Center for Scientific Review
Center for Scientific Review Advisory Council Meeting
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May 19, 2014

The Center for Scientific Review Advisory Council (CSRAC) convened at 8:30 a.m., Monday, May 19, 2014, in the CSR Conference Center, 6701 Rockledge Road, Bethesda, MD. The entire meeting was held in open session. Richard Nakamura, Ph.D., presided as chair.

Members Present

Roberta Diaz Brinton, Ph.D.
Alice Clark, Ph.D.
Susan Essock, Ph.D.
Pamela Hammond, Ph.D.
Michael Hollingsworth, Ph.D.
Stephen Mayo, Ph.D.
Richard Nakamura, Ph.D.
Harry Orr, Ph.D.
Louis Weiner, M.D.
Keith R. Yamamoto, Ph.D.

Donald Schneider, Ph.D., was the executive secretary for the meeting.

I. Welcome, Meeting Overview, and Approval of Minutes

Dr. Nakamura, CSR Director, welcomed CSRAC members, CSR staff, and other attendees to the seventh meeting of the CSRAC and to the Center's new conference facility. He asked CSRAC members to introduce themselves and welcomed three new members: Stephen Mayo, Ph.D., Harry Orr, Ph.D., and Louis Weiner, M.D. He briefly reviewed the schedule for the rest of the meeting. The minutes from the December 16, 2013, CSRAC meeting were approved.

II. Change in NIH Submission Policy

Della Hann, Ph.D., Deputy Director, Office of Extramural Research, spoke about changes in the resubmission policy for applications.

Background

The 2009 policy that eliminated A2 submissions came out of the Enhancing Peer Review process and was intended to shorten the time to funding. Although the policy has reduced the time after original submission from approximately 80 to 58 weeks, the tight budget for extramural research meant the policy caused frustration in the scientific community—after an unsuccessful A1 resubmission, an investigator had to "substantially" change the application and submit it as a new A0.

New Policy and Feedback

The new policy, announced in April 2014 through multiple channels, still allows a single resubmission. However, following an unsuccessful A0 or A1 resubmission, applicants may submit their same idea as a new A0. After highlighting the policy's details. Dr. Hann said about one-third of ensuing comments are favorable, one-third are negative, and another one-third

consist of comments more generally about peer review. The most frequently cited benefit is the policy helps new investigators who now do not have to substantially change their research. Other positive comments include that a single reviewer could not negatively impact an applicant's research or career. The most frequently cited concern is the potential workload/burden on reviewers and staff if applications numbers greatly increase. Other concerns are that the new policy might increase queuing/time to award, reduce quality, encourage "shopping around" to different study sections with the same application, and favor established over newer investigators.

Monitoring the Policy

Dr. Hann said NIH will monitor the impact of the policy, beginning with application numbers and the number of applications per investigator. (The current average number of applications per applicant is about 1.4.) She said NIH will develop guidance for reviewers and applicants since the A0, even if the idea was previously submitted, will be considered a new application. She asked for other suggestions or ideas from CSRAC.

Discussion Highlights

- ***Quality:*** Pamela Hammond, Ph.D., asked for clarification about the comments about the policy's effect on quality. Dr. Hann said peer review will continue to address quality.
- ***Applications per applicant:*** Stephen Mayo, Ph.D., asked whether the 1.4 average might miss important details and suggested viewing the number as a distribution or skewed by age. Dr. Hann agreed an age stratification or other analysis would be interesting. She said an analysis of recent increases in applications showed more applicants overall, rather more applications from individual applicants.
- ***Effect on success rates:*** Louis Weiner, Ph.D., asked whether the new policy would result in funding what would be the equivalent of an "A3" or "A4." Dr. Hann said NIH is looking for software-based ways to examine this, but noted applications will come in as new submissions, without reference to previous attempts. Harry Orr, Ph.D., praised the policy and said it would relieve stress, particularly among new investigators.
- ***Eliminate all amendments:*** Keith Yamamoto, Ph.D., congratulated NIH on the change so the peer review system is not instructing investigators to change their work. He asked about eliminating resubmission altogether. Dr. Hann said many investigators want to resubmit to address comments from reviewers, and many reviewers want to see how an investigator responds to a critique. Dr. Yamamoto also asked about capping the number of submissions per investigator to two per year. Dr. Hann reiterated that analysis shows that the increase results from a larger number of applicants. She said she hoped a common sense factor would prevail so investigators do not overrun the system.

