HEALTH COMMUNICATIONS INTERNSHIP AT THE NATIONAL CANCER INSTITUTE

by Michelle Porcellino

In fulfillment of the Master of Technical and Scientific Communication degree at Miami University (Ohio), I completed an internship in health communications at the National Cancer Institute (NCI) in Bethesda, Maryland, from January 2007 to December 2007. This report describes my experience as an intern in the office of the President’s Cancer Panel (PCP), an advisory group of NCI that oversees the National Cancer Program. Chapter 1 provides background on the NCI and the PCP, as well as an introduction to my role as an intern in the Panel office. Details of my primary tasks throughout the year are described in Chapter 2 and a thorough account of my work on one major project is discussed in Chapter 3. The fourth and final chapter offers an analysis of the teamwork behind producing technical communications based on my experience as an intern with the Panel.
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DEDICATION

I dedicate this report to my family, whose love and support I would be nothing without.
CHAPTER 1: Introduction to My Experience as a Health Communications Intern at the National Cancer Institute

From January 2007 to December 2007, I had the incredible opportunity to serve as an intern in the office of the President’s Cancer Panel (PCP, Panel) at the National Cancer Institute (NCI). This experience proved to be one of the best of my life and has significantly contributed to my development as a professional writer and as an individual. This chapter offers an overview of the National Cancer Institute and the President’s Cancer Panel, as well as a description of NCI’s Health Communications Internship program and my primary responsibilities as an intern with the Panel.

Overview of the National Cancer Institute and the President’s Cancer Panel

This section begins with some background information about the National Cancer Institute and the President’s Cancer Panel to foster understanding of where these entities fit within the complex hierarchy of the Federal healthcare system.

Background of the National Cancer Institute

NCI was established by the National Cancer Institute Act of 1937 for the purposes of:

“conducting researches, investigations, experiments, and studies relating to the cause, diagnosis, and treatment of cancer; assisting and fostering similar research activities by other agencies, public and private; and promoting the coordination of all such researches and activities and the useful application of their results, with a view to the development and prompt widespread use of the most effective methods of prevention, diagnosis, and treatment of cancer [http://www.cancer.gov/aboutnci/national-cancer-act-1937].”

The NCI has since become the premier cancer research organization in the world. With an annual budget of $6 billion and nearly 5,000 employees, NCI is the largest of the 27 institutes of the National Institutes of Health (NIH), which is located on a 317-acre campus in Bethesda, Maryland, just outside of Washington, DC (See Appendix A for an organizational chart of the National Institutes of Health). An agency of the U.S. Department of Health and Human Services (DHHS), NIH is the foremost Federal agency for funding and supporting medical research in the United States.
Unlike all other institutes of the NIH, the National Cancer Institute was granted special authorities that allow it to have a direct relationship with the President of the United States (http://www.cancer.gov/cancertopics/factsheet/1971nca). These authorities were enacted by President Richard M. Nixon with passage of the National Cancer Act of 1971, the piece of legislation that initiated the “war on cancer” through development of a National Cancer Program. This act authorized four main provisions:

- The establishment of the National Cancer Advisory Board whose members are appointed by the President of the United States to advise the NCI Director on major cancer-related issues
- Bypass budget authority that allows NCI’s budget to “bypass” traditional approval mechanisms of higher agencies (NIH and DHHS) and be submitted directly to the President of the United States
- Authority for the NCI Director to be appointed by the President of the United States
- Establishment of the President’s Cancer Panel whose members, charged with overseeing the National Cancer Program, are appointed by and report to the President of the United States

The special authority granted to the PCP in the Cancer Act of 1971 has resulted in a unique and complex relationship between the Panel and NCI (See Appendix B for an organizational chart of the National Cancer Institute). The Panel receives financial and management support through NCI but does not have to officially report to or receive approval from the NCI Director or higher authorities in NIH and DHHS. However, the PCP does have a very close working relationship with the Office of the NCI Director, as well as other divisions and offices of the National Cancer Institute.

Background of the President's Cancer Panel
The PCP members are appointed by the President to monitor the National Cancer Program (NCP), which includes any and all cancer-related issues in the United States, and to report any delays or blockages in the execution of NCP activities. The Panel consists of three members who each serve a three-year term with the potential for reappointment. At least two of the members
are required to be renowned cancer researchers or physicians, and the other member is typically a respected advocate within the field of oncology. Essentially, the Panel members are the official advisors to the President on cancer-related issues in the United States. During my year with the PCP, I worked with the following Panel members:

- Dr. LaSalle D. Leffall, Jr. (Panel Chair since 2002), Charles R. Drew Professor of Surgery at Howard University College of Medicine
- Dr. Margaret L. Kripke (Panel Member since 2006), Professor of Immunology and Executive Vice President and Chief Academic Officer of The University of Texas M.D. Anderson Cancer Center
- Mr. Lance Armstrong (Panel Member since 2002), cancer survivor and Founder of The Lance Armstrong Foundation

Each year, the Panel fulfills its mission by first choosing a topic in cancer that they believe needs to be called to the attention of the President and other policymakers. A topic may be considered because it was a point of contention in the media or because it deserves more public awareness. Examples of topics that the PCP has focused on in the recent past include cancer survivorship issues, the translation of basic cancer research into cancer care, and meeting the needs of cancer patients served through the Indian Health Services. After selecting a topic of focus, the Panel then holds a series of at least four public meetings throughout the country to which experts on the topic are invited to present testimony. Based on this testimony, the Panel makes recommendations for improving the National Cancer Program, which are submitted in an annual report to the President and Congress. The Panel Chair will present the annual report to an official from the White House, typically the Special Assistant to the President for Domestic Policy, and brief him or her on its recommendations, but the process for then passing this information onto the President is not well understood by the Panel. In fact, after the Panel members are appointed by the President, direct communication is extremely rare. Copies of the report are mailed directly to members of Congress and, unlike the President who provides little or no feedback to the Panel, some do respond to the report and its recommendations. For example, shortly after the Panel released their 2006/07 Annual Report, Senator Edward Kennedy (D-MA) posted a statement on his website in support of the Panel’s recommendations about tobacco control.
While the President and Congress are the primary audience of the PCP reports, there are many secondary audiences of the reports, including agencies of Federal, state, and local governments, academics, members of the cancer advocacy community, and the general public. It is also the Panel’s responsibility to disseminate the findings and recommendations from their annual reports to this wider audience. Advocacy groups and community organizations take the largest interest in the Panel reports and often use relevant Panel recommendations as support for their cause when advocating or lobbying the government. For instance, the lobbyist group Campaign for Tobacco-Free Kids has cited Panel recommendations from the 2007/06 Annual Report related to tobacco prevention and control in their press releases. The relationship, though, between these groups and the Panel is mutual; the Panel frequently solicits input from leaders of grassroots movements to gain perspective on issues that are being fought at the frontline of the war on cancer. The Panel invites expert researchers and physicians to make presentations at their meetings, but often the most compelling testimony comes from advocates, community program leaders, and cancer survivors.

Basically, the sole functions of the Panel are to research, write, and promote their annual reports, tasks that are coordinated and managed by the Executive Secretary of the Panel, Dr. Abby Sandler and Special Assistant to the Panel, Karen Parker. They collaborate with a support team of contractors, which consists of a science writer, meeting coordinators, a publicist, and NCI staff members from the Office of the Director and the Office of Government and Congressional Relations. A standing conference call with all the members of the support team takes place every Wednesday morning as a way of informing everyone about Panel-related issues and determining what upcoming tasks need to be accomplished by which team members. Nearly everything accomplished by the Panel is a team effort.

The Health Communications Internship Program and My Role as an Intern

The Federal government’s interest in training young professionals is evident by the numerous internship programs that are offered through nearly all Federal healthcare agencies. NCI’s Health Communications Internship Program is one such example that offers students the opportunity to gain perspective on the national healthcare system from the highest levels of government.
Health Communications Internship Program

Founded in the 1970s, the Health Communications Internship Program is a well-established and respected program of the National Cancer Institute. Managed by NCI’s Office of Workforce Development, the Health Communications Internship Program offers paid internships to graduate students or recent graduates of master’s or doctoral degree programs in a variety of science, health, and communication fields. Each internship term is six months, but some interns may be offered the opportunity to renew twice (up to a total of one and a half years). The number of applicants accepted into the program varies from year to year, but typically each internship “class” consists of four to ten graduate students. Each intern is matched with an NCI office that aligns well with her educational background, work experiences, and career interests. My placement in the office of the President’s Cancer Panel was based on my interest in gaining a broad perspective on national cancer issues.

My Role as a Health Communications Intern

As an intern, I worked very closely with Abby (my supervisor), Karen (my mentor), and our contract team to help run the daily operations of the Panel office and complete major projects. I was to meet the following goals by the conclusion of my internship:

- Expand knowledge of health communications and the field of cancer through appropriate training sessions and courses
- Represent the Panel at a variety of conferences and meetings to help increase visibility of the Panel and raise awareness of the National Cancer Program
- Develop briefing books, including information on current research, speaker biographies, state-specific health and health care issues, and key cancer-related political issues
- Conduct research on various community models and specific legislation related to the work of the Panel
- Evaluate Panel report dissemination plans and ensure that key communities are actively engaged in the work of the Panel

To help me achieve these goals, Karen and Abby included me in nearly every meeting that was held and made me feel like an integral part of the team. I believe my input was valued because I
brought a fresh perspective. As somewhat of an outsider to the cancer community, I could ask questions that experts in the field may not have considered. In addition, my background in communication and design proved to be especially valuable in producing the annual report and other documents. Overall, I was a valuable contributor to the Panel and helped the team produce many successful communications.

My routine tasks consisted of writing correspondence to various audiences, aiding Karen in coordinating the activities of the contractors, writing and editing talking points and presentations for Panel Members, and representing the PCP at local and national conferences. Abby and Karen also continuously stressed that part of my responsibility as an intern was to learn and experience as much as possible while all the resources of NCI and NIH were at my disposal. Therefore, I attended training classes and seminars, many of which were also attended or taught by high-level leaders within government or non-governmental organizations. Some of the more major projects I worked on included redesigning the Panel website, planning current and future meeting series of the Panel, and helping with the development of the 2006/07 Annual PCP Report.

More thorough descriptions of my primary tasks are provided in Chapter 2 and a more detailed account of the major project I worked on during my internship can be found in Chapter 3. Finally, this report concludes with Chapter 4, which offers an analysis of the collaborative effort behind the projects that I was a part of as an NCI intern.
CHAPTER 2: Overview of My Role as an Intern

To understand the work I was involved with as an intern in the office of the President’s Cancer Panel, readers must first understand the timeline of the Panel’s major activities. As mentioned in Chapter 1, the Panel chooses a topic in cancer that is of interest to them, carries meetings out on this topic, and then produces an annual report on their findings. The Panel team begins to deliberate about topic possibilities approximately one year prior to declaring the next annual topic. It takes about a year to hold meetings and write the annual report. Heavy promotion and wide dissemination of each annual report occurs for approximately six months after a report is released. Therefore, at any given time during the year, the Panel and its support team are focused on several series. The follow table depicts what the Panel focuses on at any given month during the year:

<table>
<thead>
<tr>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>January – March</td>
<td>April – July</td>
<td>August – September</td>
<td>October – December</td>
</tr>
<tr>
<td>Conclude current meeting series</td>
<td>Review and edit current series’ report</td>
<td>Release and promote current series’ report</td>
<td>Continue promoting report</td>
</tr>
<tr>
<td>Research and write current series’ report</td>
<td>Continue planning next meeting series</td>
<td>Begin conducting meetings for new series</td>
<td>Continue conducting meetings for new series</td>
</tr>
<tr>
<td>Begin planning the next meeting series</td>
<td></td>
<td>Deliberate topic for next year’s meeting series</td>
<td>Develop concept papers for next year’s series</td>
</tr>
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</table>

During the span of time I was an intern with the PCP, the Panel team was focused on the production and promotion of the 2006/07 Annual Report, planning of the 2007/08 Meeting Series, and concept development of the 2008/09 topic. Besides a few tasks that I regularly performed (e.g., reading and writing correspondence, writing a weekly agenda for planning meetings, conducting research), the majority of my daily activity was focused on these three series and varied depending on the time of the year. Below is an illustration of what I was focused on at any given point during the year:
Below I discuss my contributions to the 2007/08 and 2008/09 series (as my major activity, the 2006/07 Annual Report is discussed thoroughly in Chapter 3) and my involvement with designing a new Panel website. The chapter then closes with an account of the “extra-curricular” seminars and meetings I was able to partake in and how they also contributed to my learning experience as an intern and as a professional.

**The 2007/08 Panel Meeting Series**

Work on the 2007/08 Meeting Series was ongoing. At the time I joined the Panel office in January 2007, the topic and format of the 2007/08 Meeting Series were already decided. However, details of the series, such as participants, discussion questions, and subtopics, were still evolving, and I was able to participate in team planning meetings that covered these issues. We decided that the topic of the 2007/08 Meeting Series, *Strategies to Maximize the Nation’s Investment in Cancer*, would focus on optimizing distribution of federal and private funding for cancer research and care. Each meeting brought together various experts from within and outside the healthcare field (e.g., government leaders, venture capitalists, economists, cancer center directors) to discuss in a roundtable format where funding should be directed to have the
greatest effect on cancer morbidity and mortality. A facilitator was hired to present predetermined questions to participants and guide discussion.

During the year I worked with the Panel, I attended three of the meetings in the series. Overall, approximately 10 percent of my time with the Panel was spent on activities of the 2007/08 Meeting Series, and the following are examples of some specific tasks I was responsible for.

*Writing the At-a-Glance*

Planning meetings with the Panel team allowed me to gather the information that I needed to write what we referred to as the At-a-Glance documents, which basically serve as the meeting series announcements. The At-a-Glance is a one-page information sheet that relays to the reader “at a glance” the topic, background, meeting locations and dates, questions of exploration, and contact information. The At-a-Glance typically serves as the advertisement for the Panel meeting series each year, is posted to the Panel website, and is distributed to invited participants and other interested parties. When I sat down to make the 2007/08 Meeting Series At-a-Glance, I noticed that the format of the At-a-Glance used for previous years’ meetings was neither visually appealing nor easy to read (See Appendix C for the 2006/07 Meeting Series At-a-Glance with the old design and the 2007/08 Meeting Series At-a-Glance with my new design). I decided to update the format of this document so that it was sleeker and more reader-friendly. In addition, I reorganized the content of this one-page piece to concisely convey to readers what this meeting series was about.

*Gathering Background Materials*

In preparation for each planning meeting, I had to gather related background information that would be distributed to Panel members and meeting participants in a briefing book. I researched and collected articles dealing with the economics of cancer that were thought-provoking and, hopefully, would generate discussion among participants. I then had to write to the journals to seek reprint permission for these articles. Our contractors would assemble the briefing books, but Karen and I would review them to make sure all background articles, speaker biographies, and logistical information was included and organized appropriately.
Editing Post-Meeting Documents

While the planning team and I were not active participants during the Panel meetings, it was critical that we attend these meetings and attentively listen to discussion. Following each public meeting, we would hold a “closed meeting” with just our planning team and the Panel members to review the dialogue of the day. During these meetings, everyone stated what he/she thought were the most compelling arguments and what they meant for the report. We needed to later recall information from these closed meetings when editing the meeting summary statement and minutes. NOVA Research, one of our contracting companies, would draft a one-page summary of the meeting, as well as detailed meeting minutes. Abby, Karen, and I would individually review these documents for content, grammar, and mechanics before sitting down together to collaboratively edit the documents. When reviewing these documents, I would reflect on the conversation in both meetings and verify that the most salient points from the discussions were included. It would usually take a few rounds of editing before the summaries and minutes were finalized and ready to post to the Panel website.

