

Minutes
Health Research Advisory Committee
February 8, 2010
Bureau of Health Statistics and Research, 6th Floor Forum Place Building
Harrisburg, Pennsylvania

Committee Members Present:

Dwight Davis, MD, Professor, Pennsylvania State University College of Medicine and Director of Cardiac Rehabilitation, Hershey Medical Center (via teleconference)
Donna Gentile O'Donnell, PhD, Managing Director, Life Sciences Portfolio, Eastern Technology Council (via teleconference)
Everette James, JD, MBA, Secretary of Health and Chair of the Committee, Commonwealth of Pennsylvania
Arthur Levine, MD, Senior Vice Chancellor for Health Sciences and Dean of the School of Medicine, University of Pittsburgh (via teleconference)
Michael Parmacek, MD, Herbert C. Rorer Professor of Medical Sciences and Director of the Penn Cardiovascular Institute, University of Pennsylvania School of Medicine (via teleconference)
Michael V. Seiden, MD, PhD, President and Chief Executive Officer, Fox Chase Cancer Center (via teleconference)
Kim Smith-Whitley, MD, Assistant Professor, Department of Hematology, The Children's Hospital of Philadelphia (via teleconference)

Department of Health (DOH) Staff:

Cathy Becker, MPH, Health Research Program Manager, Bureau of Health Statistics and Research
Christine Dutton, Esq, Chief Legal Counsel
Diane Kirsch, RHIA, CTR, Public Health Program Administrator, Health Research Program, Bureau of Health Statistics and Research
John Koch, Program Analyst, Health Research Program, Bureau of Health Statistics and Research
Patricia W. Potrzebowski, PhD, Director, Bureau of Health Statistics and Research
Robert Torres, JD, Deputy Secretary for Administration

Others in Attendance:

John Anthony, Project Associate, Pennsylvania State University
Amber Benson, Associate, Greenlee Partners, LLC
Mel Billingsley, PhD, President and CEO, Life Science Greenhouse of Central Pennsylvania
Mary Anne Botte, Weber Associates
Jean Givey
Mary Keenan, Pugliese Associates
Lauren Lenfest, Executive Director, Tobacco Settlement Investment Board
Barbara Schilberg, Managing Director and CEO, Bioadvance (via telephone conference call)
Jennie Shade, Pugliese Associates

Call to Order

The Chair, Secretary of Health Everette James called the meeting to order at 1:07 p.m. on Monday, February 8, 2010 in the 6th floor conference room of the Forum Place Building in Harrisburg, Pennsylvania. A quorum of members was present in person or via telephone. Mr. James welcomed Committee members and others to the meeting. He announced that the purpose of the meeting was to discuss the scope of research activities that can be considered for future nonformula funding priorities and determine the focus of a workshop for the fall meeting.

Minutes of the November 23, 2009 Meeting

A motion was made by Dr. Levine to accept the minutes of the meeting held on November 23, 2009. Dr. Gentile O'Donnell requested that the list of committee members be corrected to reflect that she participated in the meeting. Dr. Levine then moved and Dr. Davis seconded that the minutes be approved as amended. The amended minutes were approved unanimously.

Overview of the Nonformula Funding Requirements in Act 2001-77

Mr. James stated that at the last meeting of the Advisory Committee Dr. Gentile O'Donnell raised several issues related to the nonformula funding process and requested that the Committee hold a separate meeting to review how decisions on the competitive grant awarding process are made. He asked Ms. Dutton to provide the Committee an overview on the requirements in the Tobacco Settlement Act (TSA) that are related to the awarding of nonformula grants. He also asked Dr. Potrzebowski to explain how the Department has operationalized these legal requirements.

Ms. Dutton explained that nineteen percent of the master settlement agreement funds are for the CURE (Commonwealth Universal Research Enhancement) health research program, which is administered by the Department of Health (Department). According to the Act, CURE funds are awarded for health research projects and related infrastructure. The Department awards grants to applicants that are eligible under Chapter 9. Approximately 70% of CURE funds are awarded pursuant to a statutory formula. About 30% of CURE funds are awarded by the Department pursuant to statutory procedures that are laid out in Chapter 9. The Department establishes research priorities in conjunction with the Advisory Committee. The Department also develops and implements peer review procedures for the review of grant applications and the Department makes the final selection based on peer review rankings established by peer review panels.

