Diabetes Mellitus Interagency Coordinating Committee Meeting on the Special Statutory Funding Program for Type 1 Diabetes Research

July 28, 2004
Building 31C, 6th Floor Conference Room 10
NIH Campus, Bethesda, MD

Introductory Remarks

Allen Spiegel, MD

Dr. Spiegel welcomed the DMICC members and guests, and the meeting participants introduced themselves. Dr. Spiegel thanked the representatives of the National Cancer Institute (NCI); National Heart, Lung, and Blood Institute (NHLBI), National Institute of Neurological Disorders and Stroke (NINDS); and National Eye Institute (NEI) who joined the NIDDK representatives at an April 2004 meeting on angiogenesis research in Towson, Maryland. Facilitated by the Juvenile Diabetes Research Foundation, the two-day meeting convened leaders in the field of angiogenesis research who discussed the relevance of angiogenesis research to diabetes complications and islet transplantation as it relates to vascularization. NIH was well-represented, and invited discipline-specific experts participated. There is clear movement in the cancer field to implement ways to inihibit angiogenesis, Dr. Spiegel reported. A vast amount of research information has been gained, and application of this information to diabetes complications and islet transplantation is important. A group continues to meet about how to spur research initiatives in that area. NHLBI recently issued a request for applications (RFA) on heterogeneity in the arterial, venous, and lymphatic vasculature, which is relevant to this theme, although focused on normal rather than disease states. Additional initiatives will sharpen the translational focus and address intramural initiatives.

Dr. Spiegel said that Health and Human Services Secretary Tommy Thompson has convened a series of national diabetes town hall meetings that are in part are related to the crafting of a National Diabetes Action Plan. The office of Dr. Michael O'Grady, Assistant Secretary for Planning and Evaluation, is driving this activity. The first three town hall meetings were held in Cincinatti in May and in Little Rock and Seattle in July. Secretary Thompson, other Federal health officials, and State and local health officials have participated in each of the meetings.

Several hundred people have attended each meeting, which have offered opportunities for participants to make statements, ask questions, and provide input into the crafting of the National Diabetes Action Plan. The focus of the plan is not on research, although research will inform the plan. Rather, the focus is on the more distal aspects of care, which was reflected in questions fielded during the meetings. For example, diabetes education and treatment of students in school have been a concern. The school guide crafted under the joint NIDDK-Centers for Disease Control and Prevention (CDC) National Diabetes Education Program has been featured by the Secretary and has been helpful, but this area continues to be controversial and challenging. The American Federation of Teachers (AFT) issued a statement prohibiting teachers from getting involved in any aspect of care of students with diabetes at school. Additionally, the town hall meetings have addressed both type 1 and 2 diabetes and have raised topics such as stem cell research, the Department's Diabetes Detection Initiative to reach undiagnosed persons, insurance and liability coverage issues, and obesity. The target date for presenting the National Diabetes Action Plan is November 2004. Dr. Spiegel said he is pleased to participate in the effort, but emphasized that NIH is not driving the process.

In response to a question about teachers providing care for students, Dr. Spiegel explained that concerns include students getting insulin shots at school, diabetes education, and liability issues. Other issues concern school staff other than school nurse being allowed to give students insulin shots and students testing their blood and self-administering insulin shots at school. Another participant commented that he has seen similar scenarios with school superintendents and boards of education regarding asthma care. There is a reluctance to take on such activities because they reduce teaching time, which is a reasonable concern at many schools.

Brief Historical Overview of the Special Funding Program

Judith Fradkin, MD

Dr. Fradkin presented an update about the Special Type 1 Diabetes Funding Program and led a discussion to help plan for an evaluation of the program, including planning a program advisory meeting. She then presented a brief historical overview of the program, which was first funded in fiscal year (FY) 1998 at $30 million per year for three years. The funding increased to $100 million per year for FY 2001 to FY 2003 and increased to $150 million per year for FY 2004 to FY 2008. Funding for FY 1998 to FY 2008 totals $1.14 billion. Initially, a final program evaluation was to be submitted to Congress in January 2003, but the date was extended to January 1, 2007. An interim progress report was published in April 2003 (the report can be accessed at: http://www.niddk.nih.gov/federal/planning/type1_specialfund/).

The program's six major goals are to:

- Identify genetic and environmental causes of type 1 diabetes,
- Prevent or reverse type 1 diabetes,
- Develop cell replacement therapy,
- Prevent or reduce hypoglycemia,
- Prevent or reduce complications, and
- Attract new talent and apply new technologies to type 1 diabetes.