III. CSR Update

Dr. Nakamura presented an update related to the resubmission policy and other issues. He first referred to the NIH mission and stated CSR is committed to ensuring basic science remains healthy and robust. CSR's mission revolves around the larger NIH mission.

Resubmission Policy from the CSR Perspective

Dr. Nakamura said the policy goes partway toward an earlier CSRAC recommendation not to put CSR in the position of judging if an application is sufficiently different from those that failed at the A0/A1 stages. As he illustrated with a graphic, discrepancy in funding remains—an A0 has about a 7.5 percent possibility of receiving an award compared with an A1, which has about a 25 percent possibility. Concerns within CSR about the policy relate to potential increases in applications, effects on queuing, and "shopping around" of applications by investigators to different study sections. CSR supports careful monitoring of the revised policy.

Application Load

Overall, the number of applications has trended higher, with a small drop-off in 2013. In 2013, 84,000 applications were received. The Institutes and Centers (ICs) reviewed about 20,000, and CSR reviewed the rest. The proportion of the extramural budget that has gone for applications based on CSR reviews has decreased from 62 percent in 2008 to 58 percent in 2013. CSR uses almost 27,000 "reviewer instances" and more than 16,000 distinct reviewers per year. This size reflects the lengths to which CSR goes to engage the best scientists for its review groups.

Efficiency from Application to Award

The Scientific Management Review Board, comprised of senior private sector representatives and IC directors, was set up to help NIH with science management issues and reports to Congress on issues related to NIH. At its August 2013 meeting, the board asked about tightening the Small Business Innovation Research (SBIR) review cycle. More broadly, the board has discussed the process from application to award and whether it can become more efficient.

Dr. Nakamura outlined the process, from receipt of an application by CSR to referral for peer review within CSR or an IC, to possible program decision and award. AIDS-related applications are funded in about 363 days (90% completion), with 414 for non-AIDS applications. The time between receipt and summary statements is about 102 days for AIDS and 154 for non-AIDS applications.

Much of the process is outside CSR control. Delays occur in part because of funding availability to the ICs. NIH is looking at the period lost in the funding "dead zone" from October to December. There is also some pressure to put SBIR applications, and perhaps all applications, on an AIDS-type cycle. Dr. Nakamura expressed concern about the quality of reviews if this occurs for all applications. Another aspect of the current timetable is that, except for new investigators, applicants wait at least one cycle before they resubmit.

Scoring Compression

Program Officers (POs) have a hard time differentiating between applications when scores are tightly compressed. Scientific Review Officers (SROs) work with study sections to encourage a greater spread in scores. It has taken much effort to make even small differences in spread.

Discussion Highlights

- ***Queuing:*** CSRAC discussed whether the new submission policy may result in longer waits to fund the best science. Dr. Yamamoto said a queuing psychology in study sections means some of the best science waits in line for funding. Michael Hollingsworth, Ph.D., suggested

randomly discussing applications, rather than basing the discussion on rank order from preliminary scores, as a way to reduce queuing. He said discussions based on rank order from preliminary scores may also result in less careful reviews of applications further down the list. Dr. Nakamura said this might be a topic to look at in a pilot study.

- ***AIDS-cycle for other applications:*** Dr. Hammond asked about the difficulty of putting all applications on an AIDS cycle. Dr. Nakamura said while the AIDS SROs are confident the AIDS reviews are high quality, they have no cushion for error. Also, scale-up for all applications would be difficult and likely to put quality at risk. The compactness of the community assists in locating reviewers. He expressed concerns about whether this process could apply to all applications in all areas of science.
- ***Scoring compression:*** Several members discussed the challenge in overcoming compression and the reluctance to assign scores above 5. Roberta Brinton, Ph.D., said compressed scores may still have been scored appropriately, rather than occur from less rigorous judgment. Dr. Orr said chairs have urged scoring spread for years, but reviewers tend to give the best score possible. Dr. Mayo noted a difference in judging a manuscript, when the author is anonymous, versus an application, when the applicant is known. Dr. Nakamura stressed reviewers are guaranteed confidentiality. If there were a case of a reviewer's personal issue causing an unjustifiably bad score, the reviewer would face serious consequences. Susan Essock, Ph.D., likened the system to spending—if only an allocated number of good scores could be given, reviewers would score differently.
- ***Application numbers:*** Dr. Hollingsworth expressed concern about the number of non-competitive applications. He said NIH needs to clearly elucidate that it is not trying to limit the overall number, but to encourage investigators to submit competitive applications. Submitting non-competitive applications clogs the system.

