DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH
NATIONAL ADVISORY COUNCIL FOR
BIOMEDICAL IMAGING AND BIOENGINEERING
STRATEGIC PLAN DEVELOPMENT SUBCOMMITTEE

The fourth meeting of the Strategic Plan Development Subcommittee was convened at 1:00 p.m. on September 13, 2004, in the Neuroscience Center, Bethesda, Maryland. Dr. Norbert J. Pelc, Chairperson presided.

Subcommittee members present:
- Dr. Carlo J. DeLuca
- Dr. Barbara J. McNeil
- Dr. Frank C. Yin

Subcommittee members not present:
- Dr. Janie M. Fouke

Other Council members present:
- Dr. Robert I. Grossman
- Dr. Linda Lucas
- Dr. C. Douglas Maynard
- Dr. Rebecca Richards-Kortum
- Dr. Stephen Williams
- Dr. James Zagzebski

Ex officio members present:
- Dr. Gary Glover
- Dr. Bruce Hamilton
- Dr. Vincent L. Vilker
- Dr. James G. Smirniotopoulos
- Dr. Andrew Watkins
- Dr. Michael Wiener

NIBIB staff present:
- Ms. Lillian Ashley
- Dr. Prabha Atreya
- Ms. Brenda Borden
- Dr. Arlene Chiu
- Mr. Lawrence Clark
- Ms. Nancy Curling
- Dr. Bonnie Dunn
- Ms. Angel Eldridge
- Ms. Cheryl Fee
- Dr. David George
- Ms. Casey Goode
- Ms. Colleen Guay-Broder
- Dr. John Haller
- Dr. Joan Harmon
- Dr. William Heetderks
- Dr. Albert Lee
- Dr. Alan McLaughlin
- Mr. Todd Merchak
- Mr. Nicholas Mitrano
- Dr. Peter Moy
- Dr. Grace Peng
- Dr. Roderic Pettigrew
- Dr. Belinda Seto
- Ms. Theresa Smith
- Dr. Richard Swaja
- Ms. Carol Torgan
- Ms. Lynda Toussaint
- Ms. Florence Turska
- Ms. Stacy Wallick
- Dr. Fei Wang

Ms. Christine Hollingsworth
Dr. Christine Kelley
Ms. Mary Beth Kester
Dr. Brenda Korte
Dr. Peter Kirchner
Mr. Elijah Weisberg
Dr. Anthony Wolbarst
Dr. Yantian Zhang

Members of the public present for portions of the open meeting:

Mr. Vicki Contie, Equals Three
Mr. Robert Harris, MasiMax Resources Inc.
Mr. Michael Horn, Biomedical Engineering Society
Mr. David Leslie, Schmitt & Leslie
Mr. Ed Nagy, Academy of Radiology Research
Ms. Chris Peterson, SRI International
Ms. Gloria Romanelli, American College of Radiology

Other Federal Employees Present:

Dr. Mary S. Pastel, Food and Drug Administration

The Chairman of the Council Strategic Plan Development Subcommittee, Dr. Norbert J. Pelc welcomed members of the Subcommittee and thanked everyone for their participation and support of the National Institute of Biomedical Imaging and Bioengineering (NIBIB) in defining strategic directions. He raised a motion to approve the minutes for the last meeting which was seconded by Dr. Carlos DeLuca, and the minutes were approved unanimously without modification. Dr. Pelc then brought the Council's attention to the draft strategic plan provided to Subcommittee members prior to the NACBIB meeting. Director of NIBIB, Dr. Roderic Pettigrew introduced the draft strategic plan, explaining that it was the result of a series of NIBIB staff retreats following the January 2003 Council. During these retreats, the senior management and staff of NIBIB worked closely to craft strategic priorities and future directions. He concluded his remarks by expressing the sincere interest of the Institute in obtaining the Council members' views and opinions, and asked for their input to help modify the draft plan.