Section 903 specifies the kinds of research projects that may be funded. The Department is to use appropriations to fund research projects and related infrastructure, a defined term, by eligible applicants for one of three types of research: biomedical, clinical and health services research. Section 902 defines biomedical research as comprehensive research pertaining to the application of the natural sciences to the study and clinical practice of medicine at an institution, including biobehavioral research related to tobacco use. Clinical research is defined as patient-oriented research which involves direct interaction and study of the mechanisms of human disease, including therapeutic interventions, clinical trials, epidemiological and behavioral studies and the

development of new technology. The examples provided in this definition of clinical research do not suggest that funding is limited to basic research projects. The third kind of research is health services research, which is defined as research on the promotion and maintenance of health, including biobehavioral research, research on the prevention and reduction of disease, and research on the delivery of health care services to reduce health risks and transfer research advances to community use. This third type of health services research is broadly defined and includes transfer of research advances to community use.

To receive a grant, the recipient must be an eligible applicant and the project must be eligible. Section 902 of the Act defines applicant very broadly and includes three parts: (1) a “person,” which is defined under the rules of statutory construction as “a corporation, partnership, limited liability company, business trust, other association, government entity (other than the Commonwealth), estate, trust, foundation, or natural person (a virtually unlimited definition for an applicant); (2) an institution and (3) entities established under the Local Health Administration law.

Dr. Potrzebowski commented that prior to the conference call, Committee members were provided with a list of the nonformula grants that have been awarded to date. This handout lists the amount of the awards, the lead applicant, collaborating entities and the title of the research project. While most lead applicants are major research institutions, collaborators on the nonformula applications have included smaller colleges and universities, Pennsylvania’s historically black universities, public health agencies, hospitals, and community-based organizations, as well as for-profit companies, which are shaded in gray in your handout.

Ms. Dutton then focused on the project eligibility requirements in the Act. For the formula grants, about 70% of CURE funds are used to provide funds to eligible institutions for research projects. Those institutions are defined in Section 908(a) as institutions that received funding from the National Institutes of Health (NIH) during the immediately preceding federal fiscal years. Funds are distributed to eligible institutions pursuant to a formula laid out in Section 908(b).

Mr. James pointed out that Committee members received a handout which showed the amount of funds that various institutions have received to date. This handout shows total awards of \$408 million in formula funds and \$155 million in nonformula funds for a grand total of \$563 million.

Ms. Dutton next focused her overview on the statutory requirements for the nonformula grants. The Department is responsible for establishing research priorities in conjunction with this Committee. The statute directs that the priorities that are developed have to include identification of critical research areas, disparities in health status among populations, expected research outcomes and benefits, and disease prevention and treatment methodologies. In setting priorities, the Department and Committee must consider the national health promotion and disease prevention objectives.

Dr. Potrzebowski commented that to assist with setting priorities Department staff provides the Committee with Pennsylvania health statistics including data that show how the Commonwealth compares to the national health promotion and disease prevention objectives, since the TSA

requires that these objectives be considered in developing the priorities. The Department also issues a solicitation for written testimony. The form requesting input into priorities is posted on the CURE Web site. Last year it was emailed to over 1,400 contacts, including those on the RFA mailing list. Committee members are given a copy of the written testimony submitted and are asked to provide their recommendations regarding who they would like to be invited to speak at a Committee meeting. Workshops are another source of information to assist the Committee. The Committee may request a workshop focused on a specific health issue. The last item on our agenda today is to determine the focus of a workshop for the fall meeting.

Ms. Dutton reviewed the requirements for peer review of nonformula-funded projects as contained in the TSA. In order to be eligible for nonformula funds, a research project must be peer reviewed in accordance with section 905 of the TSA. Section 905 requires the Department to establish peer review panels to review nonformula grant proposals. Each panel is composed of at least three nationally recognized physicians, scientists or researchers from the same or similar discipline as the research grant proposal under review. Panel members meet and determine an applicant's score and rank using a rating system provided by the Department, which must be consistent with federal rating standards. The peer review panel is required to review and rank research projects for scientific and technical merit based on scientific need, scientific method, research design, adequacy of the facility and qualifications of the research personnel. The projects with highest ranked peer review scores are the ones eligible for funding. A peer review panel member cannot be an employee of an applicant whose grant proposal is under the panel's review.