Concept Development of the 2008/09 Series Topic

A portion of the closed meetings for the 2007/08 series were actually spent formulating ideas for next year’s series. While we had the attention of all three Panel members, we asked them to suggest potential topics for the 2008/09 series. For each potential topic, I was to then compose what Karen and Abby referred to as a concept paper, an internal document that was used for future meeting and report planning. I worked on these concept papers during my last three months with the Panel.

I wrote three concept papers, one for each topic the Panel members were interested in exploring further: 1) International Cancer Control, 2) Oncology Workforce Issues, and 3) Environmental Causes of Cancer. I researched each of these topics thoroughly enough to write a two-page summary of the topic and then presented the papers to the Panel members and the planning team at the following closed meeting (See Appendix D for a concept paper I wrote about oncology workforce issues). To make comparing the topics as easy as possible, I organized all the concept papers with similar headings and sections:
Because I did not have much knowledge in any of these areas, I found it challenging to research and write these documents. In addition, I was presenting these concept papers to educated individuals, so they also had to be well thought out. The background material had to accurately and effectively present the “problem” associated with the topic so that the Panel members could see the importance of addressing the topic. I had to brainstorm what meeting locations correlated with the topic (i.e., cities/states that were positive examples of overcoming a particular problem or cities/states that were in need of help). In addition, I had to foresee what the potential outcomes (i.e., recommendations) and concerns would be if the topic was selected for the 2008/09 series topic.

After some debate, the Panel members and planning team settled on Environmental Causes of Cancer as the 2008/09 topic. After this decision was made, I then had to work on further developing the concept paper. To make a more detailed outline of the meeting series, I added another section to the concept paper, Possible Organizational Structure of Series, which included dates, locations, specific topics, exploration questions, and speakers for each of the four meetings (See Appendix E for the more fully developed Environmental Causes of Cancer concept paper). I struggled with how to conceptually organize the meeting series and finally settled on the following four subtopics (one for each meeting): 1) occupational exposure to toxic chemicals and materials; 2) soil, water, and food contamination by agricultural pesticides and herbicides; 3) indoor and outdoor air pollution; 4) nuclear fallout, electromagnetic fields, and radiation exposure. The planning team agreed that the structure was logical and that the concept paper would serve as a helpful starting point for planning the meeting series.
A New PCP Website
Creating a new website for the Panel was something that had been discussed for the past few years, but the revision had never been carried out. The former site (http://deainfo.nci.nih.gov/advisory/pcp/pcp.htm) was a subsection of NCI’s Division of Extramural Activities website, which provides information about all of NCI’s advisory boards. The Panel’s website was visually unappealing, difficult to navigate, and inaccessible to those with disabilities (See Appendix F for a screen shot of the homepage from the old and new Panel website). Even though the site had relatively little content, its navigation was not intuitive; users found it difficult to find certain documents, even for those of us who worked with the Panel. I was charged with leading the effort to develop a new Panel website, a project that I worked on for approximately three months. We hired a web developer to build the actual website, but I instructed him on our vision for the site and provided him with the text/content for the new website.

Navigation and Organization
After thoroughly reviewing the organization and content of the former website, I drafted an outline of the main navigation for the new site. After some tweaking we settled on the following:

- **Home**
- **About Us**
  - Current Members
  - Past Members
  - Staff
  - Charter
- **Meetings**
  - Current Series
  - Past Series
  - Meeting Locations Map
- **Reports**
- **Contact Us**

The former website did not even have a link on each page that took users back to the homepage, so including a Home link was essential for the new site. Likewise, the old site did not have a quick link to contact information for the Panel office, so I added Contact Us as another primary link. Besides the PCP Charter, the old site did not have any background information about the
Panel. Therefore, I included an About Us section that provides readers with some information about the current members, past members, and staff, as well as the Charter. The bulk of the content on the site was organized into one of two sections, either the Meetings section or the Reports section. As a subheading of the Meetings section, the Current Series link takes viewers to a page with links to the meeting agenda, one-page meeting summary, and complete meeting minutes for each of the four meetings from that series (See Appendix G for a screenshot of the current meetings series landing page and a screenshot of the page that lists available documents for one Panel meeting). The Past Series webpage contains meeting locations and dates for all past meeting series since 1983, and many of the more recent series also have links to their agendas, summaries, and meeting minutes. I thought it was also important to include a link to the Meeting Locations map that illustrates all the cities where the Panel has held meetings in the past two decades. The landing page for Panel Reports includes a chronological list of the annual PCP reports and provides links to download PDF files of the complete reports and any supplemental materials, including executive summaries, videos, and addendums.

**Layout and Design**

One of the major problems with the old website was that it was generic and lacked a “look and feel” that was in sync with the Panel’s logo (a yellow sun with a blue background), which was placed on most other PCP documents. Therefore, my first priority for the design of the website was to incorporate the sun logo and yellow/blue color scheme so that it could be recognized as the Panel’s. In contrast to the rather drab and boring layout of the former site, the yellow/blue color scheme would also be more inviting.

At our initial meeting with the web developers, I discussed how I envisioned the homepage of the site to be laid out: left navigation, PCP logo, muted yellow/blue color scheme, a short paragraph of text, a quick link to the most current annual report, and an inviting banner. The developers then put together a few different layouts for us to choose from. There were elements from all the layouts that I liked, so we combined some of the best elements to create the new homepage. After the developers provided this first draft of the webpage, I reviewed it and gave them some instruction about what elements needed to be adjusted to polish the site. In my review, I advocated for alignment of the text and graphics, contrast in text color and size,
rollovers, use of white space, and consistency among all elements. There were several rounds of
editing and revising the design between the web developers and our office before it was
finalized.

I also emphasized my desire for the new website to be compliant with Section 508 of the
Rehabilitation Act, which requires that all electronic information (e.g., internet websites) of
Federal agencies be accessible to people with disabilities (http://www.section508.gov/). Since
the Panel is a high-level Federal advisory group, it was especially important that the site be
easily accessible. Fortunately, the web designers had built a number of websites for branches of
Federal agencies and, therefore, were very familiar with the requirements of Section 508
compliance. In my review of the site, I still checked all images, including the Panel logo, the
header, and buttons, for alt tags (which can be read with screen-reading programs). I also made
sure that the text was written in a relative font size (rather than an absolute font size), enabling a
reader to increase or decrease the font size without altering the layout of the site or affecting its
readability.

Content
I also was responsible for gathering, writing, and editing content for the new Panel website. I
pulled content from other documents, such as the charter and the Panel members’ biographies,
and prepared the information for the web by editing and reviewing the material for consistency
with the other web content. In addition, I had to draft text for the homepage and the landing
pages of each section. When writing this text, I had to think about where it would be appropriate
to include internal links to other pages of the website (See Appendix H for the About Us landing
page, which shows how I placed internal links within the text to direct users to other relevant
pages in the website). Because the Panel has a very broad audience, which includes members of
the public, we wanted to keep the content concise, to minimize the use of technical or specialized
vocabulary, and to not use overly complex sentence structure (See Appendix H for an example of
text that I wrote for the site).

The end product of this task was a site that the Panel members and our planning team believed
was aesthetically pleasing, readable, and accessible. Unlike the former website, the new site will
leave users with a better impression of the President’s Cancer Panel and, at the very least, a better understanding of what function the Panel serves. As of August 2008, the new PCP website was still being approved by the Department of Health and Human Services, but it should be accessible in the near future at http://pcp.cancer.gov.

My Extra-Curricular Opportunities
As mentioned before, Abby and Karen emphasized the importance of learning outside of the office and encouraged me to seek out such opportunities throughout my internship. In early spring of 2007, they encouraged me to enroll in the Congressional Operations Seminar offered through Georgetown University, a week-long class on Capitol Hill for professionals interested in gaining an inside perspective on the legislative branch of government. The Seminar included lectures by congressmen, members of the White House Press Office, congressional staff, and political science professors at Georgetown.

We were also allotted time to attend congressional hearings that were of interest to us, and I chose several House and Senate Committee hearings where testimony presented was relevant to issues of the 2006/07 PCP Meeting Series, Promoting Healthy Lifestyles to Reduce the Risk of Cancer. This series focused on obesity and tobacco use, two political hot topics at the center of several bills that were being reviewed by Congress, including the Reauthorization of the Farm Security and Rural Investment Act of 2002, The Stop Obesity in Schools Act of 2007, and The Family Smoking Prevention and Tobacco Control Act of 2007 (grants the FDA the authority to regulate tobacco products). Knowing it was essential to reference and discuss such legislation in our annual report, I found that listening to the testimony and discussion at these hearings was incredibly timely. By the end of the seminar, I had significantly increased my understanding of public health issues relevant to the report and improved my comprehension of the general legislative process.

In addition to the Congressional Seminar, I also enrolled in the Demystifying Medicine Seminar, a course for employees of the National Institutes of Health. Each week for several months, an expert speaker would present research and advances in their particular field of medicine. The list of invited speakers consisted of NIH institute directors and renowned scientists/physicians from
universities around the world. By attending these seminars, I learned about the latest research in areas outside of cancer (e.g., AIDS/HIV, HPV, malaria, diabetes, dementia, and multiple sclerosis) and increased my recognition of individuals who have made significant contributions to various fields of medicine. For example, I was able to see presentations by Dr. Elias Zerhouni, Director of the National Institutes of Health, and Dr. Anthony Fauci, Director of the National Institute of Allergy and Infectious Diseases (an institute of NIH) and internationally renowned immunologist who has made significant contributions to AIDS research. Dr. Zerhouni’s talk focused on state-of-the-art 3D imaging techniques for the study of organs and cells, while Dr. Fauci discussed antibiotic-resistant strains of bacteria, bioterrorism, and other global challenges of infectious diseases.

As an intern at NCI, I attended seminars, conferences, meetings, and trainings that gave me exposure to people, research, knowledge, and processes that affect the healthcare of the entire country and, arguably, the world. These opportunities helped me develop connections with other professionals and greatly advanced my knowledge of public health, medicine, science, and technology. I believe that as a technical writer, a well-developed network and a strong scientific background are critical to success.
CHAPTER 3: Description of a Major Activity: The 2006/07 PCP Meeting Series and Report

The Panel’s 2006/07 Meeting Series, Promoting Healthy Lifestyles to Reduce the Risk of Cancer, focused on how obesity, nutrition, physical activity, tobacco use, and environmental tobacco smoke (secondhand smoke) affect cancer risk. Furthermore, testimony presented at these meetings also highlighted the role that entities not traditionally considered stakeholders in the National Cancer Program play in shaping the wellness of America—the media, the agricultural system, city planners, educators, and employers. Meetings for this series were held from September 2006 to February 2007 and the Annual Report, Promoting Healthy Lifestyles: Policy, Program, and Personal Recommendations for Reducing Cancer Risk, was released in August 2007, after approximately seven months of production. During the entire duration of my internship, I spent approximately 40 percent of my time working on multiple aspects of the report’s production, from gathering research to editing to disseminating the report.

Conducting Research

When I started as an intern in January 2007, the 2006/07 Series was well underway, and the Panel had already held three meetings in the series. I was able to attend the fourth and final meeting of the series, held in Jackson, Mississippi, in early February. After listening to about a dozen speakers present testimony and witnessing discussions between them and the three Panel members, I gathered a basic understanding of the topic. However, it was evident from my interactions with the members of the Panel support team during our weekly meeting calls that my knowledge of the association between lifestyle and cancer risk lagged behind theirs, and that I needed to catch up. I learned more about the topic by reading relevant scientific literature and reviewing transcripts from the previously held meetings. I knew that if I were to contribute insightful information during team discussions, I had to quickly learn the relevant material.

I also learned the material quickly by working closely with our science writer, Suzanne Reuben, to conduct scientific, legislative, and policy research for the report. Suzanne is the Founder and President of Progressive Health Systems, and the Panel has contracted with her to write their annual reports for over 10 years. While writing the report, she kept an on-going list of issues that she needed me to investigate further. Examples of issues needing more research included the
legislation behind the past and current Tobacco Buyout Bill, the availability of nutritional information at fast food restaurants, and the current status of the national physical fitness program instituted in schools. I could do some of the research using the internet, but much of it I did through written and oral communication with individuals, which included government officials, non-governmental program leaders, and academic researchers. I would then take the information I gathered and relay it to Suzanne, and often a conversation followed between us about how to incorporate the information into the report. This time-consuming research gave me a new perspective on the “behind-the scenes” work that goes into a large document.

**Developing the Report**

While Suzanne was writing the main body of the report, other peripheral components of the report had to be addressed. The government is notorious for its use of acronyms, so I was responsible for locating and compiling a list of acronyms that appeared in the text of the report. Each of these had to be defined in an appendix of the report. Another one of my tasks was to review transcripts from all four meetings and pick out quotes from invited speakers that were particularly powerful or thought-provoking and then determine where in the report the quote complemented the main body of the text. Reading through the transcripts was a somewhat monotonous task, yet important, because I believe that the pull-out quotes placed throughout the PCP reports are one of the design elements that catch a reader’s eye and draw her into the text. The quotes are also critical because they synthesize the major points of the section of the report in which they appear. Therefore, I was sure to select statements from speakers that eloquently paraphrased the report’s most salient points.

My favorite contribution to the report was the letter that I wrote to the President of the United States, which appears in the very front of the report (See Appendix I for the final version of the letter). Every annual Panel report begins with a letter addressed to the President, which introduces the topic at hand, provides a brief summary of the findings and recommendations from the report, and a direct plea to take action in the fight against cancer. I was granted the opportunity to write the first draft of the letter to the President in the 2006/07 Annual Report signed by the three Panel members. By the time I was asked to write this piece, I had a much better understanding of the report content and the recommendations being made by the Panel.
However, it was difficult to know what the appropriate tone should be for a letter written to the President; after all, this was an audience unlike any other I had written to. I knew the letter had to be forceful, yet respectful, and explanatory without sounding overly simplified. It was also difficult to reduce the contents of a 185-page report into a one-page letter. Karen, Abby, and Suzanne edited the letter. They added slightly more forceful language to the letter, but the final letter still followed my organization and contained many of my original statements. The letter was then emailed to the Panel for their review, and all three of them approved the letter as we had sent it to them. In the end, I believe that I wrote an effective and eloquent letter that accurately conveyed the message that Drs. Leffall and Kripke and Mr. Armstrong wanted to send.

The most critical section of the report is the recommendations section. Because the Panel is an advisory board, their primary charge is to recommend what actions the President, members of Congress, other Federal agencies, state and local governments, community organizations, the public, and other stakeholders need to take in the fight against cancer. Within the cancer community, the Panel is viewed as a high-level authority and governmental and non-governmental organizations across the country look to the Panel’s recommendations for guidance. The Panel and their support team had been shaping the recommendations for the report since the 2006/07 Meeting Series began. When I arrived in January 2007, the team was still deliberating over which recommendations would comprise the final list. I was mostly involved in editing the language of the recommendations. It took months and several drafts of recommendations before the finalized list of 29 was agreed upon by the Panel members and our team.

**Formatting and Editing the Report**

As mentioned in Chapter 1, the report is disseminated to a diverse audience that includes the President, members of Congress, and other government leaders; healthcare professionals; and the general public. Thus, one of our primary goals was to make the report accessible to those who do not have expertise in medicine or health policy. As we formatted and edited the report, we kept this goal in mind and made sure that all unfamiliar terminology was defined, sentence structure was clear and concise, and layout aided readability and was inviting. In fact, our work on the
Promoting Healthy Lifestyles report earned us a NIH Plain Language Award, an honor given each year to those NIH publications that demonstrate exceptionally clear writing.