Dr. Fradkin proposed that the last goal be modified to include "apply new technologies"; the Committee endorsed the addition.

NIDDK has been asked to manage the program funds on behalf of HHS, with active involvement of all components of HHS, as well as the research and voluntary communities. Program principles include flexible budgeting to allow rapid response to emerging scientific opportunities and to keep type 1 diabetes funds discrete from regularly appropriated funds. Much of the funding has been used to:

- Establish large-scale collaborative, infrastructure-intensive fundamental initiatives (e.g., the Beta Cell Biology Consortium) that could not be pursued with R01 funds;
- Create major clinical trials networks;
- Promote innovative, high-risk, high-impact research that is different from typical RO1 research; and
- Promote translational research to develop new therapies.

The effort has been guided by a series of advisory group meetings, including trans-HHS meetings and meetings of outside experts. In April 2000, an Advisory Panel was convened to solicit input from experts about projects to be pursued. Twenty-two proposals were proposed and 11 were endorsed; the panel also recommended a twelfth need. The Committee also strongly endorsed the six major goals and initiatives.

In May 2002, another expert advisory panel was convened. The panel evaluated research efforts and opportunities; strongly endorsed the major goals and initiatives; and made general recommendations, including to continue support for resources and infrastructure, continue to develop and apply new type 1 diabetes technologies and to attract new research talent, and to re-issue RFAs to create ongoing research opportunities such as the Bench to Bedside and Innovative Partner RFAs.

Two meetings were held in April 2003. At one meeting, participants were asked for advice about diabetes complications research portfolio, and they recommended projects on animal models of diabetes complications and more efficient trials on complications. At the second meeting, the group encouraged coordination among the type 1 diabetes consortia and networks, and mechanisms that would attract investigators with diverse expertise.

Update on Special Funding Initiatives Since April 2003 DMICC Meeting

Judith Fradkin, MD

Dr. Fradkin updated the DMICC on the Special Funding Program activities that have taken place since the April 2003 meeting. Initiatives have included:

- In the past year, NIDDK and the National Institute of Allergy and Infectious Diseases (NIAID) jointly issued two RFAs for clinical centers and a coordinating center to develop a consortium to pursue islet transplantation clinical studies. This will be further enhanced through cooperation with the Centers for Medicare and Medicaid Services because subsequent legislation has encouraged Medicare to provide support through a demonstration project through which kidney transplant patients who receive islets will be enrolled in projects that are carried out through the Islet Transplantation Consortium. The RFA was structured with input from an advisory committee meeting held in May 2003.

- NIDDK has partnered with NCI through the T1D-RAID program to enhance translational research through a pilot program that makes RAID resources available to type 1 diabetes investigators. Two cycles of applications have been solicited and several projects have been approved for provision of resources and services through the RAID program.

- In April 2003, a meeting on proteomics and diabetes resulted in recommendations that were developed and pursued through an RFA. Applications will be reviewed in the near future for FY 2004 funding.

- Also in April 2003, NIDDK and NHLBI co-sponsored a meeting, which informed the development of an RFA on cardiovascular complications of type 1 diabetes.

- A workshop on opportunities to foster beta cell biology in the 21st century and recommendations on beta cell biology from an advisory meeting on islet transplantation led to an RFA for pilot and feasibility programs in human islet biology

- NIDDK canvassed the Committee at a previous DMICC meeting about opportunities for research using small business partners and issued a solicitation that will be reviewed for funding this fiscal year.

- As recommended by the external advisory panel, the Bench to Bedside, Innovative Partnerships, and hypoglycemia solicitations were reissued.

- NIAID is taking the lead in developing an RFA to create a consortium for xenotransplantation studies.

- Plans are underway to develop an RFA on angiogenesis and type 1 diabetes.

A listing of all the initiatives supported by the special program can be found on the NIDDK website at: http://www.niddk.nih.gov/fund/diabetesspecialfunds/funding.htm.

Another recommendation was to enhance coordination of research through a Type 1 Diabetes Consortia Coordinating Committee. This Committee's charge is to coordinate issues related to recruitment and enrollment; standardization of assays, phenotyping, and consents; use of clinical populations for development and validation of assays for immune and metabolic monitoring; bioinformatics; and ancillary studies. The effort is designed to develop a framework and to work with basic consortia to standardize bioinformatics efforts. Dr. Fradkin thanked Dr. Jerry Nepom and everyone present who has participated in this effort. A Website (www.niddk.nih.gov/fund/diabetesspecialfunds) is now available to provide information to investigators about resources and funding opportunities, and information for type 1diabetes patients about opportunities to participate in clinical studies.