Dr. Potrzebowski explained the Department's current procedures for conducting peer review. The Department contracts with Oak Ridge Associated Universities to identify and recommend peer reviewers, to provide a Web-based scoring system for the peer reviewers to use to submit their scores and comments on each proposal, and to handle the logistics of the peer reviewer panel meetings. Oak Ridge Associated Universities does not perform the actual peer reviews; these are performed by the expert panels themselves.

A separate peer review panel is established for each priority. When there is only one research priority, as was the case in 2006 for obesity, there were a large number of proposals, so we still had two peer review panels, one focused on prevention and the other on treatment.

The Department requires that each peer review panel consist of at least 10 reviewers. All reviewers must be nationally recognized physicians, scientists or researchers. Currently, we require that they have an MD, DO, PhD or other doctoral level degree. To avoid potential conflicts of interest, they must work outside of Pennsylvania. Many of the peer reviewers are members of NIH study sections.

Our contractor uses subject matter experts to determine the types of disciplines and research expertise needed to review each proposal based on the contents of the letters of intent that are submitted in advance of the proposals. The contractor provides the Department with access to the bios or CVs of proposed reviewers and then the Department reviews and approves the recommendations, or requests other additional reviewers. After the proposals are submitted, the

expertise of the peer reviewers is re-evaluated and adjustments are made with the approval of Department staff to ensure that the appropriate disciplines are represented.

The peer reviewer rating form, which reviewers use to score the applications, was developed by the Department and is based on the scoring system used by NIH.

Oak Ridge Associated Universities was selected by a competitive process as the peer review contractor, most recently in 2008. This contract was procured according to state legal requirements and procedures. Oak Ridge Associated Universities was selected as the vendor based on the detailed description of services to be provided, technical merit of the proposal, a proven record of peer and performance reviews, recommendations from other agencies for which they provide these services, and the low cost of their proposal. The current contract ends in June of 2013.

Ms. Dutton stated that under the TSA the Department is to award research grants based on the peer review procedures set forth in section 905 and the rankings established by the assigned peer review panel.

Dr. Potrzebowski explained that for the final selection an internal Department committee reviews the proposals and their rankings, choosing the top ranked proposals in each research priority, and then makes recommendations to the Secretary. Based on the final selection committee's recommendations and the requirements of the statute, the Secretary makes the final funding decisions.

Ms. Dutton reviewed the statutory requirements regarding the allocation of funds. Section 906(2) states that 50% of the nonformula funds shall be used for clinical and health services research. Section 906(3) provides that the other 50% of the nonformula funds may be used for any of the three types of research defined in Section 902. In other words, the Department may award up to 100% of the nonformula funds available under section 906 to health services research and/or clinical research projects. Biomedical research projects may be awarded up to a maximum of 50% of the nonformula funds.

Dr. Potrzebowski added that because, as Ms. Dutton stated, at least half of the nonformula funds are to be spent on clinical and health services research, the Committee in the past has recommended that the two categories, "clinical and health services research" and "other research," be combined to provide maximum flexibility.

Ms. Dutton commented that the Committee could recommend that the Department keep these two categories of nonformula funding separate. In making this decision, we need to be careful that enough proposals will be received for each separate pot of money in order to spend the full amount of funds allocated to that pot of money and that the proposals are of sufficient quality in each category to justify funding.

Discussion: Dr. Gentile O'Donnell commented that while six companies have participated in nonformula grants, no companies have received funding as an applicant. She asked whether there was latitude in the peer review requirements such that more companies can receive funding. Ms.

Dutton responded that there is latitude, and that it will be up to the Committee to determine how to construct a research priority such that companies come out with a top-ranked project.

Life Science Greenhouse Presentation

Dr. Billingsley provided staff with a copy of his comments, which was then emailed to the Committee. He indicated that through the 2009-10 fiscal year, the total state funding for life sciences included \$462 million in formula funds, \$177 in nonformula funds, \$118 million for the life science greenhouses (which includes approximately \$1 million per year for operations starting in 2006), and \$124 million for the health venture account. Pennsylvania ranks 4th in NIH funding and 5th in Department of Health and Human Services' SBIR/STTR (Small Business Innovation Research/Small Business Technology Transfer) funding.