Cover Design
Transforming the report, though, from a drab Word document into an attractive, award-winning publication was no easy feat. We began working with NCI’s Publication Office early to design a cover and general layout for the report. The fundamental message behind the report is that being active and eating right can decrease cancer risk, and we wanted a lively and vibrant color scheme for the report that would symbolize an active lifestyle that more Americans should adopt. We felt that the bright green and aqua blue color palette we chose does just this (See Appendix J for the cover of the report). In addition, we decided that the cover photo of people biking and a picture of water both illustrate eating healthy and staying fit.

Choosing a title for the report took much discussion and deliberation. Even though the final title, Promoting Healthy Lifestyles: Policy, Program, and Personal Recommendations for Reducing Cancer Risk, was long, we liked its alliteration and the implied call to action to policymakers, program leaders, and individuals. In addition, some of the original cover mockups designed by the Publication Office had the title on the report cover written in a serif font and I had to make a case for why using a sans serif font would make the title appear more bold and clean. We ultimately settled on a sans serif font for the majority of the cover text.

It is worth mentioning that, while our team would make decisions about things such as cover design and title, the decision was never final until approved by the three Panel members. We would provide them with our recommendations (via email or conference call) and ask them to either approve the decision or, if they did not agree with the decision, provide us with feedback about what they desired. Typically, though, they trusted our judgment, and their opinions were in line with ours.

Content, Grammar, and Mechanics
Suzanne sent Karen, Abby, and me a first-round draft of the report for review. At this point, we were mostly concerned with organization and content. I read the report on my own, marked my
edits and comments electronically in Word, and then sent them back to Suzanne to incorporate
the changes. At this point, the draft had not yet been distributed to the Panel; Karen and Abby
wanted the document to be as well-written as it could be (for this stage of the process) before the
Panel reviewed it. They wanted to ensure that any glaring grammatical errors or other problems
were caught by us rather than the Panel members. After incorporating our revisions, Suzanne
then sent a revised version out again to us and the Panel members. We gave the Panel members a
week to review the document and then arranged a conference call to discuss their feedback. They
gave Suzanne suggestions about the sections of the report that were shaping up the way they
envisioned and about other sections that needed more work. Based on their feedback, Suzanne
drafted another version of the report and sent it back out for Abby, Karen, and me to review.

After we revised the text of the report, the NCI Publication Office hired a contracting company
to design the general layout of the report (See Appendix K for an excerpt of the final report
layout). At this point, the report draft was converted to galleys, two-page spreads of the report as
it will be laid out once published. The galleys show how all the report elements (e.g., text,
pictures, tables, figures, quote boxes, footers, headings) would be arranged on the pages.

The most involved task of all was editing the report galleys for content, grammar, and
mechanics. To accomplish this task, Suzanne, Karen, and I arranged several all-day meetings
over several weeks. During every meeting, we sat around one large conference table, each of us
armed with a hard copy of the galleys and each playing one of three roles: reader, spot checker,
or marker. The reader would read out loud, using a systematic method that the Panel team had
employed for the editing process on all previous reports. This method allowed us to note every
single word, punctuation mark, capitalized letter, number, and text formatting. Capitalized letters
were indicated by saying the first letter of the word, such as “N, National, I, Institutes, of H,
Health.” Each number was read separately, for example, 356 was said “three, five, six” instead of
“three hundred and fifty six.” All text formatting (e.g., italics, bold) and punctuation marks (e.g.,
dashes, parentheses, commas) were also mentioned by the reader. Thus, the following sentence:

This rate substantially exceeds both the civilian rate (20.5 percent in 2005) and the U.S.
Department of Defense goal of 20 percent or less.\footnote{This rate substantially exceeds both the civilian rate (20.5 percent in 2005) and the U.S. Department of Defense goal of 20 percent or less.}
This rate substantially exceeds both the civilian rate, parenthesis, two, zero, period, five, percent in two, zero, zero, five, parenthesis, and the U, U, period, S, S, period D, Department of D, Defense goal of two, zero, percent or less period, footnote three, zero, nine

As the reader read out loud, the spot checker and marker read along silently. The spot checker’s primary responsibility was to point out any errors or problems that she saw in the text or on the page as the reader was reading. The marker would then mark up the “master galley” with our edits; this galley was the one sent back to the NCI Publication Office so that the contracting company could incorporate our changes. Karen and I usually switched off being reader and spot checker, while Suzanne mostly served as the marker and keeper of the master galley.

Our reading was mostly interrupted when a minor grammatical or mechanical error was noticed, but there were times when one of us raised an issue that called for further discussion. For example, I had some issues with the clarity of information displayed in Table 3 (See Appendix L for a before and after of Table 3). When adopting the table from the original source, Suzanne had eliminated some of the intermediate data points and only included the highest and lowest figures, which I believed made it difficult to understand the overall trends of the data. We had a discussion about why the table as it was currently formatted would be confusing to readers. I later adopted the data from the original source to create a revised table that was more comprehensive. This table was the one used in the final version of the report. There were many other instances like this when we deliberated about how to rewrite text for improved clarity, how to increase the readability of a table, or how to redesign a figure to make it more visually appealing.

In general, we were pleased with the overall layout, but we still had to tweak the format. Upon close examination of the galleys, we found many inconsistencies in heading typefaces, spacing, table and figure design, and text alignment. Each was marked in red ink and included notes about how we wanted the problem corrected. In addition, we carefully examined the placement and message of each photo in the report. We needed to make sure that the photos complemented the text they were adjacent to, depicted diversity, and were eye catching. We requested that many of the original photos the contracting company selected be replaced with more appropriate photos.
(we would provide an idea of what we wanted), be moved to another section of the report, or be deleted from the report all together.

All elements in the approximately 185-page report (including references and other peripheral pieces) had to be read using our systematic method and scrutinized, which made for a very time-consuming and meticulous editing process. However, it forced us to pay attention to details that we otherwise would have missed if we had edited the report individually and in a typical fashion. After the publishers made our requested changes to the document, they sent us a revised galley. Karen and I checked to make sure that our edits were actually incorporated into the document and noted any that were not before sending it back to the publishers. We repeated this process with the publishers several times before the report was sent to the Panel members for final approval, printed, and then disseminated.

**Disseminating and Promoting the Report**

Once *Promoting Health Lifestyles* was printed in August 2007, Karen and I began working with another one of our contractors, Eugenie Thompson, of the public relations and communications firm Hager Sharp, Inc., to distribute and publicize the report. Eugenie was what we called our “media contact” because she reached out to news outlets that could pick up the release of the report, and she coordinated Panel member interviews with reporters. While the Panel members ultimately delivered the report’s message to audiences, Karen and I worked behind the scenes to prepare documents for dissemination of the report.

**PowerPoint Presentation for Report Release**

The Panel report’s official release was at the Center for Disease Control and Prevention (CDC) Cancer Conference in Atlanta, GA, on August 16, 2007. I was responsible for preparing the PowerPoint presentation that Drs. Leffall and Kripke (Mr. Armstrong was unable to attend because of prior engagements) would use. I had to summarize the lengthy report into a forty-minute presentation of approximately 35 slides that would be delivered to an audience of mostly healthcare experts and advocates.
I designed a simple and clean template for the PowerPoint slides by employing the Panel’s sun logo and signature colors of blue and yellow (See Appendix M for an excerpt of the presentation). Deciding what to emphasize in a relatively short presentation was the most challenging aspect of this task because the report contained so many significant messages, a wealth of research, and dozens of recommendations. Not everyone in the audience would be familiar with the PCP and its mission, so I started the presentation with a few slides about the history of the Panel, its charge, the current members, and an overview of recent reports. I then decided to break up the rest of the presentation into two sections, much like the report, one on obesity, physical activity, and diet and the other on tobacco and secondhand smoke. Each section had slides that highlighted related problems, their association with cancer, barriers that prevent us from solving the problems, and selected recommendations for what policymakers, organizations, and individuals could do to overcome these problems. I also inserted images and figures throughout the presentation to complement the material and help hold the attention of the audience. The presentation was edited by Karen, Abby, Suzanne, and Eugenie before it was sent off to the Panel members for final approval. Some changes the group suggested included 1) adding more tables and figures throughout the presentation, 2) adding a slide about the importance of taking a comprehensive approach to promoting healthy lifestyles, and 3) emphasizing at the end of the presentation that the Panel is an advisory group and, therefore, only makes recommendations and does not implement or enforce them.

The Panel Members also presented the Healthy Lifestyles Report PowerPoint at a number of other national conferences, including the American Association for Cancer Research (AACR) Annual Conference, American Public Health Association (APHA) Annual Conference, and the Department of Health and Human Services’ National Prevention and Health Promotion Summit. The target audience of each conference was slightly different, so I had to tailor the presentation each time to highlight the aspects of the report that would be most relevant to that audience. For example, the audience at the APHA conference consisted of health experts who are interested in public policy, so I tweaked our list of selected recommendations to include those related to legislation and policy.
Other Dissemination Materials

With Eugenie’s guidance, we employed a few other marketing methods to publicize the report. We created postcards to advertise the report and had those distributed to attendees at conferences that were relevant to the report’s healthy lifestyle topic (See Appendix N for the final postcard). In addition, the *NCI Bulletin*, a weekly newsletter that is sent to employees and other subscribers, wanted Dr. Leffall to write an article about the report. I was assigned to be the ghostwriter of this piece, which was published in a question-and-answer format in the August 21, 2007 edition of the *Bulletin* (See Appendix O for the final Bulletin article). The piece required a brief introductory paragraph to the Panel and Dr. Leffall. I used these three questions because they reflected typical questions that were asked of the Panel regarding the report—*Why this topic? What did the Panel learn? What action needs to be taken?* Most Bulletin readers are educated, but not necessarily experts on the topic, so the answers to these questions were written in a way that could be easily understood by and would be of interest to a lay audience.

Drs. Leffall and Kripke also granted interviews to journalists from the Associated Press, Reuters, NBC, and CBS (See Appendix P for a CBS news article about the Panel report). Many of these articles included direct quotes from the Letter to the President. This reiterated the fact that the letter was a critical component of the report, and I felt fortunate to have been granted the opportunity to write such a piece.

Handling and Responding to Criticism

Overall, the Panel report was given a generous amount of publicity and was positively received by the healthcare community. However, all high-profile publications can expect some criticism and our report was no exception.

First, an omission in one of the tables adapted from the American Cancer Society (ACS) was brought to our attention by an ACS employee. We knew that this was an obvious oversight on our part and that we had to take corrective action by writing an erratum to the report (See Appendix Q for the erratum). Other criticism we received came from an unlikely source—one of our invited meeting participants. This participant (who I will refer to as Dr. G) is a researcher at a large university and a renowned expert on tobacco control, but this person is also notorious for
having an outspoken, and somewhat brash, personality. After the official release of the report, Dr. G sent us an email about concerns over the following statement in the report:

“A 2005 Centers for Disease and Prevention (CDC) study estimated that approximately 112,000 deaths are associated with obesity each year in the United States, making obesity the second leading contributor to premature death.” Other data analyses have arrived at varying estimates of obesity-related mortality….obesity due to unhealthy lifestyle may be challenging tobacco use in its population impact…” (pg. 9)

Essentially, Dr. G believed that the research was too inconclusive to make the claim that obesity was the second major contributor to premature mortality and that our statement was “exaggerating the problem.” He urged us to delete this paragraph from the report because “getting this right is important for both obesity and tobacco.” After Abby, Karen, Suzanne, and I discussed this issue for several weeks, sought advice from obesity experts, and solicited input from the Panel members, we decided that this issue was fundamentally based on opinion and that it was not necessary to delete the paragraph and reprint the report over his concerns. We did decide, though, to address his concerns in the report’s erratum. Dr. G may not have been completely satisfied with our response but, in the end, we all realized that when dealing with a controversial topic like obesity, it is very difficult to satisfy people on all sides of the issue.

In late October, after the report had been in circulation for a few months, we received a copy of a letter addressed to the President from the executive directors of two large and relatively powerful lobbyist groups. One lobbyist group spoke in the interest of corn production and manufacturing and the other represented public consumers of science. In the correspondence, they expressed their concern with the 2006/07 Annual Report’s “unfair effort to identify high fructose corn syrup (HFCS) as a uniquely important contributor to obesity, which is a risk factor for cancer.” The 3-page letter provided specific references to statements made in the report that they disagreed with, including the Panel’s recommendation to “structure farm supports to incentivize/encourage increased production of fruits and vegetables; limit farm subsidies that promote the production of high fructose corn syrup for use in food.” They were of the opinion that statements made in the report would lead the public to believe that HFCS is more harmful than any other sugar, when in fact research has not proven that the body metabolizes HFCS any
differently than other forms of sugar. They even enclosed numerous studies that supported their assertion about the science. In addition, they attacked our claim that HFCS, as the primary sweetener of soft drinks (because of its historically cheaper cost), plays a critical role in the obesity epidemic.

This letter fueled much debate in our office about how to respond to the correspondence, and Abby assigned me the responsibility of drafting a response letter to the leaders of these lobbyist groups. This piece was challenging to write because I had to defend what the Panel wrote, while taking a respectful and professional tone (See Appendix R for our final letter to the lobbyists). While doing some background research on the lobbyist groups, I discovered that the director of the consumer interest group was an outspoken critic of the soft drink industry and denounced soda as a leading contributor to America’s obesity epidemic. Since HFCS is the primary additive in soda, we found the alliance between these two lobbyist groups somewhat baffling. Moreover, we found it appropriate to subtly call out this display of hypocrisy by inserting some quotes from articles on the lobbyist’s website that demonize the food and beverage industry. I also tried to persuasively argue that we never explicitly stated in the report that HFCS is more dangerous to one’s health than other sugars. I explained that the purpose for specifically mentioning HFCS is because it is used so frequently in all types of foods (from ketchup to soup to bread), more so than any other sugar. Like any effective scientific document, the rebuttal I wrote was supported with research from credible sources, including data from the Department of Agriculture. In the closing of the letter, I politely stated that the report, per the authority of the three Panel members, would not be altered or retracted to meet their request.

**Contribution to My Development as a Technical Writer**

I believe that my involvement with this report gave me invaluable experience related to technical/scientific communication. Highlighted below are the most important lessons that I learned while working with the Panel team on the 2006/07 Healthy Lifestyles Report:

1) *As a technical writer, I am an expert on writing, not an expert in the subject matter I am writing on.* Thus, it can be a challenge to gather and understand the research necessary for writing on the topic. There were a number of times when developing the 2006/07 Panel Report
we sent sections of the report to subject matter experts—typically NCI employees or meeting participants—and asked them to review the material for accuracy. All of those that we reached out to were willing to help and provided valuable feedback. I realized that taking the extra steps to verify content before something is published can save time and effort that would otherwise be spent correcting the problem after publication. In addition, technical writers have an ethical obligation to be truthful, even if it means taking extra time to verify facts.

2) *Attention to detail, however painstaking, is paramount to producing a polished and professional document.* Our process for editing the report was time-consuming, yet it was critical to eliminating grammatical/mechanical errors and inconsistencies in our report. At times the task was tedious, but I did enjoy the process of refining a large document and witnessing its transformation from a plain MS Word document into a polished publication. In addition, my attention to detail was greatly heightened with the reading/editing method that was taught to me by Karen and Suzanne, and I have noticed a significant improvement in my editing skills since working on the report. It truly was an invaluable experience.

