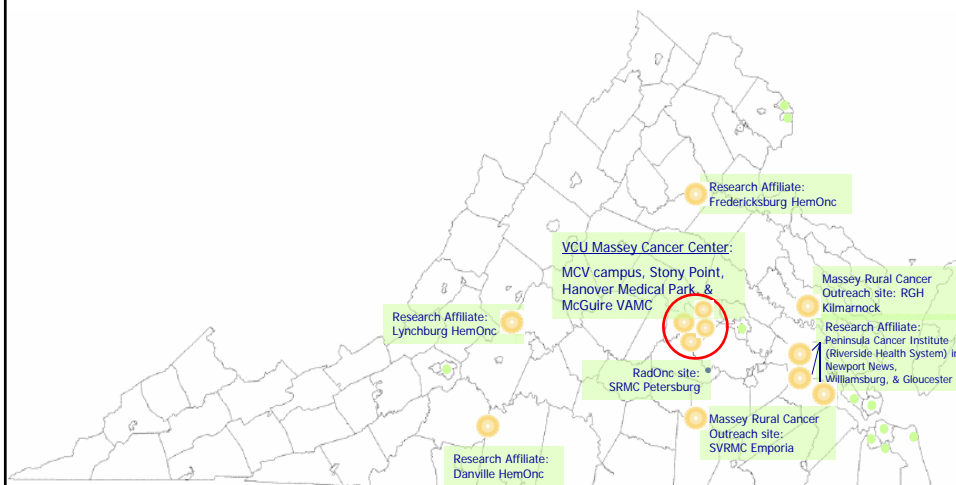
VCU Massey Cancer Center

- Massey scientists are leaders in development of multiple Phase I trials conducted at other NCI Centers [e.g. Johns Hopkins (MD), Sloan-Kettering (NY), MD Anderson (TX), and University of Pittsburgh (PA)]
- Center of Excellence in rare and complex cancers
- Bone Marrow Transplant Program is among the 15th largest top-quality programs in the U.S.
- Leaders in breast and hematologic malignancies clinical care and research
- Massey treats patients from all 134 counties and cities within the Commonwealth
- Commitment to clinical trials expansion in the Commonwealth
- Ranked #38 in latest US News ranking of cancer centers

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Massey Cancer Center Clinical Sites and Clinical Research Affiliates





University of Virginia Cancer Center

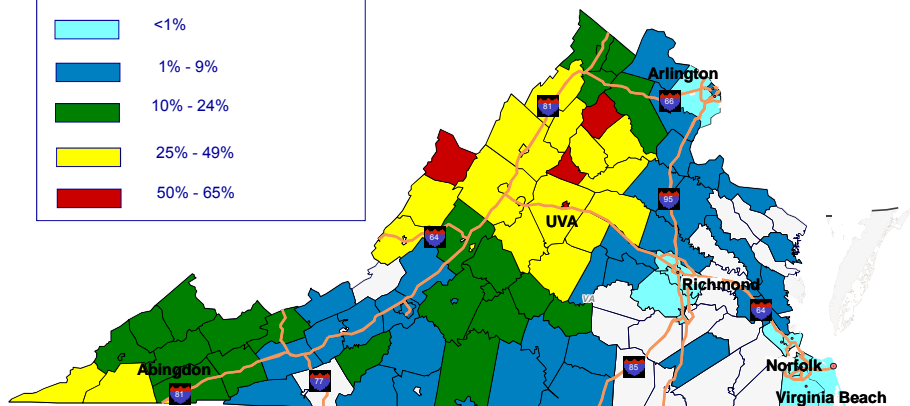
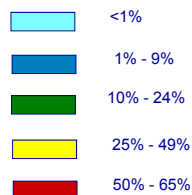
- International leader in basic research
 - Four Basic Science departments ranked in the top 10%
 - #5 *epigenetics*; #5 *phosphorylation*; #14 *cancer vaccines*
- Over \$80 million in external funding, almost all for basic research
 - Generates ~500 jobs in central Virginia
 - Creates biotech companies; one sold for \$200 million
- Rural location creates profound challenges to developing robust clinical trials program
 - Only 5-10% of UVA patients go on therapeutic clinical trials
- Ranked #32 in latest US News ranking of cancer centers