Discussion and Planning of Expert Panel Meeting

Dr. Fradkin led a discussion about planning an Expert Panel meeting. The meeting will provide an opportunity for mid-course assessment of the status of ongoing efforts, particularly with regard to large-scale consortia, and to identify new opportunities. Issues discussed and decisions made about the Expert Panel meeting included:

Meeting timeframe:

Dr. Fradkin asked the DMICC for recommendations about when the Expert Panel meeting should be held, with consideration given to implementing recommendations in 2006. If new RFAs will be issued in 2006, they would need to be published by the fall of 2005. Language in the FY 2005 House Appropriations Bill requests a report on plans for an evaluation of TrialNet, so TrialNet would be on a separate planning trajectory. Committee members felt that beginning in the fall or winter would allow more time to act on recommendations and to enable more partners to become involved.

The Committee agreed that the Expert Panel meeting should be held in the winter of 2004-05, possibly in January. Dr. Fradkin noted that members would need to be able to get needed information to her office within that timeframe.

Efforts to be discussed at the meeting:

Dr. Fradkin explained that funding emphasis has shifted from research projects to consortia, so consortia or repeatedly issued RFAs will be a focus of review. She asked the Committee whether the Expert Panel should discuss large consortia (over $5 million total funding), repeated RFAs (over $10 million total funding), or continuations. She also listed 19 initiatives that the Expert Panel would be asked to evaluate. Dr. Spiegel noted that the initiatives are led by NIDDK, NIAID, NHLBI, the National Institute of Child Health and Human Development, the National Center for Research Resources, and CDC. Dr. Fradkin said the information would need to be mailed to the Expert Panel at least one month before the meeting, and material must be provided by early November.

Dr. Fradkin said that coordination will be needed for RFAs involving consortia. RFAs that are likely to be reissued will be the focus, and the lead IC for each of those RFAs will be asked to gather information from each of the participating ICs. The Committee felt that the summaries should be limited to three pages.

A suggestion was made to review the T1D-RAID program, which did not meet $5 million criterion, to look at ways to catalyze and further activate the program. Dr. Fradkin agreed, saying that the program has seen a steep increase in the number of applications, but the number could be increased further. Dr. Spiegel suggested that thought be given to a more proactive process to spur translational activities, which might be coupled with an evaluation of the RAID program. He also noted that Institutes' capacity is a concern, and an evaluation and a substantial commitment of funds may be needed.

A question was raised about whether the panel should consider access to special funds for ongoing consortia currently supported by regularly appropriated funds (e.g., Autoimmunity Centers of Excellence). Dr. Fradkin noted that this consortium currently supports studies of multiple autoimmune diseases and questioned why type 1 diabetes studies undertaken by the consortium should not be supported regular funds along with those on the other autoimmune diseases. She pointed out that the special funds were intended to allow for initiatives that could not otherwise be pursued with regular resources rather than funding existing work.

A member said that the Diabetic Retinopathy Research Network is expanding rapidly and asked whether the review committee could discuss the possibility of additional type 1 diabetes special money for the network. Dr. Fradkin pointed out that this Network is relevant to both type 1 and type 2 diabetes and noted that special funds were not intended to replace Institutes' funding. Dr. Spiegel added that a very compelling case would need to be made as to why type 1 diabetes funds should be used in such situations, but that flexibility in use of the funds may be needed to allocate the funds in the best possible way.

Dr. Fradkin suggested that it is important to limit the number of initiatives to be reviewed at the Expert Panel meeting to allow time for meaningful review of projects currently supported with the special funds, and allow consideration of new ideas. The focus of the panel should be evaluation of what is currently being supported with the special funds and generation of ideas for new opportunities to be pursued with the funds.

Sample template for presenting information to the Expert Panel:

A sample template for presentation of information to the Expert Panel was distributed. The information, to include a statement of goals, accomplishments, future opportunities, and milestones, will be limited to three pages. Consortia should concisely identify progress toward specific goals in reference to the missions of the organizations. Reports from relevant external advisory groups, or minutes of most recent meetings of External Advisory Committees or Data Safety Monitoring Boards for clinical trials, which provide comments on progress and performance of the consortia should be appended to the summaries.