3) *If my writing is received by a wide and diverse audience, it will inevitably receive criticism, which I must scrutinize and respond to accordingly.* Writing about science can be particularly challenging because research is constantly evolving and discordance is commonplace. Some of the critiques of the Panel report were warranted, and we addressed these in the erratum. I realized that it is important to be receptive to feedback from others and, if appropriate, to publicly acknowledge errors or other interpretations. However, criticism the Panel report received from the lobbyists we determined, upon close examination, was not based on sound scientific evidence. I recognize that sometimes critics maintain a perspective that may not align with the mission and values of the organization a writer represents. In these instances, it is important to examine the evidence and determine if the critic is presenting a reasonable and justified argument. In the case of the lobbyists, the scientific evidence they presented was weak and their cause was in opposition to our own, so we only responded with a letter to them. Through this experience, I learned that response to criticism must be constructed on a case-by-case basis.
Working with the planning team on the 2006/07 Panel Report also taught me valuable lessons about leadership and teamwork. Details about my experiences with the team are discussed in the next chapter.
CHAPTER 4: Analysis of Teamwork in Technical Communication

“Nearly all technical communication is, in one way or another, collaborative” (Dicks, 2004, p.91). This statement is supported by my experience with the PCP because, as I mentioned earlier in this report, everything produced by the Panel is done so through a group effort. Shortly after joining the PCP office, I realized that the three Panel members, the official cancer advisors to the President, have their own group of advisors who are essentially the brains behind the operation. This group consisted of all three components of a project team as defined by Robert Wysocki: the project manager, the core team, and the contracted team (2003, p. 175). While we never really referred to Abby (Executive Director of the Panel) as our project manager, she clearly fulfilled that role because she was responsible for the budget of the projects, led group meetings, and approved decisions before they were passed onto the Panel members for approval. The core team consisted of Karen and me, who worked closely with Abby and played a major role in the projects. The majority of the PCP group is comprised of the contract team, which includes contractors internal and external to NCI. The Panel members serve an interesting role on the team, because they are in some ways both at the core and in the periphery of the PCP operation. They set the direction and tone for the meetings and are the ultimate decision makers of the PCP team, but they are not involved in daily decisions and tasks, the compilation of which shapes the reports and meeting series.

In the case of the Panel group, these three components work incredibly well together and they are the standard by which I judge all other collaborative projects in the workplace. My experiences with the group were critical to my work as an intern and, therefore, this chapter will be devoted to my analysis of the teamwork behind Panel communications. I will first explain how the Panel team meets the qualifications of a high-performance team and will then provide examples of effective group processes employed by the Panel team.

The Panel as a High-Performance Team

In their book, The Wisdom of Teams: Creating the High-Performance Organization, Jon R. Katzenbach and Douglas K. Smith explain what distinguishes a high-performance team from all other teams (1993, pp. 65-81). In their discussion, they present several critical aspects of a high-performance team. The first is that members have a deep sense of commitment to one another,
both personally and professionally, and help each other achieve goals. There was an incredible
sense of camaraderie among the Panel team members, which I believe is partly because most
members had been a part of the team for many years and over time had built solid professional
and personal relationships with each other. Unlike members of other advisory committees who
typically serve one short term, two of the three current Panel members were on their sixth year of
service, and the Chair, Dr. Leffall, just accepted appointment for another three-year term. This
consistency in leadership has created a stable working environment for the team. Likewise, the
planning team offers strong support to the Panel and strives to make the job of the Panel
members as easy as possible. The team truly cares about the well-being of one another; Abby
always emphasized the importance of work-life balance, the weekly planning meetings would
typically start with brief conversation about our personal lives, and hugs were exchanged with
Panel members when we saw them at meetings. There was a sense of commitment and friendship
that extended far beyond typical team interactions, and even as a newcomer, I felt like I had been
part of the team for as long as everyone else.

In addition to a deep commitment to each other, members of a high-performance team share an
intense commitment to a mutual cause, which Katzenback and Smith explain make such teams
completely self-sufficient. In the case of the Panel, our team had to be self-sufficient because we
had limited management from NCI, NIH, or the President. The team’s strong understanding of
the mission of the Panel—to research and report problems within the National Cancer
Program—allowed us to easily focus on the necessary goals and tasks to accomplish this
mission. There was a mutual desire among team members to select a topic of significance,
conduct a productive meeting series, and write a report that would resonate with its audience
and, hopefully, encourage action by policymakers to improve the National Cancer Program.

Katzenbach and Smith claim that the second aspect of a high-performance team is a sharing of
leadership among members. It was well understood among members of our group that each of us
had a unique set of skills and experiences that made her the group’s expert in a given area. Thus,
the team had enough trust in everyone to allow each member to lead certain tasks and make
relevant decisions. However, there was a mutual understanding among team members that any
significant decisions should be brought to the attention of the entire team and discussed until
consensus had been reached. Examples of how some leadership roles were delegated among the Panel team are provided later in the chapter.

The third trademark of a high-performance team is that its members have fun. Katzenbach and Smith explain that, “in high-performance teams like so much else, fun seems to be a byproduct of, and an ingredient in, the team’s sense of commitment to each other and performance.” In the case of the Panel team, the members genuinely enjoyed working together, regardless of the nature of the task. For instance, editing the report was a mundane task, but working closely with Suzanne and Karen made the experience enjoyable.

Katzenbach and Smith’s final assertion is that a high-performance team produces high-quality work. There was certainly plenty of fun within the Panel team, but the members were still successful in conducting productive meetings and writing effective communications. Past Panel reports have received NIH Plain Language Awards, including the 2006/07 Annual Report, which also received positive recognition from the media and much praise from the cancer community. On numerous occasions during my internship, I witnessed meeting participants or other colleagues complimenting the Panel team on their level of professionalism. In addition, while reading through past Panel reports, I observed that the current Panel members and their planning team have produced some of the Panel’s most thorough and polished reports. In part, this improvement can be explained by advances in desktop publishing. However, I believe that each year the current Panel team strives to produce a more readable, aesthetically pleasing, and comprehensive report than the previous year. As a high-performance team, they consistently attempt to exceed their own expectations.

Illustration of Effective Panel Interactions and Processes
In the rest of this chapter, I will discuss how the interactions and processes of our high-performance team exemplify Anderson’s eight guidelines for creating communications with a team as discussed in his book Technical Communication: A Reader-Centered Approach (2007, pp. 440-454).
Guideline 1: Develop a Shared Understanding of the Communication’s Objectives

Even though Suzanne is the primary writer of the Panel reports, the support team plays an integral role in the research and development process. We would frequently email articles from journals, newspapers, and magazines, links to websites, and clips from conferences and meetings relevant to topics the Panel was currently focused on for that year or the next. In a sense, we were all researchers searching for scientific studies, news stories, and recent legislation that helped us understand the topics. Every morning, I was responsible for searching through headlines and sharing relevant news and research with the group. It was important that every member of our team was well educated on the issue so that group discussions during our weekly planning call and at closed meetings were productive. In addition, everyone was able to provide valuable input on how the report should be organized, what issues should be emphasized, and what the final Panel recommendations should be. Even seemingly simple decisions, like choosing a title for the report, required team members to have a comprehensive understanding of the report and its primary objective.

In the case of the *Promoting Healthy Lifestyles* report, we educated ourselves on the health consequences of lifestyle choices so that we could advise the Panel on what advice to give the policymakers, the program leaders, and the public. While we debated over more controversial issues (e.g., support of FDA regulation of tobacco), it was important for our team to eventually develop a unified stance on such issues so that the Panel could make strong recommendations in the report. Even the members of our team who were mostly responsible for planning logistics of the meeting series were well-versed in the objectives of the report since decisions they made also reflected upon the message the Panel was promoting about healthy lifestyles (e.g., it would be incredibly contradictory to serve a high-fat lunch to Panel meeting participants at a meeting that focused on the links between obesity and cancer).

Guideline 2: Make and Share Detailed Plans

Anderson states that “when teams discuss plans, the individual members gain fuller understanding of what they are trying to accomplish” (2007, p. 443). This is the exact reason the Panel office creates topic concept papers for future meeting series and shares them with the team early in the planning process. In Chapter 2, I described the three concept papers that I created for
the 2008/09 Meeting Series. After the Panel decided to focus on Environmental Causes of Cancer, I further developed this concept paper so that it would serve as a strong outline for future meeting plans (See Appendix E for the Environmental Concept Paper).

As the one who completed most of the background research on this topic and knowing also that I would no long be working with the Panel when the real planning began, I tried to develop a concept paper that would be useful to the team during meeting preparation. For example, some sections in the concept paper, including Background, Focus, and Participants, could be used in the meeting at-a-glance. The Outcomes section essentially provides a list of goals for the meeting series that the Panel team could strive to accomplish and the Concerns section includes some potential pitfalls of this topic as I thought of them while researching relevant issues. I shared my vision for how the meeting series would be organized by providing a plan for each of the four meetings that included location, topics, speakers, and discussion questions.

I received feedback about the concept paper from the team after briefly presenting the document and my proposed organization for the series at a closed Panel meeting. The paper generated discussion about the series that helped improve plans. Some details of the series will likely change when the plan is put into action, but the concept paper is important for introducing the planning team to the topic, providing preliminary objectives, and presenting an organizational framework for the meetings, and possibly the report. Essentially, the concept paper will serve as a springboard for the Panel team’s planning of the 2008/09 Meeting Series.

Guideline 3: Make a Project Schedule
The concept paper typically serves as the project schedule for the meeting series, but another project schedule is developed for production of the report. As the report writer, Suzanne develops this schedule because only she can estimate how long it will take for her to write the first draft and revise the subsequent ones. After Suzanne developed the project schedule for the Promoting Health Lifestyles report, the team and Panel members reviewed it and decided if it was a reasonable and appropriate timeline. The schedule included milestones from submitting the first draft to the Panel to releasing the reports, and it allowed each team member to know when individual tasks needed to be accomplished (See Appendix S for an example timeline). For
example, the schedule dictated that I pull significant quotes from the transcripts by May 10, so they could be inserted into the draft that would be submitted to layout on May 11. The same applied to other members of the team—Karen would have to initiate communications with the NCI Publications Office about layout weeks before the report was actually turned over to them, and Eugenie knew she had to begin making arrangements quickly for the official release set for July 22.

Like many major projects, there were unexpected setbacks along the way that delayed progress on the report, resulting in a late release date. Fortunately, there are no severe consequences for a slightly delayed release since deadlines are just decided by the Panel team. However, it does mean that there is more of an overlap between annual series and, therefore, more to focus on at a given time.

**Guideline 4: Share Leadership Responsibilities**

While Abby was the official team leader, there was definitely a shared leadership among group members that changed depending on the project. The leadership role typically went to the individual on the team who had expertise in that area. For example, the contractors from NOVA Research took a leadership role during meeting planning, Suzanne served as the leader during report production, and Eugenie lead the effort to promote the report once it was released. As the intern, I mostly served in supporting roles during projects, but the team gave me the opportunity to lead a few initiatives. For example, Karen and Abby thought that it would be appropriate for me to lead the website project since I had more experience with web design. I was responsible for initiating meetings with the contractors and determining how the site would be organized. Of course, Karen was involved in every stage of the process, and we jointly made decisions.

**Guideline 5: Make Meetings Efficient**

The Panel operated smoothly, in part, because the team had instituted a standing weekly conference call every Wednesday at 10:30 am. This meeting was only for the planning team (Karen, Abby, me, Suzanne, Eugenie, and several other contractors), not the Panel members. It typically was only 30 minutes long, but it functioned as a way for all members to “check in” with each other and update the others on progress or problems. We followed a weekly agenda that I
was responsible for preparing and disseminating to team members at the beginning of the week (See Appendix T for an example agenda). Typically, we would discuss the two or three series that we were concurrently focused on, any relevant Federal or state legislation (as provided by our team member from the NCI Office of Congressional Relations), progress of any miscellaneous items (e.g., the website), and any upcoming conferences or meetings. Besides the occasional digression, these meetings were always efficient. Abby usually guided the discussion and Karen, who was always interested in process, would help outline tasks to accomplish before the next meeting.

Guideline 6: Encourage Discussion, Debate, and Diversity of Ideas
Members of our support team were diverse in terms of educational background and work experience, so many different perspectives were represented in our discussions. For example, Abby was trained as a laboratory scientist, so she translated technical content for the team. Karen has degrees in social work and always emphasized the importance of recognizing social justice issues in the Panel reports. For example, when editing the 2006/07 Panel report, she realized that we had left out the lesbian, gay, bisexual, and transgender (LGBT) populations in our listing of groups that are heavily targeted by tobacco companies. Other team members had backgrounds in public relations, law, and policy and brought their unique views to the table. As a technical writer, I brought a new perspective on document design. Our backgrounds and perspectives seemed to complement each other well, and the group encouraged diversity of ideas. In fact, I believe that the team was especially accepting of conflicting viewpoints because it helped prepare the team for public response to Panel communications.

The team always respected the opinions of others and, even as an intern, I felt like the group welcomed and valued my input. In order to earn credibility among the group, I just listened attentively during the first few meetings to gather a better understanding of how the Panel functioned, what role each team member played, and what topic the Panel was focused on. Then, as Dicks suggests, I tried to “present new ideas gradually and prove their value” (2004, p. 224). For instance, I knew that I could make the format of some of their documents more user-friendly and suggested what could be done to improve readability. Gradually, I believe the team grew to
recognize my strengths and would ask for my input and, eventually, I was comfortable enough to freely contribute my ideas.

**Guideline 7: Use Computer Tools for Collaboration**

While the weekly planning calls were useful, not all team members were on the call every week, so there was still a need for members to communicate by other means. Earlier in this chapter, I mentioned how we used email to send relevant articles and links to other members of the planning team and, in Chapter 3, I mentioned how frequently Suzanne and I emailed one another when we were gathering research for the report. Email became our primary means of daily communication when we were researching background information on the report. It was the easiest way to send materials to our entire group.

The planning group frequently passed documents around for editing, including meeting summaries, Panel member talking points, and the annual reports. Most of this editing was done electronically using Track Changes in Microsoft Word. This software allowed everyone’s comments and edits to be tracked and provided a forum for team members to read and react to the opinions of others.

**Guideline 8: Be Sensitive to Possible Cultural and Gender Differences in Team Interactions**

Interestingly, our team was a group of 11 Caucasian women. We were diverse in age, religion, and socioeconomic status, but we had little cultural diversity in our group. Our homogeneity may explain why we all worked so well together, but it may also mean that our interactions were void of some very important perspectives. Diversity of our group increased somewhat when our group interacted with Panel members, Mr. Armstrong and Dr. Leffall (an African-American male). Despite a lack of cultural and gender differences among team members, we were still sensitive to such issues and made an effort to invite a diverse group of participants to Panel meetings and address any relevant matters in the annual report. Still, it would be interesting to know how the dynamics of our group interactions would have changed if the team had been comprised of more men or individuals of other ethnic backgrounds.
For the most part, our team interactions closely followed the eight guidelines that Anderson argues are necessary for successful teamwork in technical communication. I felt incredibly fortunate to have had the opportunity to work with such intelligent, successful, and supportive individuals. Working on their team was an enjoyable and productive process by which I will compare future group interactions as a professional writer.