IV. Strategy for Quality Measurement

Dr. Nakamura noted quality as a main theme of the meeting. He pointed to two related issues: the ability within a study review group (SRG) to differentiate great from non-great applications, and the distribution of the best applications across the SRGs. The percentiling system assumes even distribution across study sections; if this is not the case, then percentiling application scores for each different study sections cannot equalize the quality of funded applications.

Differentiating Quality

Dr. Nakamura said attracting the best reviewers, chairs, and SROs helps put together the best review committees possible, then they must work in the best platform format. He listed some criteria for reviewer recruitment, including seniority, previous funding, publications, and diversity. NIH offers continuous submission and new types of meetings to facilitate participation, yet also makes the logistics more difficult, from taking away coffee to sometimes requiring less convenient travel and issuing 1099 tax forms for all reviewer payments.

NIH wants to measure quality to systematically improve it. A previously used method is to examine the results of grants 10 years later, but this is a slow feedback loop. The question is how

to develop a shorter-term statistic. He briefly introduced the subsequent presentations about studies underway or in development, including--

- ***Reliability of review:*** To systematically rescore the same applications by different reviewers to estimate the reliability of peer review;
- ***Bias:*** To ensure scoring approaches are not inappropriately biased;
- ***Reviewer feedback:*** To gather and use feedback from reviewers about their most recent review experience;
- ***Committee ranking within Integrated Review Groups (IRGs):*** To study whether applications of reasonably equal quality are distributed across study sections;
- ***Scoring of applications:*** To judge whether the current scoring system is working and if ranking the top 10 applications at the end of the review meeting would provide helpful information;
- ***Conformity:*** To determine whether decision-making within SRGs tends to favor conformity.

Other approaches include bibliometrics, being pursued by CSR and the Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI), and network analysis to look at committee assignments and coverage.

V. Direct Ranking of Applications Pilot Study

Amy Rubinstein, Ph.D., SRO of the Gene and Drug Delivery Systems Study Section, summarized the current system for evaluating and ranking applications within CSR study sections. Scores are percentiled but many ties result because of compression. She is part of a group developing a test of direct ranking of applications.

Background

With increased numbers of applications, it is difficult for reviewers to differentiate among the top 20 percent, and scores are compressed in the 1 to 3 range (final scores between 10 and 30). Percentiling is intended to rank applications across different study sections, but compression results in many applications at the same percentile. Dr. Rubenstein showed data that scores tend to peak at 20, 30, and 40.

CSR organized a symposium to learn from experts in the field. Potential advantages of direct ranking include not pressuring reviewers to give higher (worse) overall scores to combat compression, having a way to distinguish between applications of similar quality, and providing an opportunity to re-rank after discussing applications individually. Considerations to address include how to integrate new investigators' applications, rank with respect to previous review rounds, and handle applications in study sections that cover highly diverse scientific areas.

The Pilot

A pilot study will take place in parallel with the current system in June and in October. At the end of the discussions, reviewers will privately rank the top 10 or so, the exact number depending on the total number reviewed. Training, a score sheet for note-taking, and other guidance will be provided. Questions that the pilot may answer include how direct rank ordering

compares to percentiling and whether it produces fewer ties. The group will ask the opinion of the reviewers involved about the experience and consider how NIH could use the system.