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60% of UVA patients with cancer drive 2 hours or more to receive treatment

Percent of patients with cancer in each county that received care at UVA



Scale Legend
Mile(s)
0 20 40



UVA and Massey Partnership: Building the Virginia Cancer Network

- **Increased clinical and translational research**
 - More and better clinical trials and advanced cancer care
 - Requires more robust infrastructure and staffing at the two Centers
- **Enhanced access to the benefits of research**
 - No one should have to leave Virginia to get the best cancer care or to access a clinical trial
 - Rural health and telemedicine, minority health, professional training, community partnerships
- **Enhanced outreach: prevention, control, and screening**
 - Prevention and control trials and education
 - Imaging, physical and molecular detection, family history



UVA and Massey Partnership: Building the Virginia Cancer Network

Costs for Development of Clinical Trials Network

- **Clinical Trials Expansion: \$4 million/year for each center**
 - Researchers, staff, informatics/operations: \$1.25 M
 - Clinical trials leadership recruitment: \$0.75 M
 - Translational clinical trials (Phase I/II): \$1.5 M
 - Translational pre-clinical research support: \$0.5 M



UVA and Massey Partnership: Building the Virginia Cancer Network

Costs for Development of Clinical Trials Network

- Nationally Recognized Research: \$6 million/year for each center
 - Recruit research physicians and scientists: \$4.0 M
 - Shared scientific resources expansion: \$1.0 M
 - Pilot research project funding: \$1.0 M
- Success of a Clinical Trials Network requires expansion at the Centers that strengthens translational (pre-clinical), and prevention and control research
- This infrastructure allows the Centers to provide cutting edge clinical trials at the network locations
- Additional regulatory and quality control oversight personnel at both Centers and network locations are required

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FY 2010 Funding for Virginia's NCI Cancer Centers

	Federal		State	Private/ Non-Profit
	NCI	Other		
UVA Cancer Center	\$19.8 M	\$49.8 M	\$1.55 M	\$12.1 M
Massey Cancer Center	\$18.9 M	\$18.9 M	\$1.96 M	\$19.7 M
Totals	\$38.7 M	\$68.7 M	\$3.51 M	\$31.8 M

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Funding for Virginia's NCI Cancer Centers

- The 2 NCI Cancer Centers in Virginia:
 - Receive a \$1 million annual allotment from the state, as a reallocation within their University's budget
 - Have received support for construction in the past
 - Estimate that \$10 million of sustained support annually for each Center will be required to bolster clinical research and outreach to Comprehensive levels
 - Infrastructure will need to be developed; therefore, a ramping up of funds would be most effective
 - \$5 million in 2011, building up to \$10 million annually in 2016

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State Funding Levels in Other States for NCI Cancer Centers

- A 2009 survey of 30 cancer centers found that the mean state allocation was \$12.8 million annually (median = \$2.4 million)
- State funding examples:
 - Texas: \$3 billion bond over 10 yrs
 - North Carolina: \$50 million per year
 - Maryland: \$25 million per year
 - New Jersey: \$25 million per year
 - Kentucky: \$10 million per year

Source: Survey conducted by the Association of American Cancer Institutes, "States' Investments in Cancer Research," 2009.

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Why Support the NCI-Designated Cancer Centers?

- Health impact: Longer, better lives for Virginians

"No one should have to leave the state to get the best care or travel greater than 90 minutes to go on a clinical trial."

- Advanced cancer care that is close-to-home
 - Approximately 1500 Virginians per year travel out-of-state to receive cancer treatment
 - Many Virginians must travel over two hours to receive cancer care
- Expanded statewide access to clinical trials
 - Getting cutting-edge treatments to more Virginians sooner
 - Most NCI Comprehensive Cancer Centers have 15% or more of their patients on clinical trials
 - UVA has 6% of their patients on clinical trials
 - Massey has 11% of their patients on clinical trials
- Development of new and effective prevention and control interventions and public education programs



Why Support the NCI-Designated Cancer Centers?