Presentation by Dr. William Heetderks

Dr. Heetderks discussed changes and additions to the Strategic Plan since the May 2004 Council by first providing an overview of the document, followed by discussion by the full Council. He stressed that as the first strategic plan developed by the NIBIB, this plan provided a clear statement of the mission and vision of the NIBIB, with a flexible strategy to move forward. In addition, there will be a separate implementation plan that provides detailed actions which will be revisited annually to review how NIBIB has implemented specific actions. The Strategic Plan was written as a working document based on realistic estimates of what is achievable in the next five years. Dr. Heetderks advised that for this reason, the strategic plan should serve as a guide.

The Strategic Plan was presented in four sections: the process and participants; the commitment statement; where NIBIB is today; and goals and strategies.

Process and Participants: The plan was developed from several resources: recommendations from workshops and conferences; 3 NIBIB staff retreats; and multiple on-site staff meetings and discussions. The current version presented to the Council was not intended to be final, polished, or detailed. However, it should be noted that this draft represents tremendous efforts by the NIBIB staff.

Statement of Commitment: Dr. Heetderks reiterated the commitment statement of NIBIB ----"The National Institute of Biomedical Imaging and Bioengineering is entrusted by our Nation's citizens to improve the health of all people. The Institute is committed to driving medical innovation and expanding biomedical knowledge for this and future generations."

The mission of NIBIB is to---"Improve human health by leading the development and accelerating the application of biomedical technologies." The Institute is committed to integrating the engineering and physical sciences with the life sciences to advance basic research and medical care. The scope of the mission was intentionally broad and was mandated by the legislation that created the Institute. The vision of the Institute is to profoundly change health care by pushing the frontiers of technology to make the possible a reality.

In carrying out its mission, NIBIB is guided by the following set of Core Values:

- ***Excellence*** – NIBIB invariably seeks and achieves the best in research and practice.
- ***Innovation*** – NIBIB is willing to take risks, to readily embrace new approaches, and to actively pursue ground-breaking ideas.
- ***Integrity*** – members of the Institute act as ethical, open, and honest stewards of public trust.
- ***Partnership*** – the Institute works in collaborative efforts to maximize the beneficial impact on human health.

Where NIBIB Is Today: NIBIB is the newest institute at NIH; it received its first appropriation in FY 2002. Dr. Heetderks drew on a quote from Machiavelli's *The Prince* to illustrate where NIBIB stands --- "I hold it to be true that Fortune is the arbiter of one-half of our actions, but that she still leaves us to direct the other half, or perhaps a little less." He explained that the NIBIB is fortunate because it was created during a time of a booming $200 billion technology industry, a transforming health care system due to advances in imaging, and a dedicated staff. In other words, NIBIB was created at the right place, at the right time, and with the right people.

Goals, Strategies and Objectives: In conclusion, Dr. Heetderks summarized the goals, strategies and objectives of the Strategic Plan, providing some examples of how NIBIB can implement elements of this plan:

- Investigator-initiated extramural research focused on discovery, development, and application of science and technology to improve health.
- Targeted research programs that take advantage of novel technological advances and scientific discoveries to significantly improve health care.
- Accelerated translation of promising technologies to improve human health.
- Reduced health disparities through new and affordable medical technologies and increased involvement of under-served populations and under-represented minorities.
- An intramural research program with interdisciplinary emphasis.

- Biomedical research training programs that integrate the physical, engineering, and life sciences.
- Strategic alliances that maximize the impact of NIBIB on national and international health care.
- A public that is educated and informed about the value of biomedical technology.
- Proper stewardship of public funds and trust.

Before discussion of the plan commenced, the Council was encouraged to provide detailed follow-up comments through email through the end of September. The Strategic Plan will be presented in upcoming conferences to obtain more input from the public. The goal is to have a finalized plan by January 2005.

Discussion
There was general agreement that comments should focus on the overall structure of the Strategic Plan. Several Council members asked for clarification on the highest priorities of the Institute, and suggested that the plan include a 5 year timeline so that NIBIB will not be expected to achieve all of its goals at the same time. Most members felt that the next step would be to develop an implementation plan to improve the prioritization and define implementation of the goals using a timeline.