Discussion Highlights

- ***Discussed versus non-discussed:*** Dr. Brinton said excluding non-discussed applications from Dr. Rubinstein's original analysis of scores skews the score distribution. Dr. Rubinstein noted even preliminary scores are rarely in the 70 to 90 range. Dr. Nakamura said the point to focus on is the compression in the award range, below 29.
- ***Peaks in scoring:*** Dr. Orr suggested one of the reasons behind the peaks in scoring at 20, 30, and 40 is because of efforts to reach consensus. Dr. Weiner said the peaks also result when reviewers are asked to score based on an integer.
- ***Focus on the best science:*** Dr. Weiner agreed the pilot is worth exploring, but said it still does not address whether the best science is identified and funded. Dr. Mayo asked about a study to look at scoring based on when an application is considered during a meeting. He suggested a time-dependent bias may exist. Dr. Yamamoto said in his experience in other review situations, ranking applications at the end of a meeting works well.
- ***Using direct ranking:*** In response to a question from Dr. Yamamoto, Dr. Rubinstein said how to use direct ranking is under discussion. As an experiment, it will not affect funding decisions now. If it breaks ties, it could be useful to program staff. She said she could not predict whether consensus in the ranking will be reached. Dr. Hollingsworth said providing preliminary rank order will bias the result and urged the pilot to find a way to get around this. Dr. Nakamura noted the experiment can be refined in subsequent cycles.

VI. CSR Quick Feedback Pilot

Dr. Mary Ann Guadagno, Senior SRO, Office of the Director, explained a pilot in which reviewers provide quick feedback about their experiences right after their meetings. They use a short instrument to evaluate the quality of prioritization, collective experience, assignment of applications to reviewers, and quality of discussion.

The pilot initially involved 18 study sections in two IRGs. Participation was optional but encouraged. Average response was 53 percent, about average for a survey of this kind. After summarizing the questions and responses, Dr. Guadagno said about one-third of the respondents also made open-ended comments and suggestions. Two themes emerged related to a divergence of opinion about the quality of review using Internet Assisted Meeting (IAM) or Video Assisted Meeting (VAM) formats, and concerns about scoring behavior.

The survey software presented technical challenges, but new software should solve these issues during the next iteration. Given the comments on electronic review platforms, CSR is considering additional efforts to get feedback on these platforms from reviewers as well as other stakeholders, such as NIH program officers.

Discussion Highlights

- ***Scoring:*** In response to a question from Dr. Essock, Dr. Guadagno said respondents gave very few poor scores. Dr. Mayo asked whether the wording of the questions might have influenced responses. Dr. Guadagno agreed on the importance of asking the right questions for a useful survey.
- ***Use of the findings:*** Dr. Brinton asked about aggregating the data across pilots. Dr. Guadagno said they would do this to the extent possible. She said the goal is to develop a continuous feedback loop. Dr. Weiner said the positive results are heartening, but drilling down may help understand the cracks in the system. Dr. Nakamura replied that CSR is taking seriously any confluence of negative comments for this reason.

VII. Update of CSR Diversity Initiatives

Monica Basco, Ph.D., Coordinator of the Early Career Reviewer (ECR) program and Executive Secretary of the Advisory Council to the Director (ACD) Diversity Workgroup Subcommittee, discussed CSR diversity initiatives. In 2011, responses to the Ginther et al. findings on scoring disparities centered on possible bias among reviewers and deficits in applicants' writing skills.

Current Efforts

- ***America COMPETES Challenges:*** CSR set up two challenges to find new methods to detect bias in peer review, and to strengthen fairness and impartiality in peer review. Awards will go to the best empirically based and creative ideas.
- ***Detection of bias in review comments:*** Molly Carnes, Ph.D., will evaluate unedited critiques to identify evaluation standards associated with race and gender. The analysis has three tasks: validate a lexicon to see whether it can cover racial, in addition to gender, bias; expand the lexicon as needed; and conduct a study to look at verbiage in critiques.
- ***Anonymization experiments:*** Responding to recommendations to conduct anonymizing experiments, the subcommittee is planning experiments to compare scores for applications with and without investigator and institution identifiers.
- ***Bias awareness scale and scenarios:*** A group of SROs and IRG chiefs is creating a scale to gauge SRO awareness of biased comments made during review discussions. Various assessment formats are being considered.
- ***Early Career Reviewer Program:*** The program now includes more than 3,000 ECRs; about 1,000 of whom have served on at least one study section. Through a series of webinars, participation from R15 schools has increased, and recruitment from less research-intensive institutions continues.