CONCLUSION

Overall, my internship experience at the National Cancer Institute with the President’s Cancer Panel was critical to my development as a professional writer. In this report, I have provided background of the NCI and the Panel, outlined my role as an intern in the Panel office, described my involvement with the 2006/07 Annual Panel Report, and discussed how the Panel functions as a team. Still, it is impossible for me to completely convey in one paper how valuable and enjoyable this opportunity was for me. The projects, classes, meetings, and personal interactions I experienced as an NCI intern have taught me important lessons about communication, professionalism, and teamwork. As a professional writer, I apply what I learned from the Panel to my current responsibilities and tasks frequently. My internship with the Panel was only a year, but I know that the benefits of it will last a lifetime.
REFERENCES


APPENDIX A: NIH Organizational Chart
The Mission of the National Institutes of Health is science in pursuit of knowledge to improve human health. This means pursuing science to expand fundamental knowledge about the nature and behavior of living systems; to apply that knowledge to extend the health of human lives; and to reduce the burdens resulting from disease and disability. The National Institutes of Health seeks to accomplish its mission by:

- Fostering fundamental discoveries, innovative research, and their applications in order to advance the Nation’s capacity to protect and improve health;
- Developing, maintaining, and renewing the human and physical resources that are vital to ensure the Nation’s capability to prevent disease, improve health, and enhance quality of life;
- Expanding the knowledge base in biomedical, behavioral, and associated sciences order to enhance America’s economic well-being and ensure a continued high return on the public investment in research; and
- Exemplifying and promoting the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science.
APPENDIX B: NCI Organizational Chart
Plans, conducts, and coordinates a national program involving: (a) research on the detection, diagnosis, cause, prevention, treatment, and palliation of cancers and on rehabilitation of the cancer patient; and (b) demonstration of the effectiveness of cancer control methods and techniques. Specifically:

- Conducts and directs research performed in its own laboratories and through contracts;
- Supports and coordinates research projects by scientific institutions and individuals through research grants;
- Supports training in fundamental sciences and clinical disciplines through individual and institutional research training awards and clinical education awards;
- Supports construction of laboratories and related facilities necessary for research on cancer;
- Supports field tests and community demonstration projects of methods and techniques for cancer control;
- Collaborates with voluntary organizations and other institutions engaged in cancer research, training, and control activities;
- Encourages and coordinates cancer research by industrial concerns where such concerns evidence a particular capability for programmatic research;
- Collects and disseminates information on cancer research and cancer control; and
- Consults with appropriate individuals and agencies in the development, coordination, and support of cancer research programs in other countries.
APPENDIX C: Before and After At-a-Glance
President’s Cancer Panel
2006–2007 Meeting Series
Promoting Healthy Lifestyles to Reduce the Risk of Cancer

The President’s Cancer Panel will hold meetings to hear testimony from invited participants on each of the dates shown below. These meetings are free and open to the public.

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<tr>
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<tbody>
<tr>
<td>Minneapolis, MN</td>
<td>Lexington, KY</td>
<td>Portland, OR</td>
<td>Jackson, MS</td>
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<tr>
<td>Obesity</td>
<td>Tobacco</td>
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<td>Physical Activity</td>
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<tr>
<td>Nutrition</td>
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Prospective Participants
- Government Officials
- State/Local Health Officials
- Academic Institution Representatives
- Practitioners/Principal Investigators/Community Oncologists/Family Physicians
- Insurance Representatives
- Public Affairs/Communications Specialists
- Community-Based Organizations
- Private Industry Representatives
- Advocates and Consumers

Purpose
- These 1-day meetings will focus on ways to reduce cancer incidence and mortality through the promotion of healthy lifestyles.
- Areas of particular interest will include the impact of tobacco use, environmental tobacco smoke, overweight/obesity, lack of physical activity, and unhealthy diet on cancer risk.
- Meetings will focus on:
  - Ongoing research and identification of knowledge gaps
  - Existing model programs
  - The influence of culture, geography, and community structure on lifestyle choices and adoption of risk-reduction behaviors
  - The impact of technology advances on lifestyle and activity levels
  - Economic costs associated with unhealthy lifestyles
  - Potential policy changes and implementation strategies
- The first half of each meeting will focus on current scientific research in a particular area—e.g., tobacco. The second half of each day will provide an opportunity for the Panel to learn about model programs relevant to healthy lifestyles and cancer risk reduction.

For more information about this series of meetings or the President’s Cancer Panel, please visit the Panel website at http://pcp.cancer.gov, or contact Karen Parker at 301-451-8462 or klparker@mail.nih.gov.
### MEETING DATES
- September 10, 2007
- October 22, 2007
- December 3, 2007
- January 28, 2008

### BACKGROUND
- A recent article published in the *Journal of Political Economy* suggests that “a 1 percent reduction in cancer mortality would be worth $500 billion” in the future (Murphy, KM & Topel, R. *Journal of Political Economy*. 2006; 114(5):871-904).
- Enormous amounts of money have been spent during the past 30 years on cancer research; however, these achievements pale in comparison to successes in controlling other diseases, such as cardiovascular or infectious diseases (Varmush, H. *Science*. 2006;312 (5777):1162-1165).
- Until recently, the NIH budget had been increasing over time; however, the distribution of funds to NCI is not sufficient when inflation is factored into the equation. Adequate funding is required throughout all facets of the National Cancer Program (NCP) to fund new research, new investigators, and translation of findings to the field ([http://www.aas.org/spp/rd/nih07p.htm](http://www.aas.org/spp/rd/nih07p.htm). Accessed 9 May 2007).

### POTENTIAL PARTICIPANTS
- Advocates
- Economists
- Business Leaders/Venture Capitalists
- Cancer Center Directors
- Government Representatives
- Scientific/Cancer-Related Organization Representatives
- Health Care Experts
- Scientists

### QUESTIONS FOR EXPLORATION

#### Primary Questions
- What changes to the current system would make the largest impact on cancer morbidity and mortality? How can these changes be achieved? Who must be involved in making these changes and how can they be appropriately engaged?

#### Additional Questions
- How can business models be applied to the cancer research enterprise as a means of optimizing the funding process? What is the optimal way to fund research? What specific steps must be taken to change the funding structure and process?
- Why are cancer appropriations not a higher priority? What should be done to raise the priority of appropriations for cancer research (and cancer care)?
- What would be the optimal balance of resources be throughout the cancer research portfolio at NCI (e.g. basic, translational, clinical, and health services)?
- How do we sustain the momentum of cancer care and research under the current fiscal circumstances?
- What is the role of NCI in the prevention, detection, diagnosis, treatment, and survivorship of cancer? What is the role of other key constituencies (other governmental agencies, advocates, etc.)? How can these various stakeholders collaborate to achieve the most effective results?

### CONTACT INFORMATION
- Karen Parker, MSW
- Special Assistant
- President’s Cancer Panel
- 301-451-9462
- kparker@mail.nih.gov

Meetings of the Panel are open to the public; no registration is required.
APPENDIX D: Concept Paper on Oncology Workforce Issues
Background

- The demand for oncologists is expected to rise 48% between 2005 and 2020, but the supply of service provided by oncologists is estimated to rise only 14% (Erikson et al., 2007).
- There is also concern in the public health field about the growing shortage of workers and resources, in part because retirement rates in the field are as high as 45% over the next five years (ASTHO & CSG, 2004). The number of public health workers has declined from 220 workers per 100,000 Americans in 1980 to 150 per 100,000 Americans in 2000 (Merrill et al., 2003).
- The shortage crisis could be helped by increasing the numbers of women and underrepresented minorities in the healthcare field. Furthermore, a more diverse workforce could lead to improvements in public health and a reduction in health disparities. Health professionals from minority backgrounds are more likely to serve disadvantaged populations and patients often feel more comfortable with a practitioner who is of the same racial or ethnic background (DHHS & HRSA, 2006).
- Even though minorities compose 25% percent of the U.S. population, they represent only 10% of the health professionals, a percentage that is growing modestly (IOM, 2004).
- Despite a steady increase in the number of women entering medical school, the percent of women serving leadership positions in medicine is still disproportionate to that of men. In 2004-2005, women comprised 32% of medical faculty members, 15% of full professors, 11% of department chairs, and 10% of medical school deans (AAMC, 2004-2005).
- Nine of the 82 academic radiation oncology departments nationwide are chaired by women; despite the fact that female membership to ASTRO has doubled in the last 20 years, only one of the 14 board members is a woman, dropping from two of 12 in 1985 (Jagsi et al., 2006).
- From 2001-2003, female grant applicants received only 83% of the NIH grant funding that male applicants received (RAND, 2005).

Potential Participants

- Office of Workforce Development, NCI
- Office of Equal Opportunity & Diversity Management, NIH
- Health Resources and Services Administration, DHHS
- Office of Minority Health & Health Disparities, DHHS
- Howard Hughes Medical Institute
- other Federal agencies
- state and local governments
- non-governmental organizations (e.g., AAMC, RWJF)
- public health professionals
- academia
- professional organizations
- scientists/researchers
- advocates/patients
CONCEPT PAPER
2008-2009 Series

ONCOLOGY WORKFORCE ISSUES

Potential Meeting Locations
- Medical schools
- NCI-designated Cancer Centers

Potential Topics
- Overall shortage of health professionals
- Retention of women
- Recruitment and retention of minorities
- Shortage of oncology health professionals

Possible Outcomes
- Recommendations for methods of recruiting larger numbers of minorities into medical schools
- Recommendations related to retaining women and minorities in the healthcare field and encouraging placement of such populations in higher-level positions

Potential Concerns
- Too much overlap with past reports and/or current report
- Limited research specifically on oncology—may need to broaden to all of healthcare field

References


Institute of Medicine. (2004). In the Nation’s Compelling Interest: Ensuring Diversity in the Health Care Workforce.


APPENDIX E: Concept Paper on Environmental Causes of Cancer
CONCEPT PAPER
2008-2009 Series

ENVIRONMENTAL CAUSES OF CANCER

Background
- An estimated 33,900 cancer deaths in the U.S. are caused by environmental pollutants and occupational exposures; lower-income workers and communities are disproportionately affected by these factors (ACS, 2006).
- Nearly 20,000 cancer deaths and 40,000 new cancer cases each year in the U.S. are attributable to occupation (NIOSH, 2007).
- One study found that young women employed in industries using chemical solvents were more at risk for developing breast cancer and that their risk doubled after ten years of exposure to such chemicals (Hansen, 1999).
- In the most recent Report on Carcinogens, The National Toxicology Program identified 58 substances as known human carcinogens and another 188 as “reasonably anticipated” carcinogens (NTP, 2004).
- Less than 2% of chemicals in commerce have actually been tested for carcinogenicity (NIOSH, 2007).
- About 1 in 20 homes in the U.S. has elevated levels of radon and up to 20,000 lung cancer deaths are associated with radon exposure each year (DHHS, 2003).
- Based on findings that people living in more polluted areas had higher death rates from all causes, including lung cancer, than those living in less polluted areas, the EPA issued stricter regulations in 1997 to decrease concentrations of air pollutants (ACS, 2006).
- NCI is currently conducting and supporting a number of large studies across the United States, many in collaboration with environmental agencies, that focus on the link between cancer and chemical and physical environmental factors (i.e., The Long Island Breast Cancer Study Project and the Agricultural Health Study).

Focus
While environmental causes of cancer are typically classified as any and all external elements that impact cancer risk (e.g., tobacco, diet, sunlight exposure, pollution), the focus of this series will be on cancer-causing pollutants found in air, soil, food, and water, as well as exposure to toxic chemicals and materials in the workplace.

Areas of particular interest include:
- Exposure to toxic materials in the workplace (arsenic, asbestos, cadmium, radon, farming chemicals)
- Indoor and outdoor air pollution (burning of fossil fuels, radon)
- Soil, water, and food contamination by agricultural pesticides and herbicides
- Nuclear fallout, electromagnetic fields, and radiation exposure

Potential Participants
- Environmental Protection Agency (EPA)
- Nuclear Regulatory Commission (NRC)
- Occupational Safety and Health Administration (OSHA), DOL
- National Institute for Occupational Safety and Health (NIOSH), CDC
National Center for Environmental Health (NCEH), CDC
Agency for Toxic Substances and Disease Registry (ATSDR), DHHS
National Toxicology Program (NTP), DHHS
National Institute of Environmental Health Sciences (NIEHS), NIH
Occupational and Environmental Epidemiology Branch, NCI
Federal government
State and local governments
public health professionals
scientists/researchers/chemists
agricultural and manufacturing industry representatives
employers/business owners
patients/consumers

Possible Outcomes
- Identify areas and populations (cancer clusters) that have disproportionate rates of cancer
- Determine the role of NCI as it relates to environmental causes of cancer
- Identify research needs and potential new areas of collaboration between Federal agencies
- Increase public awareness of environmental and occupational hazards and their relation to cancer risk
- Develop recommendations for regulating toxic and other potentially hazardous chemicals and materials
- Develop recommendations for reducing exposure to cancer-causing pollutants

Possible Concerns
- Need to clearly define the topic scope (what environmental causes will be explored)
- Conflicting evidence surrounding cancer clusters
- Potential political hot-topic

Possible Organizational Structure of Series

| Meeting 1 | September 16, 2008 |
| City, New Jersey | Occupational exposure to toxic chemicals and materials |

Potential Topics
- Exposure to organic solvents (benzene, methylene chloride, vinyl chloride) in the textile, food and drink, wood and furniture, and fabricated metal industries
- Exposure to asbestos and asbestos abatement laws
- Exposure to diesel exhaust
- Underground miners and radon exposure

Questions to be Explored
- What governmental regulations/policies are in place to protect workers from exposure to carcinogenic or potential carcinogenic materials?
- What can employers do to protect their employees?
- What research needs to be conducted to further investigate the harms associated with chemicals and other products used in various workplace environments?
- What specific occupational industries and populations are disproportionately affected by cancer?
Potential Speakers
- Michael C. R. Alavanja, DrPH—Senior Investigator, Occupational and Environmental Epidemiology Branch, Division of Cancer Epidemiology and Genetics, NCI

Meeting 2  October 21, 2008
Chicago, Illinois
Soil, water, and food contamination by agricultural pesticides and herbicides

Potential Topics
- CDC’s Environmental Public Health Tracking Program
- Insecticide exposure (DDT)
- Drinking water contaminants (nitrates, chlorination byproducts, arsenic)
- Effects of pesticides on the health of farmers

Questions to be Explored
- What is the effect of agricultural chemicals on the health of farmers and others in the agricultural community?
- How do these chemicals affect the water sources and crops ultimately consumed by people?
- By what process are herbicides and pesticides tested for toxicity? And how is use of these chemicals regulated?
- What are the links between cancer and soil, water, and food contamination?

Potential Speakers
- Donald Kennedy, PhD—Editor-in-Chief, Science
- Michael McGeehin, PhD, MSPH—Director, Division of Environmental Hazards and Health Effects, National Center for Environmental Health, CDC (can speak to CDC’s Environmental Public Health Tracking Program)
- Aaron Blair, PhD, MPH—Senior Investigator, Occupational and Environmental Epidemiology Branch, Division of Cancer Epidemiology and Genetics, NCI
- Kenneth P. Cantor, PhD, MPH—Senior Investigator, Occupational and Environmental Epidemiology Branch, Division of Cancer Epidemiology and Genetics, NCI

Meeting 3  December 4, 2008
Charleston, South Carolina
Indoor and outdoor air pollution

Potential Topics
- Residential radon exposure
- Fine particulate air pollution

Questions to be Explored
- What are the health effects on populations living in areas that have high levels of pollution?
- How effective is the current U.S. regulatory system for pollutants and what can be done to improve it?
Potential Speakers
- Devra Lee Davis, PhD, MPH—Director, Center for Environmental Oncology, University of Pittsburg Cancer Institute
- Jonathan M. Samet, MD—Professor, Johns Hopkins School of Public Health
- Howard Frumkin, MD, MPH, DrPH—Director, National Center for Environmental Health, CDC
- C. Arden Pope, PhD—Mary Lou Fulton Professor, Department of Economics, Brigham Young University
- Julia G. Brody, PhD—Executive Director, Silent Spring Institute

Meeting 4  January 27, 2009
Reno, Nevada
Nuclear fallout, electromagnetic fields, and radiation exposure

Potential Topics
- Increased exposure to ionizing radiation for medical purposes (x-ray, CT scans, and nuclear medicine)
- Electromagnetic fields emitted by power lines, transmitters, and household appliances
- Nuclear/radioactive waste

Questions to be Explored
- How much nuclear waste exists in the United States and in what form?
- What EPA regulations are in place for disposal/storage of nuclear waste? How might regulations be improved?
- What are the health risks associated with increased exposure to ionizing radiation used for medical diagnosis and treatment?
- Is there validity to the claim that electromagnetic fields cause cancer?
- What research needs to occur to gain a better understanding of the links between cancer and nuclear waste, electromagnetic fields, and radiation?