Dr. Robert Grossman encouraged NIBIB to incorporate more examples of imaging into the plan and suggested that topics such as the interface between radiology and technical science, new imaging technologies, and evaluation of these technologies are aspects of imaging that should be included in scope of NIBIB's plan. He pointed out that evaluation techniques such as perfusion - cardiac perfusion or cerebral perfusion - would be more appropriate for this Institute than other organ-related Institutes. This type of approach clarifies where NIBIB is going as it focuses on the interface between the disease model and the application of technology toward diseases. Dr. Pelc suggested that the Plan include the needs and reasons leading to the creation of the NIBIB in the "Where We Are Today" section. Prior to the creation of NIBIB, technology development in disease-oriented institutes was fragmented without a central location where technology could be developed for a variety of applications.

Dr. Rebecca Richards-Kortum agreed with core values that were presented and recommended a greater emphasis be placed on education, particularly public education with respect to health disparities and technology risks. Dr. Charles Maynard and Dr. Pelc both proposed that the plan should have a specific statement identifying training of physician scientists as a priority. It may, however, be more appropriate for such detailed elements to be included in a separate implementation plan with an associated time line. Alternatively, the strategic plan could be released in steps; greater detail and the time line associated with the objectives could eventually be incorporated.

Dr. Frank Yin felt that the plan was uneven in its presentation of broad goals and detailed goals. Dr. Gary Glover commented that strategic missions and goals were overriding principles on how to govern the Institute. Plans that did not include specific implementation actions were, by their own right good documents, but did not reflect where the Institutes priorities stood. He suggested that NIBIB senior staff could meet annually to review specific components of the plan and to ensure

that the Institute was implementing their actions and progressing toward their goals. He added that with the rapid change in technology, NIBIB would need to frequently review their strategic plan in order to re-adjust priorities.

In terms of the structure of the current document, Dr. Yin held that the strategic plan should be a high level document; examples should be included in the implementation plan as part of a separate document. The implementation plan should be revisited annually while the strategic plan serves as a framework of the vision for the Institute. Dr. Pelc supported the current structure of the strategic plan, with long-term high-level goals and shorter-term objectives. By including specific objectives, the plan holds the Institute more accountable toward achieving these measures. Dr. Lucas agreed with Dr. Yin in separating the implementation actions from the strategic plan. She noted that the strategic plan has to discuss how success will be measured and what metrics will this Institute use to measure success. Such metrics may include the number of patent applications or the number new applicants. However, Dr. Lucas encouraged the NIBIB to look beyond the number of people funded and to use measurements such as how well NIBIB money is spent.

Dr. Heetderks noted that the level of detail in the strategic plan was a much discussed topic. The current version represents a compromise to provide some level of detail with the recognition that there is not enough detail to replace an implementation plan. Finally, the inclusion of studies to validate and evaluate effectiveness reflects the variety of research areas supported by the NIH and by the NIBIB.

At the end of the discussion, Dr. Pettigrew thanked the subcommittee session for a great interchange, an excellent and thoughtful discussion that is extremely helpful to NIBIB. He acknowledged Dr. Frank Yin for his early leadership as chair of the subcommittee and encouraged everyone in attendance to express their appreciation to Dr. Yin for his inaugural stewardship of this committee. The meeting was adjourned at approximately 2:40 P.M.

We certify that, to the best of our knowledge, the foregoing minutes and attachments are accurate and complete.

Arlene Y. Chiu, Ph.D.
Executive Secretary
National Advisory Council for Biomedical Imaging and Bioengineering
Director, Office of Research Administration
National Institute of Biomedical Imaging and Bioengineering

Roderic I. Pettigrew, Ph.D., M.D.
Chairperson,
National Advisory Council for Biomedical Imaging and Bioengineering
Director
National Institute of Biomedical Imaging and Bioengineering

The Council will consider these minutes at its next meeting. Corrections or notations will be incorporated in the minutes of that meeting.