- Economic impact: Jobs, investment, & health care costs

- Reduction in lost workforce productivity due to illness and death
- Economic stimulation through job-creation (via grants, contracts, and clinical activity) and enhanced investment in the cancer component of the health industry
- Creation of intellectual property (IP) from research that results in biotech company spin-offs and licensing revenues
 - Due to a lack of infrastructure, UVA has only been able to capture IP rights on a small percentage of drug targets they developed, resulting in a loss of royalty revenues.
- Increased early detection and prevention practices that can decrease Medicare and Medicaid expenses
- Reduction in loss of revenue due to Virginia patients going out of state for cancer treatment



Why Support the NCI-Designated Cancer Centers?

- Attaining Comprehensive designation
 - Increases each Cancer Center's ability to:
 - Access additional grant funding mechanisms and receive larger NCI support grants
 - Recruit top physician scientists and staff
 - Provide more cutting-edge clinical trials for Virginians
 - Make cancer-related discoveries and introduce more and better treatment options for Virginians
 - Of the 12 most populous states, only Virginia and Georgia do not have a NCI Comprehensive Cancer Center
 - Research being done at Massey and UVA is not being brought fully into the community to benefit Virginians



Why Support the NCI-Designated Cancer Centers?

- More directly, state funding provides:
 - Resources for new/innovative types of research for which federal support is often difficult to obtain without preliminary data obtained through seed funding
 - Supplemental funding for clinical trials
 - Many components not usually covered by federal, pharmaceutical, and non-profit grants
 - Unmet need ranging from \$5,000 - \$20,000 per patient for Phase I and II trials; \$5,000 for Phase III trials
 - Required matching funds for grants and philanthropy



Policy Options

Option 1: Take no action.

Option 2: Introduce a budget amendment (language and funding) during the 2011 Session to increase the State funding for Virginia's NCI Cancer Centers from \$1 million GFs for each center to \$5 million GFs for each center.

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Policy Options

Option 3: Introduce a 1-2 cent "health impact assessment" on tobacco products with revenues to be divided equally between the two Virginia NCI Cancer Centers.

Option 4: Introduce legislation to grant the Tobacco Indemnification and Community Revitalization Commission permissive authority to fund cancer research grants, which may be partially used for supporting research outside of the South Side and Southwest footprint, for the two Virginia NCI Cancer Centers.

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Work Group Members

- **Donna Berrier**, VCU Massey Cancer Center, (New) Executive Director of Development
- **Vernal Branch**, Virginia Breast Cancer Foundation, Advocacy and Constituency Coordinator
- **Keenan Caldwell**, American Cancer Society, State Director of Government Relations
- **Syd Dorsey**, UVA, Board of Visitors Member, cancer survivor
- **George Emerson**, VCU Massey Cancer Center, Board Member, cancer survivor
- **Gordon Ginder, M.D.**; VCU Massey Cancer Center; Director

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Work Group Members

- **Dina Halme**; UVA Cancer Center, Associate Director of Research
- **Meredith Strohm Gunter**; UVA Cancer Center, Board Member; Co-Founder of Patients and Friends Research Fund Steering Committee; cancer patient
- **Rosemary LaVista**, VCU Massey Cancer Center, Executive Director of Development
- **John Roberts, M.D.**; VCU Massey Cancer Center; Associate Director of Clinical Research
- **Christina Sheffield**, UVA Cancer Center/Cancer Prevention Action Coalition (CPAC), Manager of UVA Comprehensive Cancer Program and CPAC Member

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Work Group Members

- **Mark Smith**, VCU, Associate Vice President for Government Relations & Health Policy
- **Judy Turbeville**, VCU Massey Cancer Center, Advisory Board Member, cancer survivor
- **Cynthia Vinson**, National Institutes of Health, National Cancer Institute
- **Michael Weber, Ph.D.**; UVA Cancer Center; Director
- **Geoffrey Weiss, M.D.**; UVA Cancer Center; Medical Director and Chief of Hematology-Oncology

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Public Comments

- Written public comments on the proposed options may be submitted to JCHC by close of business on October 22, 2010. Comments may be submitted via:
 - E-mail: sreid@jchc.virginia.gov
 - Facsimile: 804-786-5538 or
 - Mail to: Joint Commission on Health Care
P.O. Box 1322
Richmond, Virginia 23218
- Comments will be summarized and presented during the JCHC meeting on November 3rd.

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Internet Address

Visit the Joint Commission on Health Care website:
<http://jchc.state.va.us>



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