Potential Speakers
- Robert S. Lawrence, MD, AB—Director, Center for a Livable Future, Johns Hopkins School of Public Health (co-chair of IOM report on Nevada nuclear-bomb tests)
- Roy E. Gephart, MS—Technical Group Leader, Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory

References
APPENDIX F: Before and After PCP Website Homepage
Division of Extramural Activities

President's Cancer Panel
(PCP)

Quick Links
- Members
- Members Biographies
- Agenda & Future Meetings
- Meeting Minutes

Request for Publications

- Charter
- Faculty Statement
- President’s Cancer Panel Statements
- Reports:
    - Promoting Healthy Lifestyles
      - Executive Summary
    - Annual Report for 2005-2006
      - Promoting Healthy Lifestyles
  - Annual Report for 2004-2005
    - Translating Research into Cancer Care: Delivering on the Promise
      - Executive Summary

Date: 3/22/2007

President's Cancer Panel

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What's New

The President's Cancer Panel (PCP), a three-person, advisory committee appointed by the President of the United States, was established in 1971 with the passage of the National Cancer Act. Each year, the Panel is charged with monitoring and reporting on progress or delays in the development and execution of the activities of the National Cancer Program, which includes any and all institutes, agencies, and programs in the United States that impact cancer research and care.

The Panel holds at least four public meetings a year in classes around the country to solicit input from a variety of stakeholders, including representatives from Federal, state, and local government, academia, private industry, advocacy and community organizations, and the public. Based on meeting testimony and discussion, the Panel submits an annual report to the President of the United States with recommendations focused on improving the National Cancer Program. Recent reports have focused on such issues as survivorship, translating basic cancer research into cancer care, and promoting healthy lifestyles to reduce cancer risk.

Management and support services of the Panel are provided by the National Cancer Institute, the largest of the 27 institutes at the National Institutes of Health in Bethesda, Maryland.
APPENDIX G: Screenshots of Example PCP Website Pages
APPENDIX H: Screenshot of the About Us Landing Page
About Us

Current members of the President's Cancer Panel are Dr. Lance Armstrong, Dr. Margaret Kripke, and Dr. Lasalle D. Leffall, Jr. (Chair). Past members include a distinguished array of scientists, physicians, and advocates.

The Panel holds at least four meetings per year at locations throughout the United States, often hosted by NCI-designated Cancer Centers. A diverse range of topics related to the National Cancer Program are addressed. Most recently, the Panel has examined:

- Disparities in access to cancer care
- The challenges of cancer survivorship in the U.S. and in Europe
- The translation of research to more swiftly reduce the burden of cancer
- The promotion of healthy lifestyles to reduce the risk of cancer
- Strategies for maximizing the nation’s investment in cancer

The PCP’s Charter identifies the legislative authority for the Panel’s activities and describes its composition, function, and guidelines for meetings.

Current Members

The three members of the President’s Cancer Panel, who by virtue of their experience and background are qualified to evaluate the National Cancer Program, are appointed by the President to serve three-year terms. At least two members must be scientists or physicians and the other member typically has a background in cancer advocacy.

Current Panel members are Dr. Lasalle D. Leffall, Jr. (Chair), Dr. Margaret Kripke, and Mr. Lance Armstrong.

Biographies

Chair
- Lasalle D. Leffall, Jr., M.D., F.A.C.S.

Members
- Lance Armstrong
- Margaret Kripke, Ph.D.
APPENDIX I: Letter to the President
Dear Mr. President:

The year 2007 brought the announcement of the steepest decline in cancer deaths ever recorded in the United States. This milestone reflects the wisdom of our national investments in cancer research and care and is one of the most encouraging signs of progress since the war on cancer was declared in 1971. Yet this year alone, over a half million more Americans will lose their battle with cancer. Tragically, nearly two-thirds of these deaths could have been prevented through changes in lifestyle.

Over the past year, the Panel examined how lifestyle affects cancer risk, and the concrete actions that governments, communities, and individuals can take to reduce that risk through lifestyle changes. Although many factors may affect cancer risk, the Panel focused on our national epidemic of obesity – the product of unhealthy diet and physical inactivity – and on tobacco use and environmental tobacco smoke exposure. Despite irrefutable evidence that modifiable behaviors are linked to numerous types of cancer and the implementation of a multitude of programs to combat risk-promoting behaviors, many millions of Americans continue to practice unhealthy lifestyles. The Panel identified key policy, industry, and cultural barriers that prevent the public from receiving the information and interventions necessary to make healthy choices and thereby reduce their cancer risk.

Although efforts have been made to halt alarming obesity trends by promoting healthier eating and physical activity, the number of organizations, institutions, and individuals that have made a commitment to healthy living still is too small. Further, the important role of entities not usually considered a part of the National Cancer Program – the media, the agricultural system, city planners, and educators, to name a few – has been underappreciated.

Moreover, the Panel was troubled to find that the efforts of those committed to an America less burdened by cancer often are compromised by Federal, state, and local policies that have decreased the availability and affordability of healthy foods, limited physical education in schools, and created a built environment that discourages physical activity. Ineffective policies, in conjunction with limited regulation of sales and marketing in the food and beverage industry, have spawned a culture that struggles to make healthy choices – a culture in dire need of change. To minimize the growing financial burden that cancer inflicts on our nation, we must dramatically increase our focus on disease prevention and ensure that preventive services, including nutrition and physical activity interventions, become an integral and reimbursable component of primary care. These changes can only be realized with the exercise of strong political will, and the Panel calls upon the leaders of our nation to make public health a priority.

As importantly, policymakers at all levels of government have an obligation to enact legislation to eliminate disease and death caused by tobacco use and environmental tobacco smoke exposure. The Panel recommends foremost that the influence of the tobacco industry – particularly on America’s children – be weakened through strict Federal regulation of tobacco product sales and marketing. In addition, it is critical that our nation not only participate in global tobacco control efforts, but that the United States set a standard in developing and implementing exemplary programs and interventions that reduce tobacco use and smoke exposure. To do so, tobacco prevention programs must receive adequate funding and smoking cessation services must be better incorporated into standard health care.

Research has shown that adopting a healthy lifestyle is an effective defense against cancer. While public and private organizations must coordinate efforts to educate the American public about the relationship between healthy behaviors and disease prevention, individuals can only adopt healthy lifestyles if they have the resources and opportunities to do so. This country must not ignore its moral obligation to protect the health of all Americans. We can and must empower individuals to make healthy choices through appropriate policy and legislation, and the Panel urges you to use the power of your office toward this life-saving goal.

Sincerely,

LaSalle D. Leffall, Jr., M.D., F.A.C.S.
Chair

Lance Armstrong

Margaret L. Kripke, Ph.D.
APPENDIX J: Cover of the 2006/07 President’s Cancer Panel Report
APPENDIX K: Excerpt of the 2006/07 President’s Cancer Panel Report
Reducing Cancer Risk Through Diet, Nutrition, and Physical Activity
The term, “energy balance,” as applied to human health, typically refers to the integrated effects of diet, physical activity, and genetics on growth and body weight over an individual’s lifetime. Increasingly, scientists are becoming aware of the importance of understanding the effects of energy balance on cancer development and progression and on cancer survivors’ quality of life post-treatment. Weight, body composition, physical activity, and diet affect numerous physiologic systems and therefore can alter the cancer process at many points.

There was general consensus among meeting participants that the obesity trend likely is due to a confluence of factors, not a single defining issue. As the Institute of Medicine (IOM) noted in its report on childhood obesity, the notion of calories consumed versus calories expended seems straightforward, but action to prevent and reverse obesity must take into account the complex interactions of social, environmental, and policy contexts that affect individual behavior. This is as true for adults as for children. Moreover, important changes in predominant lifestyles and the American social landscape have coincided with the evolution of the obesity epidemic over the past 30 years.

A 2005 Centers for Disease Control and Prevention (CDC) study estimated that approximately 112,000 deaths are associated with obesity each year in the United States, making obesity the second leading contributor to premature death. Other data analyses have arrived at varying estimates of obesity-related mortality. The differences in these estimates may reflect variations in how representative a cohort is of the general population, how obesity is classified and mortality counted, and improvements in disease treatment. Nonetheless, as an overall public health problem, obesity due to unhealthy lifestyle may be challenging tobacco use in its population impact – certainly with respect to associated morbidity – and has led some to believe that it could result in shortened life expectancy in the relatively near future.

Obesity, Diet, Nutrition, and Cancer

In 2006, the American Cancer Society (ACS) issued guidelines on nutrition and physical activity for cancer prevention (Table 1). Evidence of the association between obesity, typically caused by unhealthy diet and lack of physical activity, and cancer risk grows stronger each year.

Table 1  American Cancer Society (ACS) Guidelines on Nutrition and Physical Activity for Cancer Prevention

<table>
<thead>
<tr>
<th>ACS Recommendations for Individual Choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Maintain a healthy weight throughout life.</td>
</tr>
<tr>
<td>• Balance caloric intake with physical activity.</td>
</tr>
<tr>
<td>• Avoid excess weight gain throughout the life cycle.</td>
</tr>
<tr>
<td>• Achieve and maintain a healthy weight if currently overweight or obese.</td>
</tr>
<tr>
<td>2. Adopt a physically active lifestyle.</td>
</tr>
<tr>
<td>• Adults: engage in at least 30 minutes of moderate to vigorous physical activity, above usual activities, on 5 or more days of the week. Forty-five to 60 minutes of intentional physical activity are preferable.</td>
</tr>
<tr>
<td>• Children and adolescents: engage in at least 60 minutes per day of moderate to vigorous physical activity at least 5 days per week.</td>
</tr>
<tr>
<td>3. Consume a healthy diet, with an emphasis on plant sources.</td>
</tr>
<tr>
<td>• Choose foods and beverages in amounts that help achieve and maintain a healthy weight.</td>
</tr>
<tr>
<td>• Choose whole grains in preference to processed (refined) grains.</td>
</tr>
<tr>
<td>• Limit consumption of processed and red meats.</td>
</tr>
<tr>
<td>4. If you drink alcoholic beverages, limit consumption.</td>
</tr>
<tr>
<td>• Drink no more than one drink per day for women or two per day for men.</td>
</tr>
</tbody>
</table>

ACS Recommendations for Community Action

Public, private, and community organizations should work to create social and physical environments that support the adoption and maintenance of healthful nutrition and physical activity behaviors.

• Increase access to healthful foods in schools, worksites, and communities.
• Provide safe, enjoyable, and accessible environments for physical activity in schools, and for transportation and recreation in communities.


Obesity Measurement

Overweight and obesity usually are assessed by determining an individual’s body mass index (BMI), a measure of weight relative to height (see Appendix C). BMI correlates reasonably well to direct measures of body fat, and is used to screen for weight categories associated with health problems.

For adults aged 20 years and older, BMI is interpreted using standard weight status categories (underweight, normal weight, overweight, obese) that are the same for all ages and for both men and women. BMI scores for children and adolescents must be plotted on the CDC BMI-for-age growth charts (for either girls or boys) to obtain a percentile ranking that correlates the score to one of four weight categories (underweight, healthy weight, at risk of overweight, and overweight).

BMI is not an ideal measure, but until a better scale is developed, it will continue to be used because it provides an estimate of body fatness and can be assessed quickly and inexpensively by clinicians or individuals.
Obesity Rates

Almost two-thirds of the U.S. population is overweight, and approximately half of those individuals are obese. Data from the CDC’s Behavioral Risk Factor Surveillance Survey (BRFSS) indicate that the prevalence of obesity (self-reported BMI over 30) increased 24 percent between 2000 and 2005.35 As measured by the National Health and Nutrition Examination Survey (NHANES) in 2003-2004, 28.5 percent of adults aged 20 to 39 years were obese, while 36.8 percent of those aged 40 to 59 years and 31 percent of adults aged 60 years and older were obese.36 In addition, the prevalence of American adults who are 100 pounds or more over a healthy weight (morbid obesity) has increased from two percent (4.2 million people) in 2000 to about three percent of adults (6.8 million people) in 2005.37 It has been estimated that if current trends persist, 74 percent of the population will be overweight or obese by 2010 and by 2016, more than half of the population is likely to be obese.38

The overall obesity rates mask disparities in obesity prevalence among various segments of the population.

Racial/Ethnic Minorities, Immigrants, and the Poor

Data from the 2005 BRFSS39 reveal substantial differences in overweight/obesity rates among adult populations. Non-Hispanic African Americans (67.9 percent) and American Indians/Alaska Natives (65.5 percent) have the highest overweight/obesity rates, while Asian/Pacific Islanders have the lowest percentage (37.1) of overweight and obese adults. Hispanics and non-Hispanic whites have intermediate rates (59.6 and 57.8 percent, respectively). Among certain subgroups of these populations, obesity rates are even higher. The social acceptability of overweight varies among cultures and may influence prevalence. For example, while Caucasians in general continue to adhere to an exceedingly slim and seldom attainable ideal, African American and Latino cultures may consider heavier women attractive, although their extra pounds may not be healthy.

One study found that obesity is higher among Hispanic/Latino children than among other pediatric populations, a disparity that appears to develop early in life. By age three, 25 percent of Hispanic/Latino children are obese, compared with 18 percent of all children and 16 and 14 percent of black and white children, respectively.40 The study authors conclude that the findings suggest the need for health-related interventions focusing on the period from conception to school entry.

Immigrants comprise 11.7 percent of the U.S. population (2003 Census) and are the fastest growing population segment.41 They often come from countries with lower obesity rates than the U.S. Research indicates, however, that within 15 years, most immigrants experience obesity rates similar to native-born Americans.42 The weight gain was associated with white, Latino, and Asian immigrants, but not foreign-born blacks. The study authors suggest that underlying reasons for the findings may include adoption of sedentary behavior, use of labor-saving devices, and adoption of poor diet patterns common in this country. They also suggest that clinicians may be paying less attention to diet and exercise among some immigrant groups, and that some immigrants may be less likely than native-born patients to discuss these issues with their doctors.

As is true with many indicators of health status, racial and ethnic differences in overweight and obesity are actually proxy measures of socioeconomic position, a composite of

In communities hardest hit by poverty, where obesity rates are highest, families often don’t have the opportunities they need to make healthy choices. They don’t have grocery stores to stock affordable and appealing fresh foods, fruits, and vegetables. There aren’t enough safe places for kids to play peacefully and out of harm’s way and there aren’t enough programs to help them be physically active every day.