The Committee had no comments about the template. The template will be distributed to the DMICC, with summaries due November 1.

Advice to be obtained from the Expert Panel:

Dr. Fradkin asked for the Committee's advice about what the Expert Panel should be asked. The two major questions are: What is the effectiveness of the programs that wish to continue to receive type 1 diabetes funding? What are the new opportunities? The DMICC and HHS components can suggest new research opportunities, and the Expert Panel should be expected to recommend new opportunities, she said.

A suggestion was made to ask the larger scientific community to suggest possible research opportunities that could be presented to the panel at the time of the Expert Panel. This information could be gathered through a one-page form that is available online. Dr. Spiegel said that this idea would be considered, although some parameters would need to be set. A process to review suggestions would also need to be established.

The Committee had no further comments about advice to obtain from the Expert Panel.

In summary, Dr. Fradkin said that the DMICC will receive a request for completed templates (to be no longer than 3 pages; due November 1, 2004) and for Expert Panel suggestions, due within a week to 10 days. Suggestions for panel members should not be leaders of consortia but should be involved in type 1 diabetes research. A list of principal investigators who would not be eligible for the panel because of conflicts will be sent the DMICC members.

Thinking Ahead: Mandated Program Evaluation

Mary Hanlon, PhD, NIDDK Office of Scientific Program and Policy Analysis

Dr. Hanlon said that the NIDDK Science Policy Office has lead responsibility for conducting the final Special Funding Program evaluation. The due date for submitting the evaluation to Congress is January 1, 2007, although clearance will likely take more than six months. A progress report, which will be useful in conducting the final evaluation, was published in April 2003. However, the final evaluation will have a different focus than the program report.

In thinking about the Special Funding Program and what will be evaluated, her office has divided the program into three areas of focus:

- Translational research efforts (e.g., Bench to Bedside and T1D-RAID),
- Research consortia and networks (e.g., BCBC and T1DGC), and
- Investigator-initiated research (RO1 and R21).

The 2003 evaluation focused on investigator-initiated research because data were collected in 2001 and 2002, when most funding supported investigator-initiated research projects. More recently, the focus of funding has shifted to establishment of consortia. Therefore, the focus of the final evaluation and data collection will be on the consortia, although it is also important to evaluate the scientific accomplishments of investigator-initiated research projects.

Her office has identified the following questions to evaluate the overarching program effectively:

- What are the major scientific accomplishments?
- Did the program adequately identify scientific opportunities and challenges, and design initiatives to address them?
- Did the program seek the advice of external experts to identify and pursue compelling research directions?
- Did the program foster innovative and clinically oriented research?
- Did the program make a positive impact on the field of type 1 diabetes?
- What do we expect in the future and what is the potential impact of the program on type 1 diabetes?

The evaluation will be process- and output-oriented evaluation. It is not planned to be an outcome-oriented evaluation because the program is relatively new, scientific outcomes are not yet available, and many of the initiatives are multi-year.

To answer the above questions, data sources will include:

- Literature searches to identify the number of publications supported by the program and the scientific impact,
- Grantees' progress reports to identify scientific accomplishments,
- External advisory committees and expert panels to evaluate program components such as consortia, and
- A grantee survey.

NIDDK has applied for funding for meeting logistics, graphic design, and data collection expenses.

A participant recommended that outcomes be reviewed as part of the evaluation. Doing so may be challenging, but it would be helpful to look at outcomes of the funded programs. Dr. Fradkin commented that it would be helpful for the Committee to think about a strategy to showcase what this program has meant, and how interim steps and progress are moving in the direction of achieving the program goals.

Dr. Spiegel suggested that it would be useful to look at outcomes in the context of the six program goals, some of which lend themselves more to process evaluation. If the goals are viewed as outcome measures, then progress and successes under each goal could be listed (e.g., have identified x number of genes and have used that to enhance prediction of who is at risk of type 1 diabetes). Careful language can make it clear that progress has been made toward reaching the overarching program goals.

Dr. Hanlon said she welcomes comments and questions about the evaluation. She can be reached at hanlonm@extra.niddk.nih.gov or 301-496-6623.

Closing Remarks

Dr. Fradkin thanked the DMICC members for their participation and involvement in the Expert Panel review process. Potential members of the Expert Panel will be contacted to determine a meeting date.

The meeting adjourned at 2:30 p.m.