Discussion Highlights

- ***Anonymization:*** In response to a question from Dr. Brinton, Dr. Basco said if anonymization experiments do not reveal bias, the group will look at other strategies. They will not just assume that bias does not exist. Dr. Nakamura said given a score, there is no difference between award outcomes based on race or ethnicity; the issue is discrepancy in scores, which occurs in peer review.

VIII. Assessing Reliability in Peer Review

Dr. Rene Etcheberrigaray, Director of the Division on Neuroscience, Development and Aging, said there are some cases where two study sections have reviewed the same application. However, no systematic study of reliability has taken place to learn if different reviewers would score the same application differently or the same.

The objective is to evaluate scores and percentiling across different groups, not to assess whether the study sections can predict scientific merit. Details are under development, but he explained the overall design and issues to work out related to logistics, information sharing, policies, and potential misinterpretation or misuse of the results. Only the scores of the primary assignment would be released; the secondary would serve only for purposes of the study.

CSR can use the information to improve the steps in the review process, including possible realignment of study sections or different ways to assign applications.

Discussion Highlights

- ***Assignment of applications***: In response to a question from Dr. Mayo, Dr. Etcheberrigaray said the study will honor PI requests for an assignment, then look to overlapping SRGs for the second group for the reliability study. Dr. Weiner suggested a natural experiment takes place when investigators submit a response to an RFP or RFA that they later submit to a standing study section. Dr. Etcheberrigaray said they would look at these situations.
- ***Sharing the findings:*** Dr. Nakamura said the study needs to go through the NIH clearance process. CSR is committed to making this and all studies public and will publish the results. They are also looking at how to provide access to the raw data. Dr. Mayo raised the issue of maintaining anonymization of the data.
- ***Detection of bias:*** Dr. Brinton said another use of the study is to take applications that receive high scores and re-identify them so they appear to come from a different gender or ethnicity. Dr. Nakamura said most reviewers know the work of those in their field, making attempts to change identity difficult.
- ***Number of review groups:*** Dr. Hollingsworth questioned whether two study sections per application is sufficient. Dr. Nakamura said the initial pilot will help determine the answer.

IX. Study Section Conformity Index Using the QVR Like Function

Dr. Sy Garte, Director of the Division of Physiological and Pathological Sciences, reported on a study on how SRGs react to non-conforming science. The question of conformity versus innovation in NIH peer review has been raised in the press, including an article in Nature.

Approach and Methods

The study developed Query, View and Report (QVR) fingerprints, based on text matching, for applications submitted to 146 SRGs from 2007 to 2011. Through a “like function,” individual applications received a match score. A higher match score means the application is more conforming to what the study section usually sees; a lower match score means it is less

conforming. The study assessed the average match score for awarded versus non-awarded applications, as well as the percentage of highly matched applications in the top quartile compared to the lowest quartile.

Findings

The study found 12 percent of study sections reward conformity; the others do not. Basic science SRGs tend to slightly reward conforming applications more than clinical or translational SRGs. The study also found a correlation between conformity and bibliographic measure of quality.

Discussion Highlights

- ***Methods:*** Dr. Mayo questioned the conclusions. He argued that using all grant applications, rather than just those that were funded, produces skewed results. Dr. Garte said he would analyze the data as suggested by Dr. Mayo. Dr. Mayo also suggested determining the standard deviation of the footprint to get at level of significance.

X. Other Approaches to Measuring Quality

Dr. Nakamura reviewed several other approaches to measure the quality of peer review:

- ***Bibliometrics:*** As noted above, CSR is looking at citations at the individual and group levels to see if they can predict future output, and DPCPSI is undertaking a complementary process through the Common Fund. The two will compare results.
- ***Evaluation of preliminary scores:*** Preliminary scores have a relatively normal distribution, but peak at four. Ideally, they would peak at five, which may come about through education. CSR is considering a study to see the extent to which final scores are correlated.