— Dwayne Proctor, Ph.D., M.A.
Robert Wood Johnson Foundation
income, occupation, education, net worth, living conditions, health care access, and other factors. Obesity rates are higher among low income populations compared to those with more resources, and among those less educated compared to those with higher educational attainment. The poor are more likely to have limited access to healthy foods, rely on fast and convenience foods, live in neighborhoods in which it is unsafe to exercise outdoors, and have low literacy and/or health literacy that affects their access to health information. Audits of the location and accessibility of community supermarkets and fast food restaurants and access to healthy dietary choices have found that mixed race and high poverty white neighborhoods and all African American neighborhoods (regardless of income) were less likely than predominantly white higher income communities to have access to foods that enable individuals to make healthy choices. A recent study of overweight prevalence trends among poor adolescents from 1971 to 2004 revealed a significant trend of increasing overweight among older (15 to 17 year-old) but not younger (12 to 14 year-old) teens. Factors associated with this newly recognized disparity were physical inactivity, high consumption of sweetened beverages, and skipping breakfast.

Children and Adolescents

Healthy eating in childhood and adolescence is important for proper growth and development and can prevent health problems including obesity and obesity-related diseases. However, due to numerous factors including dietary patterns, the percentage of children and adolescents who are overweight or obese continues to rise (Figure 1). The prevalence of overweight among children aged six to 11 years more than doubled in the past 20 years, rising from seven percent in 1980 to 18.8 percent in 2004. The rate among adolescents aged 12 to 19 years more than tripled, from five percent to 17.1 percent.

According to U.S. Department of Agriculture (USDA) data, in 1996 children aged two to 18 years consumed an average of 118 more calories per day than similar children did in 1978, which is the equivalent of 12 pounds of weight gain annually, if not compensated for through increased physical activity.
The prevalence of overweight in female children and adolescents increased from 13.8 percent in 1999-2000 to 16.0 percent in 2003-2004. Among male children and adolescents, overweight increased from 14.0 percent to 18.2 percent over the same period. In addition to the immediate health risks of overweight and obesity in young people, the growing proportion of overweight youth is of concern because overweight and obese adolescents have up to an 80 percent risk of becoming obese adults.

Cancer Survivors

Data from the National Health Interview Survey (NHIS) indicate that few cancer survivors, who are at particularly high risk for new cancers as well as recurrences, are adhering to recommended cancer control behaviors, including maintaining a healthy weight and being physically active. However, little concrete guidance is available to survivors because only a handful of epidemiologic and clinical studies have directly addressed questions of whether food, nutrition, or physical activity can improve survival rates after a cancer diagnosis. According to a speaker, several studies of food intake, physical activity patterns, and use of complementary and alternative therapies among breast cancer survivors have been conducted or are underway; studies of the role of these lifestyle factors in prognosis of other cancers is virtually nonexistent.

Obesity and Cancer Risk

Among more than 900,000 U.S. adults who were cancer free at the beginning of a prospective study and subsequently were followed for 16 years, men with the highest BMI had cancer death rates 52 percent higher than normal weight men. The heaviest women in the study had cancer mortality rates 62 percent higher than their normal weight counterparts. Obesity also raises the risk of recurrences and second cancers in cancer survivors.

The list of cancers associated with obesity continues to grow (Table 2). Some of the correlations between obesity and cancer risk, incidence, and prognosis are better established than others.

Table 2

<table>
<thead>
<tr>
<th>Established or Suspected Obesity-Related Cancers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast (postmenopausal)</td>
</tr>
<tr>
<td>Prostate (advanced)</td>
</tr>
<tr>
<td>Pancreas</td>
</tr>
<tr>
<td>Esophagus (adenocarcinoma)</td>
</tr>
<tr>
<td>Gastric Cardia (adenocarcinoma)</td>
</tr>
<tr>
<td>Endometrium</td>
</tr>
<tr>
<td>Colon and Rectum</td>
</tr>
<tr>
<td>Liver</td>
</tr>
<tr>
<td>Gallbladder</td>
</tr>
<tr>
<td>Kidney (renal cell)</td>
</tr>
<tr>
<td>Non-Hodgkin's Lymphoma</td>
</tr>
<tr>
<td>Multiple Myeloma</td>
</tr>
<tr>
<td>Leukemia</td>
</tr>
<tr>
<td>Stomach (men)</td>
</tr>
<tr>
<td>Ovary</td>
</tr>
<tr>
<td>Uterus</td>
</tr>
<tr>
<td>Cervix</td>
</tr>
</tbody>
</table>

Researchers are looking for the underlying mechanisms that may be responsible for or contribute to increased overall cancer risk among overweight and obese individuals. For example, body fat – previously thought to be relatively inert – now is understood to be an active endocrine organ that produces hormones and receives signals from other organs. These biochemical interactions may affect weight dysregulation and alter
biochemical pathways that may promote cancer development, including inflammatory processes, energy balance, lipoprotein metabolism, normal immune function, vascular and stromal interactions, and extracellular matrix components. One speaker strongly emphasized the role of inflammatory processes in promoting cancer, noting that obesity promotes inflammation throughout the body through several hormonal pathways. The typical American diet is a significant contributor to inflammation due to its low omega-3 fatty acid content (but high levels of omega-6 fatty acids), low levels of anti-inflammatory phytochemicals due to low fruit and vegetable intake, and inadequate fiber content.

According to CDC data, nearly one-tenth of the country’s $2 trillion annual medical bill goes to treat chronic diseases related to obesity. In addition to cancer, obesity increases the risk of diabetes, hypertension, heart disease, stroke, abnormal blood lipid levels, gallbladder disease, osteoarthritis, and liver cirrhosis. Cancer care of obese patients with diabetes or other obesity-related comorbid disease often is more complicated than for patients without such conditions.

**Obesity and Risk for Specific Cancers**

- **Breast Cancer**

  The relationship between obesity and breast cancer is one of the best understood to date. It is known that women who gain more than 20 pounds from age 18 to midlife double their risk of postmenopausal breast cancer compared with women whose weight remains stable. At the same time, research indicates a modest reduction in breast cancer risk among overweight and obese premenopausal women, likely due to the tendency for young obese women to have anovulatory menstrual cycles and lower circulating progesterone and estradiol levels. Breast cancer survivors who are overweight or obese have a higher risk of recurrence and lower survival compared with leaner women, regardless of menopausal status and after adjustment for disease stage and treatment. Those with a BMI of 40 or over have breast cancer death rates three times higher than very lean (BMI <20.5) women.

- **Colorectal Cancer**

  Obesity has been associated consistently with higher colorectal cancer risk in men and women, with somewhat higher risks in men. Central adiposity, which occurs more frequently among men than peripheral adiposity or general overweight, may be a reason for the gender difference in colorectal cancer risk. Research on the relationship between waist-to-hip ratio and colorectal cancer risk supports this hypothesis.

- **Pancreatic Cancer**

  The link between pancreatic cancer risk and obesity has become clear more recently. Several studies suggest an increased relative risk of 50 to 100 percent among men and women with high body mass. A speaker suggested, however, that earlier evidence showing lower or no added risk indicates the need for additional research to better quantify the magnitude of risk associated with this malignancy.
• **Esophageal Cancer**

Adenocarcinoma of the esophagus in overweight older men (particularly Caucasians) is increasing steeply and is believed to be due indirectly to gastroesophageal reflux disease (GERD), which is associated with obesity. Left untreated, GERD can cause Barrett’s esophagus, a precursor to esophageal cancer. However, studies also have shown a relationship between obesity and esophageal adenocarcinomas independent of GERD.\(^{61}\)

• **Liver Cancer**

Obese people have higher rates of primary liver cancer than the non-obese; the basis of this relationship is being studied intensively. It is known that obesity can cause non-alcoholic liver cirrhosis, which in turn can lead to liver cancer. Other possible factors, including the interplay of diet, diabetes, and fat distribution in the body also are being studied. It is of considerable concern that worldwide liver cancer rates are rising along with obesity rates; should the association between obesity and liver cancer prove strong, the implications will be serious, since current liver cancer treatments are ineffective.\(^{62}\)

Although obesity typically results from poor diet combined with low physical activity levels, each of these important lifestyle behaviors can add to cancer risk independently, as detailed below and in Chapter 3.

### Diet, Nutrition, and Cancer Risk

Available evidence suggests that a diet generally high in fruits and vegetables and relatively low in meat and fat reduces the risk of certain cancers and other diseases. Because fruits and vegetables have low energy density (i.e., few calories relative to volume) eating them as part of a reduced-calorie diet can be beneficial for weight management.\(^5\)

The U.S. Department of Health and Human Services’ (HHS) *Healthy People 2010* objectives\(^6\) for fruit and vegetable consumption are to:

- Increase to 75 percent the percentage of people over two years of age who eat at least two daily servings of fruit.

- Increase to 50 percent the proportion of people over two years of age who eat at least three daily servings of vegetables, with at least one-third of these being dark green or orange vegetables.
However, the percentage of U.S. adults who daily consume the recommended number of fruits and vegetables remains far from these targets. Data from the 2005 BRFSS indicate that 32.6 percent of adults consumed fruit two or more times per day, and 27.2 percent ate vegetables three or more times per day. Fruit and vegetable consumption varied by age, gender, race/ethnicity, education, income, and body mass (Table 3).

Table 3

| Percentage of US Adults Consuming Recommended Number of Fruits and Vegetables, 2005 |
|-----------------------------------------------|-----------------------------------------------|
| % Eating Fruit (2+/day) | % Eating Vegetables (3+/day) |
| Gender | | |
| Men | 28.7 | 22.1 |
| Women | 36.4* | 32.2* |
| Age (Yrs) | | |
| 18-24 | 30.1 | 20.9 |
| 25-34 | 29.5 | 24.3 |
| 35-44 | 27.9 | 26.2 |
| 45-54 | 30.5 | 28.3 |
| 55-64 | 33.4 | 29.5 |
| 65+ | 45.9* | 33.8* |
| Race/Ethnicity | | |
| Black, non-Hispanic | 35.1 | 23.7 |
| Hispanic | 37.2* | 20.4 |
| White, non-Hispanic | 31.2 | 28.6 |
| Other | 35.5 | 29.3* |
| Education | | |
| Less than high school diploma | 32.0 | 20.5 |
| High school diploma | 29.4 | 22.3 |
| Some college | 30.6 | 27.9 |
| College graduate | 37.4* | 33.3* |
| Annual Income | | |
| < $25,000 | 33.0* | 23.0 |
| $25,000-$49,000 | 31.5 | 26.0 |
| >$50,000 | 32.4 | 30.3* |
| Weight | | |
| Healthy | 36.0* | 28.9* |
| Overweight | 32.0 | 26.0 |
| Obese | 28.1 | 26.3 |
| Total | 32.6 | 27.2 |

* Indicates subgroups with the highest percentages

Food preferences and eating patterns are established early in life, and recent data on teenagers’ fruit and vegetable consumption are not encouraging. In 2005, only 20.1 percent of high school students reported eating fruits and vegetables (excluding fried potatoes and potato chips) five or more times daily during the previous seven days.65

These patterns reflect the heavy emphasis in the modern Western diet on protein, fats, and processed carbohydrate foods. Not eating a wide variety of plant species has been postulated to be an unappreciated possible risk factor for poor health and obesity, and perhaps specific cancers related to obesity. Historically, diets worldwide have consisted of about 10,000 plant species; today, just nine crops (wheat, rice, maize, barley, sorghum, potato, sweet potato, sugar cane, and soybean) provide over 75 percent of the dietary energy derived from plants.66 In the U.S., the economics of farming efficiencies such as planting and harvesting mechanization, the ease of storing and transporting harvested crops – and farm subsidies (see pp. 23–24) – have resulted in a dramatic reduction in the number of plant species in the modern American diet. Grains (e.g., corn, soybeans, wheat, rice) account for a disproportionate percent of the calories consumed by Americans compared with fruits and vegetables.67 These seed crops lack many nutrients found in plant leaves and fruits of various kinds. This almost certain dietary shortfall of the 50 or more essential compounds68 found in diverse food types suggests that humans may be suffering from unrecognized nutrient deficiencies that, in combination with other factors, are affecting health.69
APPENDIX L: Before and After of Table 3 from 2006/07 Panel Report
Table 3
Percentage of US Adults Consuming Recommended Number of Fruits and Vegetables, 2005*

<table>
<thead>
<tr>
<th></th>
<th>% Eating Fruit (2+/day)</th>
<th>% Eating Vegetables (3+/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>32.6</td>
<td>27.2</td>
</tr>
<tr>
<td>Women</td>
<td>28.7</td>
<td>32.2</td>
</tr>
<tr>
<td>Men</td>
<td>36.4</td>
<td>22.1</td>
</tr>
<tr>
<td>18-24 years old</td>
<td>–</td>
<td>20.9 (lowest)</td>
</tr>
<tr>
<td>35-44 years old</td>
<td>27.9 (lowest)</td>
<td>–</td>
</tr>
<tr>
<td>65+ years old</td>
<td>45.9 (highest)</td>
<td>33.7 (highest)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>37.4 (highest)</td>
<td>20.4 (lowest)</td>
</tr>
<tr>
<td>Non-Hispanic white</td>
<td>31.2 (lowest)</td>
<td>28.6 (highest)</td>
</tr>
<tr>
<td>College graduate</td>
<td>37.4 (highest)</td>
<td>33.3 (highest)</td>
</tr>
<tr>
<td>Income &gt;$50,000</td>
<td>32.4 (highest)</td>
<td>30.3 (highest)</td>
</tr>
<tr>
<td>Not overweight or obese</td>
<td>36.0</td>
<td>28.9</td>
</tr>
<tr>
<td>Obese</td>
<td>28.1</td>
<td>26.0</td>
</tr>
</tbody>
</table>

* Intermediate rates not shown for all age, race/ethnicity, education and income groups
APPENDIX M: Excerpt of a Panel PowerPoint Presentation
The Problem

- Two-thirds of Americans are overweight and one-third are obese\(^1\).
- Obesity rates among children between the ages of 6 and 11 have quadrupled over the last 4 decades\(^2\).

\(^1\)CDC, Health, United States, 2006
\(^2\)Ogden et al., JAMA, 2006.

Impact on Cancer Risk

- Overweight and obesity account for 15 to 20% of cancer deaths\(^1\).
- Women who regularly exercise have a 30 to 40% lower risk of developing breast cancer\(^2,3\).
- Physically active men and women have a 20 to 30% reduction in risk for colon cancer\(^4\).
- Eating more fruits and vegetables decreases risk for various cancers\(^5\).

\(^1\)Calle et al., Nat Rev Cancer, 2004
\(^2\)Chang et al, Cancer Epidemiol Biomarkers Prev., 2006
\(^3\)Friedenreich, et al., J. Nutr., 2002
\(^4\)Samad et al., Colorectal Disease, 2005
Barriers within the Community

- Limited access to farmers’ markets or healthy food options at grocery stores
- Safe recreational facilities are limited in low-income neighborhoods

Selected Recommendations

- Reinstate physical education and recess within school systems
- Design new communities and retrofit existing communities to provide opportunities for physical activity
- Improve access to affordable, healthy foods, especially in low-income neighborhoods
- Make nutritional information about restaurant foods readily available and understandable
APPENDIX N: 2006/07 Panel Report Postcard
The President’s Cancer Panel

2006-2007 Annual Report

Promoting Healthy Lifestyles:
Policy, Program, and Personal Recommendations for Reducing Cancer Risk

This report examines the effects of obesity, diet and nutrition, physical activity, tobacco use, and secondhand smoke on cancer risk. It includes recommendations to policymakers, the health care community, and individuals for promoting and adopting healthy behaviors to decrease the burden of cancer.

For additional information on the Panel or to download the report, please visit http://pcp.cancer.gov.
To contact the Panel, call 301-451-9399 or e-mail pcp-r@mail.nih.gov.
APPENDIX O: NCI Bulletin Article
A Conversation With...Dr. LaSalle D. Leffall, Jr.