When the greenhouses were started in 2001, companies needed about \$1-2 million in venture funding. Because of the changes in the economic climate, companies now need \$5-8 million. Venture capital funds are no longer investing in early stage startup companies. To fill this gap life science greenhouses provide \$250,000 - \$1.5 million per startup company. These funds are always matched by the applicant. The greenhouses try to rely on angel funding and SBIR awards to fill the need for funding. There was a 70% drop in venture investments in life science startup companies in 2009. The greenhouses were set up to take the returns from their investment capital when they become liquid and then reinvest them, but the lack of liquidity has negatively impacted the funds available from the greenhouses. SBIR funding has become increasingly competitive. Pension and endowment funds are now less likely to invest in venture funds, thereby shrinking the amount of funds available from this source. Only a small portion of NIH stimulus funds were made available for early stage startups.

Ways that the CURE program can address this need are to focus the priorities on topics that companies can apply for. There are companies in Pennsylvania that would qualify for priorities such as obesity, genomics, cancer, and addictions research. Alternatively, the CURE program could allow companies to apply for any of the earlier priorities. The CURE program could create a grant program that would match SBIR Phase I grants that meet the priorities. SBIR grant applications are peer-reviewed by NIH for scientific merit and, depending on the phase, they are reviewed for commercialization potential. Another possibility would be to allocate a fixed portion of funds for companies, similar to NIH policies in which 2.5% of extramural NIH funding is set aside for SBIR grants. Another idea would be to promote company-academic partnerships that enhance clinical and translational research. Finally, the CURE program could focus on ways to enhance the development of academic spinoff companies. The greenhouses would be willing to help with screening companies, recruiting companies, and getting the word out about the opportunities.

Barbara Schilberg commented that in eastern Pennsylvania technology transfer offices are struggling with the lack of funding for translational research. These offices are creating companies to apply for SBIR grants. They would welcome additional funds because SBIR funding is very competitive due to the lack of venture funding.

Discussion: Future Nonformula Funding Priorities

Dr. Levine indicated that he was strongly supportive of using a portion of the nonformula funds for solo companies or academic partnerships, but that he would like to use funds for companies that have great commercial potential tied to meeting an important patient need, such as drugs, vaccines and devices.

Dr. Parmacek commented that since it appears from the presentation that many of the past priorities were compatible with the interests of startup and biotech companies, a strategy to encourage funding for companies might be to add language to the priorities which requires partnerships. Adding language to the priorities which required collaboration with academic institutions for under-represented minorities was very effective.

Dr. Levine commented that partnerships between academic institutions and companies are important because companies that are not connected to universities lack resources and tend to go in unproductive directions. Academic partnerships should be encouraged, even if no funds are given to the universities. The successful biotech companies started through partnerships with universities and there is an ongoing exchange of ideas and personnel between biotech companies and academic institutions.

Mr. James pointed out that there are plenty of companies that were formed without university partnerships. He suggested that half of the nonformula money be allocated for applications from companies, that 2-3 priorities be established for applications from companies and that the other half of the nonformula funds be allocated to a single priority open to all applicant similar to past procedures. He indicated that there are ways to encourage partnerships with academic institutions and that most would agree that these partnerships might give the company a higher probability of funding, but that he would not want to exclude applications from companies which lacked academic partnerships. He added that he wants companies to understand that they have a good chance of getting funding.

Dr. Levine stated that the question of academic partnerships can be determined during the peer review process. There are companies that will not need academic partnerships to be successful. Peer reviewers would be able to determine whether a company would be successful without an academic partnership.

Dr. Gentile O'Donnell expressed a concern that the peer review process puts companies competing with academic institutions at a disadvantage. She recommended that the priority be to fund life science companies.

Dr. Parmacek cautioned that the priority must meet the statutory requirement that 50% of the funds be spent on clinical and health services research.

Mr. James indicated a priority such as funding life science companies would not fit within the statute.

Dr. Billingsley stated that he is a reviewer on NIH SBIR panels. He is familiar with Oak Ridge Associated Universities and similar peer review companies and it is within their scope of activity to establish peer review panels capable of evaluating SBIR-like grants for both scientific merit and commercial potential. Dr. Potrzebowski clarified that the Department establishes the criteria, not Oak Ridge Associated Universities.