The President's Cancer Panel, a three-person advisory committee appointed by the President, oversees the National Cancer Program and reports directly to the President on any delays or blockages in its rapid execution. Each year, the Panel holds a series of meetings and writes a report to the President on a chosen topic of concern in the cancer community. This year’s report, Promoting Healthy Lifestyles: Policy, Program, and Personal Recommendations for Reducing Cancer Risk, examines the effects of obesity, diet and nutrition, physical activity, tobacco use, and tobacco smoke exposure on cancer risk. Dr. LaSalle D. Leffall, Jr., Charles R. Drew Professor of Surgery at Howard University College of Medicine, has served as chair of the Panel since 2002 and was recently reappointed for a third term.

What did the Panel learn from its 2006/2007 series of meetings?

We invited 45 representatives from government agencies, medicine, academia, industry, and the advocacy community to present expert testimony on obesity, diet, physical activity, and tobacco. Much of this testimony focused on recent research linking obesity resulting from unhealthy eating and physical inactivity to increased risk of several cancers, including breast, prostate, colon, and liver cancer. We also learned that many entities not traditionally considered part of the National Cancer Program—educators; employers; city planners; the food, beverage, and tobacco industries; and the media—contribute to the national cancer burden and will need to play a role in the promotion and adoption of healthy living.

From experts in the tobacco field, we learned of mixed progress. For example, the number of Americans living in smoke-free municipalities is rapidly increasing, but at the same time, most state tobacco control programs are significantly underfunded. Speakers also emphasized the need to protect youth and other populations of special concern, such as racial and ethnic minority groups, the poor, and persons with mental illness, from the aggressive advertising and marketing campaigns of tobacco companies.

The Panel chose to focus on obesity and tobacco. Why did the Panel choose these two areas to examine?

We know that there are many other lifestyle factors that affect cancer risk, but we decided to focus specifically on obesity and tobacco because an estimated one-third of preventable cancer deaths are related to diet and another one-third are related to tobacco. This means that more than two-thirds of cancer deaths could be prevented through changes in lifestyle. Alarming obesity trends and stalled declines in smoking rates indicate that America is in need of a significant culture change.

What can governmental and nongovernmental organizations do to help individuals and families live healthier lifestyles?

We encourage policymakers at all levels of government to pass legislation and implement policies that help Americans adopt healthier lifestyles. The Panel believes that Congress should grant the FDA authority to regulate tobacco products and marketing, as well as provide subsidies for production of fruits and vegetables that would make healthy foods more available and affordable. State and local governments must increase funding for tobacco prevention programs and pass ordinances to make all workplaces and public spaces 100 percent smoke-free. Schools should reinstate physical education classes and offer more healthy food options for students. Medicare and Medicaid, as well as private health insurance companies, should provide coverage for nutrition counseling and smoking cessation interventions. Primary care providers need to counsel patients about maintaining a healthy weight and offer smoking cessation services. Individuals and families must also take personal responsibility for their own health by eating healthy foods, exercising, and not smoking. ✦
APPENDIX P: CBS News Article about the 2006/07 Panel Report
President's Cancer Panel: Cut Risks
Aug 16, 2007

(WebMD) The President's Cancer Panel calls for U.S. leaders to "summon the political will" to reduce Americans' cancer risks — and slams the tobacco, food, and beverage industries as "disease vectors."

Appointed by the President Bush, the panel's three members are cancer survivor and cycling champion Lance Armstrong; Margaret L. Kripke, Ph.D., chief academic officer at Houston's M.D. Anderson Cancer Center; and panel chairman LaSalle D. Leffall Jr., M.D., professor of surgery at Howard University in Washington.

It's the panel's job to tell the president how the nation's war on cancer is going. According to this year's report, it's not going very well at all.

Research continues to move forward — but thwarting major progress is the unhealthy lifestyles of millions of Americans.

Individual responsibility is important, the panel notes. But the panel finds that cancer prevention efforts "are compromised by federal, state, and local policies that have decreased the availability and affordability of healthy foods, limited physical education in schools," and created an "environment that discourages physical activity."

Perhaps even more importantly, the panel says, are "ineffective policies" that fail to regulate the marketing practices of "disease vectors" — the tobacco, food, and beverage industries.

Mincing no words, the panel report singles out the tobacco industry as "a vector of disease and death that can no more be ignored in seeking solutions to the tobacco problem than mosquitoes can be ignored in seeking to eradicate malaria."

Among the panel's recommendations:

- Congress should structure farm supports to encourage production of fruits of vegetables and to limit subsidies promoting production of high-fructose corn syrup.
- Encourage physical activity by helping communities build sidewalks, community centers, parks, and playgrounds.
- Implement "fair food" policies similar to fair housing policies in order to improve urban communities' access to healthy foods.
- Federal and state agencies should regulate and monitor food advertising targeted to children.
- Reinstate and expand physical education in schools.
- Employers should increase support for employee wellness programs.
- Private and public health insurance should cover nutrition counseling and fitness programs.
- Tobacco cessation services and medications should be a standard part of all health insurance.
- The president and Congress should expand antismoking efforts, including a ban on tobacco advertising, promotion, and sponsorship and increased federal taxes on tobacco products.
- Candidates for office — and their political parties — should refuse campaign contributions from tobacco companies and their subsidiaries.
- Media aimed at children, teens, and young adults should stop portraying images of smoking.

"Individuals can only adopt healthy lifestyles if they have the resources and opportunities to do so," the panel argues in a letter to the president. "We can and must empower individuals to make healthy choices through appropriate policy and legislation, and the panel urges you to use the power of your office toward this lifesaving goal."

By Daniel DeNoon
Reviewed by Louise Chang, M.D.
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APPENDIX Q: 2006/07 Panel Report Erratum
Erratum


1) On page 10, Table 1 – American Cancer Society (ACS) Guidelines on Nutrition and Physical Activity for Cancer Prevention, a bullet point was inadvertently omitted under number 3, Consume a Healthy Diet, with an Emphasis on Plant Sources. It should be the second bullet point in the list and should read:

- Eat five or more servings of a variety of vegetables and fruits each day.


2) Since publication of this report, the Panel has received comments regarding the estimated number of premature deaths that can be attributed to obesity and the magnitude of obesity’s contribution to premature death relative to other contributing factors (Page 9, third paragraph). In large measure, these comments have reflected a lack of consensus in the field about eliminating data about groups of people, for example smokers or those with chronic disease, to obviate potential confounding factors and biases. Currently, no population-based data exist to support ranking causes of death such as obesity versus smoking.

Another issue to be taken into account when reading the literature on this topic is a lack of clarity in terminology; for example, terms such as “premature deaths,” “excess deaths,” and “preventable deaths” are sometimes used interchangeably but without consistent or clearly stated definition. Similarly, “contributing factor,” “underlying causes,” “death attributable to,” and “death associated with” are used without clear definition to characterize the impact of various lifestyle factors on mortality. This problem complicates comparisons of estimates produced by different researchers. Uniform definitions for terms such as these would be useful in developing and comparing estimates of the impact of lifestyle factors.

The Panel acknowledges the complexities involved in calculating the impact of lifestyle factors on health and anticipates that continuing efforts to quantify the magnitude of obesity’s contribution to causes of death (e.g., heart disease, cancer) will refine these estimates. Doing so will be important in charting the health effects of the nation’s escalating obesity problem, including its impact on mortality as well as on morbidity.
APPENDIX R: Letter to the Lobbyists
December 10, 2007

Ms. XXX
President
XXX
XXX Pennsylvania Ave.
Washington, DC 20006

Dear Ms. XXX:

This letter is in response to your correspondence dated October 31, 2007 regarding references to high fructose corn syrup (HFCS) in the 2006-2007 President’s Cancer Panel Report, *Promoting Healthy Lifestyles: Policy, Program, and Personal Recommendations for Reducing Cancer Risk*.

The Panel’s purpose for highlighting HFCS in the report was not, as your correspondence claims, to suggest that HFCS is metabolized in a way that makes it more harmful than other added sugars. In fact, the Panel never states in the report that HFCS is more unhealthy than other sugars; it is the Panel’s opinion that the current science regarding the difference in health effects of HFCS and sugar remains inconclusive. HFCS was specifically mentioned due to the undeniable fact that HFCS is currently (and has been for a number of years) the major sweetener in soft drinks and other sweetened beverages, as well as a primary additive of various processed foods. The Panel’s concern with HFCS and its impact on obesity is related to the enormous amounts of HFCS being consumed by the American public. This concern appears to be shared by XXX Director, Dr. XXX, who stated in a press release posted on the XXX website, “Just as the soaring rates of obesity have shocked Americans, so should the increasing consumption by teenagers of one of the causes of obesity [soft drinks]. What was once a rare treat in a small serving is now served up morning, noon, and night, virtually everywhere Americans happen to be. How did a solution of high-fructose corn syrup, water, and artificial flavors come to be the default beverage?”

Regarding your specific suggested changes to the report text:

1) Page XV—Recommends that the government “Structure farm supports to incentivize/encourage increased production of fruits and vegetables; limit farm subsidies that promote the production of high fructose corn syrup for use in food.”

This recommendation primarily urges for increased support of fruit and vegetable subsidies and restructuring corn subsidies to promote healthier uses of the crop.

2) Page XIX—“Expand research on the role of high fructose corn syrup, food additives, and chemicals in obesity.”

Regardless of the fact that HFCS may or may not be as harmful to the body as other added sugars, the Panel singled out HFCS in this instance because it is added to many of
the unhealthy foods that are contributing to the significant weight gains being experienced by most Americans. Furthermore, unlike many other sugars, such as beet sugar and honey, high fructose corn syrup is not a naturally-occurring added sweetener, a point also noted by Dr. XXX. As a manufactured substance introduced relatively recently into the American diet, it should be researched more closely than other natural additives. Essentially, the Panel is recommending that we gain a better understanding of the health effects of HFCS since it is the added sweetener that currently is consumed in disproportionately larger quantities than other sugars.

3) Page 23—“Subsidies to corn, soy, sugar, and wheat farmers, by contrast, have been extensive and among other effects, have influenced the abundant supply and extremely low cost of high fructose corn syrup now ubiquitous in the American food supply.”

4) Page 28—“Sweetened soft drinks, a major source of “empty” calories in the diets of U.S. children and adults, are a prime example of this trend. The substitution of high fructose corn syrup for cane sugar in these products has made them so inexpensive that they virtually can be given away.”

Your argument for these last two points is that current prices of corn sweeteners have increased and that the cost difference between HFCS and sugar is insignificant compared to overall costs of food and beverage manufacturing. Although the cost gap between HFCS and other added sugars may have narrowed recently, since the 1980s, HFCS has been available to beverage manufacturers at prices significantly less than that of sugar (United States Department of Agriculture, 2007). It has been suggested by science journalist Greg Critser that these cost savings have been a factor in the steadily increasing portion sizes and availability of HFCS-sweetened beverages since 1980. During the same period, when HFCS all but replaced other sugars in soft drinks, per-person soft drink consumption increased 40 percent, according to the Economic Research Service (Department of Agriculture).

In summary, while the Panel appreciates your comments on the 2006-2007 Annual Report, it does not believe that any factual errors regarding HFCS have been made and, therefore, has no plans to publish a modified edition of the report or revise the version posted on the Panel website.

Sincerely,

Abby Sandler, PhD
Executive Secretary
President’s Cancer Panel
APPENDIX S: Production Timeline of 2006/07 Panel Report
## PRELIMINARY TIMELINE - PCP REPORT

<table>
<thead>
<tr>
<th>Activity</th>
<th>Target Date</th>
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</thead>
<tbody>
<tr>
<td>Draft report--Jan 29-Apr 20, with discussion re modifications based on</td>
<td>20-Apr</td>
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<tr>
<td>Jackson mtg</td>
<td></td>
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<tr>
<td>First draft to Panel</td>
<td>20-Apr</td>
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<tr>
<td>Redrafts/edits and pull quotes</td>
<td></td>
</tr>
<tr>
<td>2 to 3 rounds of review, 1 week turnarounds--Apr 20-May 10</td>
<td></td>
</tr>
<tr>
<td>Send final draft to layout</td>
<td>11-May</td>
</tr>
<tr>
<td>Review galleys--3 sets, ~3 weeks--May 11-June 1</td>
<td></td>
</tr>
<tr>
<td>Final copy to printing</td>
<td>1-Jun</td>
</tr>
<tr>
<td>Printing--6 weeks--June 1 - July 13</td>
<td></td>
</tr>
<tr>
<td>Copies back from printer</td>
<td>13-Jul</td>
</tr>
<tr>
<td>Presentation at RAGBRAI</td>
<td>22-Jul</td>
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</tbody>
</table>

The timeline is as follows:

- **March**
  - 2
  - 9
  - 16
  - 23
  - 30
- **April**
  - 6
  - 13
  - 20
  - 27
  - 4
  - 11
  - 18
  - 25
- **May**
  - 1
  - 8
  - 15
  - 22
  - 29
- **June**
  - 6
  - 13
  - 20
  - 27
- **July**
  - 1
  - 8
  - 15
  - 22
  - 29

- **Redrafts/edits and pull quotes**
  - 2 to 3 rounds of review, 1 week turnarounds--Apr 20-May 10
- **Send final draft to layout**
  - 11-May
- **Review galleys--3 sets, ~3 weeks--**
  - May 11-June 1
- **Final copy to printing**
  - 1-Jun
- **Printing--6 weeks--June 1 - July 13**
- **Copies back from printer**
  - 13-Jul
- **Presentation at RAGBRAI**
  - 22-Jul
APPENDIX T: Example Planning Meeting Agenda
PCP Planning Meeting Agenda
Wednesday, December 19, 2007 @ 10:30 AM

Call-In Number: 800-857-5637
Passcode: 93698

I. 2007/2008 Series – Strategies for Maximizing the Nation’s Investment in Cancer
   ▪ Dates and Locations
     o September 10, 2007 – Atlanta, GA
       • Transcript
       • Meeting Minutes
     o October 22, 2007 – San Diego, CA
       • Transcript
       • Meeting Minutes
     o December 3, 2007 – San Juan, Puerto Rico
       • Transcript
       • Statement
       • Meeting Minutes
     o January 28, 2008 – New Orleans, LA
       • Briefing Books
       • Closed Meeting Materials
       • Transcript
       • Statement
       • Meeting Minutes
       • Thank yous

II. 2008/2009 Series—Environmental Causes of Cancer
   ▪ Concept Paper
   ▪ Background Materials
   ▪ Meeting with Fraumeni
   ▪ Dates and Locations
     o September 16, 2008 – City TBA, NJ
     o October 21, 2008 – Chicago, IL
     o December 4, 2008 – Charleston, SC
     o January 27, 2009 – Reno, NV

III. Legislative Issues

IV. Miscellaneous Items
   ▪ Matrix
   ▪ Website

V. Upcoming Meetings/Events
   2008
   ▪ SSWR—January 17-20 (Washington, DC) (Karen)
   ▪ NCAB—February 4-6
   ▪ SRNT—February 27-March 1 (Portland, OR) (Karen)
   ▪ DCLG—March 27-28
   ▪ AACR—April 12-16 (San Diego, CA) (Abby)
   ▪ AOSW—May 7-9 (Louisville, KY) (Karen)
   ▪ ASCO—May 30-June 3 (Chicago, IL)
   ▪ NCAB—June 16-18
   ▪ NCAB—September 7-9
   ▪ DCLG—October 21-22
   ▪ APHA—October 25-29 (San Diego, CA)
   ▪ NCAB—December 8-10