Mr. James asked whether the statute permitted the Department to use half of the funds for companies to address priorities that were clinical and health services research and the other half for a priority that includes any of the three types of research (biomedical, clinical and health services research). Ms. Dutton responded that at least half of the funds have to be used for clinical and health services research regardless of how the funds are divided.

Dr. Davis questioned whether allotting 50% of the funds to a particular segment of researchers would yield the best research. Another concern is with perceptions from the public and legislature. It is important that no one could claim that the Department is looking more favorably on one segment of applicants over another.

Mr. James stated that the Department has allocated more than \$600 million in formula and nonformula funds, but only 6 companies have indirectly benefited from the nonformula funds. He questioned whether a procedure that yielded 6 companies is the right approach to getting companies funded.

Dr. Davis responded that we need to be careful about determining correct percentage to segment for particular researchers. It is unclear if the percentage should be 50%, 30% or some other percentage in order to assure that the best research receives funding.

Dr. Seiden indicated that there is a lot of risk in prescribing a particular percentage. The Committee's charge is to recommend priorities that are important to Pennsylvania rather than to recommend priorities that are of interest to companies or academic institutions. There is a concern that a research priority may focus on an area of basic research or behavioral research, such as the health needs of homeless women, and there may be no companies with products in development to address the priority.

Dr. Levine recommended that separate priorities be established for companies and for other applicants. An appropriate priority for companies would be drugs, vaccines, devices and informatics. He believed that there would be enough small companies to spend \$9 million in a useful way.

Dr. Davis commented that our current model for setting priorities is to first determine the health needs of the state rather than establishing priorities directed to the areas of interest of companies. Dr. Levine responded that the current model hasn't worked because it hasn't funded enough companies. NIH set up SBIR grants, which do not compete with R01 grants, because NIH recognized the need to fund small businesses that could translate the results of research to people.

Dr. Parmacek indicated that the Committee has not been charged with a primary goal of stimulating startup companies and translational research. The overall goal was to impact the health of Pennsylvanians.

Dr. Gentile O'Donnell asked how many companies have applied for nonformula funds and been turned down. Dr. Potrzebowski indicated that several companies have applied for nonformula funds in the past. Mr. James indicated that staff would provide the specific information to Committee members.

Ms. Schilberg indicated that she was told that some companies had inquired about the obesity RFA and were informed that they were ineligible to apply. Dr. Potrzebowski responded that, during a presentation at a PA BIO meeting that was held much before the obesity RFA was released, she made it clear that for-profit companies were not only permitted but encouraged to apply for nonformula funds.

Mr. James stated that the definition of clinical research in the statute does include the development of technology and the health services research definition includes transfer to community use, and we have not completely fulfilled the obligation of the statute to fund these types of research. These are activities being done by life science companies. The question to the Committee is should this aspect of research be funded and what is the most effective way to do that. He stated that priorities should be established to meet this mandate and fit with what Pennsylvania companies are developing. He added that no one is looking for a permanent change and that different priorities can be established every year. Mr. James stated that the Committee has established a long list of priorities and may be running out of ideas. This year the Department is putting all of its funding into one priority. Mr. James stated that this is the time to look at what clinical and health services research is being done by companies and what research will be in the best health interests of Pennsylvanians.

Motion to Put 50% of Nonformula Funds into Companies

Dr. Levine moved that for this coming year (2011-12) only one-half of nonformula money be allocated, as an experiment, to small businesses that deal with products like drugs, devices, diagnostics, vaccines and informatics that clearly have the potential for benefiting human health, and that the Committee would leave it up to Department staff to resolve the many details that have to be addressed. Dr. Gentile O'Donnell suggested that 100% of the nonformula funds be given to life science companies that fit into each of those categories. Dr. Levine countered that he would support putting one-half of the funds into small companies and one-half of the funds into the traditional type of nonformula priority that has been established in the past.

Dr. Gentile O'Donnell asked for an opinion from counsel as to whether the statute provides the latitude to make the priority be funding life science greenhouse companies. Ms. Dutton stated that funds cannot be directed to a particular type of company. The priority will have to be designed so it defines research projects that are appropriate for companies. You cannot stipulate that only companies will be considered. The statute is clear that applicants must include persons, institutions and local health agencies.

Dr. Davis pointed out that a proposal to put 100% of funding into companies would exclude researchers from academic centers.

Dr. Parmacek asked whether it would be legal to take 50% of the funds and exclude applications from academic institutions and restrict applications to companies. Ms. Dutton stated that applicants could not be restricted provided they fit within the legal definition of applicant, but that the proposal could be required to contain certain elements.

Dr. Gentile O'Donnell seconded Dr. Levine's motion.

Mr. James asked for additional input from the Committee to further narrow the priority of translational research to 2-4 areas that companies could apply for and that would meet the health needs of the Commonwealth. He stated that he believed that only one peer review panel would be needed to review applications. Dr. Potrzebowski confirmed that only one panel would be needed if the subject matter is relatively narrow, for instance cancer vaccines. Dr. Gentile O'Donnell pointed out that limiting the priority might result in a paucity of companies that might apply.

Dr. Billingsley indicated SBIR and STTR reviews most closely parallel the type of reviews that are being proposed. There are two types of SBIR and STTR solicitations – (1) an omnibus approach, which is open-ended and allow applications on all possible areas, and (2) a selective, narrow approach, which is focused on a specific topic identified by the federal governmental agency. The best model for this proposal might be a balance between these two approaches such as that proposed by Dr. Levine.

Dr. Levine commented that he would like to see the peer review process consider factors such as an understanding of the environment in which the small business has emerged, other funding that the small business is using, analysis of the market that they are engaged in, and their patent constraints. He added that he preferred an omnibus model.

Dr. Davis observed that diagnostics, drugs, vaccines, devices and informatics are 4-5 broad areas being proposed for consideration and asked how many companies would bid in one of these areas.

Dr. Billingsley stated that based on his and Ms. Schilberg's experience, they receive approximately 10 applications for each application that they fund. Depending on the range of dollars available, the Department could expect between 50-100 applications.

Dr. Davis then asked whether this is an appropriate number of applications and within the scope of what can be accomplished with our current mechanism for peer review.

Dr. Potrzebowski indicated that the Department can require Oak Ridge Associated Universities to construct an omnibus panel or a limited top five omnibus panel. She cautioned that many more subject matter peer reviewers will be needed to address the wider range of subjects in addition to the private company experts needed for reviewing commercial potential. The peer review panel would be larger and therefore costs would be higher. The statute requires that at

least three reviewers be of the same or similar discipline as the application under review. So if there are proposals in five different disciplines, there would be a need for approximately 20 reviewers on a panel including experts reviewing for commercial potential.

Dr. Davis suggested that there is a need for an evaluation of the implications of this process including the number of applications expected, the costs to be incurred and how these costs will affect funds available.

Mr. James commented that it is the Department's job to keep the costs at a minimum. He said that the peer review costs will be higher, but it is a worthwhile cost. As the chairperson of the Committee he indicated his support for Dr. Levine's motion.

Dr. Levine reiterated his motion, that for the 2011-2012 fiscal year, 50% of the nonformula funds be allocated to companies for the discovery of drugs, the development of vaccines, the development of devices, the development of diagnostics, or health-related informatics research and that the Committee leave it up to Department staff to determine the size of the grants, peer review and how these grants will be awarded.

Dr. Parmacek asked whether the applicants can legally be restricted to companies. Ms. Dutton said that she look into this issue further.

Mr. James called for the vote. Drs. Gentile O'Donnell, Levine, Parmacek, Seiden and Smith-Whitley and Mr. James voted in favor of the motion. Dr. Davis abstained until he has a chance to review the analysis that the staff will prepare. Dr. Davis added that he agreed with the concept and believed there is tremendous potential and looked forward to receiving the cost benefit analysis and the legality of the proposed approach.

Focus of Fall Workshop

Dr. Gentile O'Donnell suggested, for the fall workshop, that the Department invite leaders from institutions' technology transfer offices to present what is going on at their institutions with respect to commercialization.

Dr. Levine suggested that the Committee consider the pioneer award as a priority for the fall discussion. The pioneer award is given by NIH to a very small number of investigators for exceptionally innovative, high-risk research, which is not generally supported elsewhere in NIH. This award has been very productive. The University of Pittsburgh has a couple of these awards and most likely the University of Pennsylvania has a few. It is not likely that there are more than a handful of these awards in all of Pennsylvania.

Adjournment

The meeting adjourned at 3:15 p.m.