Discussion Highlights

- ***Conformity of scores:*** Dr. Hammond asked how the scoring range of the assigned reviewers affects conformity. She observed other reviewers are not encouraged to go outside the range of these scores. Dr. Nakamura said the direct ranking study may come closer to score distribution. CSR is also beginning to look at preliminary scores and the transition to final scores. He welcomed CSRAC suggestions about other questions to answer through a study.

XI. Review Alternatives: Editorial Review

Dr. Donald Schneider, Senior Advisor to the Director, began by underscoring the challenge in recruiting the 16,000 top-drawer reviewers needed each year. One alternative method is a two-stage review modeled on the journal manuscript process. A 2008 pilot with SBIR applications received a generally positive response.

In the first stage of this process, conducted by mail, subject matter experts look in depth at scientific and technical merit and submit full critiques, with the number of reviewers depending on the application. In the second stage, broad experts are each assigned about 15 applications. They consider the expert critiques and overall impact. This smaller group, about 20 reviewers,

meets face to face and assigns final priority scores. This process could optimize use of top-drawer reviewers, while also providing review depth and breadth, and would cost less in travel. Challenges include that SROs might have to recruit a large number of stage one reviewers on a tight timeline. Stage one reviewers might also feel left out of the decision-making.

Discussion Highlights

- ***Feasibility:*** Dr. Hollingsworth asked about the feasibility of recruiting reviewers given the large number of R01 applications. Dr. Schneider noted the current system already taxes the system. Dr. Nakamura said reviewer load is an important question. NIH estimates about 30 percent of awardees do not participate in peer review as reviewers.
- ***High-level prioritization:*** Dr. Weiner praised the idea, noting it fosters thoughtful discussion in the second stage. The challenge is to provide incentives for individuals to participate. Dr. Nakamura said NIH Director Francis Collins, M.D, Ph.D., has made clear that awardees should feel obligated to participate as reviewers.
- ***Identity of reviewers:*** In response to a question from Dr. Mayo, Dr. Schneider said applicants would know both stages' rosters, but not who was assigned to their application.
- ***SRO perspective:*** An SRO in the audience said the process would be demoralizing if it occurred on a massive scale because it diminishes the role of talented, more junior reviewers in the second stage and could create a perception of elitism. Dr. Nakamura stressed the process as an alternative, rather than for widespread adoption. Dr. Brinton pointed out the opportunities for hybrid models.

XII. IRG Evaluation and Reformulation

Dr. Nakamura described the process of evaluating the structure of the 24 IRGs, which includes a white paper written by the IRG chief, network analysis, and review by a committee of outside scientists. Even when modest suggestions for change result, some IRG chiefs resist the changes.

To strengthen the process, CSR is gathering more data on workloads, overlap with related committees, applicant preferences, reviewer opinions, and other inputs. Division directors are also creating a "straw horse" of a possible organizational structure. Based on the data, an IRG chief will develop a white paper to react to senior staff suggestions, with feedback also requested from IRG chiefs with related portfolios, outside scientists (including CSRAC members), program staff, and others. A committee will suggest changes to the structure, discussed internally and with CSRAC. Dr. Nakamura asked CSRAC, SROs, and IRG chiefs to provide feedback about the process.

XIII. Reorganization of the Digestive, Kidney and Urological Sciences (DKUS) IRG

Dr. Garte discussed a reorganization within the DKUS IRG in his division: (1) to convert the Systemic Injury from Environmental Exposures (SIEE) recurrent special emphasis panel (SEP)

to a chartered study section and (2) convert the Urologic and Genitourinary Physiology and Pathology (UGPP) chartered study section, which has a low workload, to a SEP.

Dr. Garte summarized the histories and workloads of the two groups. Most applications from both groups go to the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), which agrees with the reorganization.

Dr. Garte stated the proposal: Convert SIEE to chartered study section and UGPP to a recurrent SEP; continue to monitor SIEE and related study sections; and work with the urology research community to find ways to encourage greater participation as applicants and reviewers.

Discussion Highlights

- ***Revert again to a study section:*** In response to a question from D. Hammond, Dr. Garte said UGPP could revert to a study section if the situation changed.
- ***Merging the two groups:*** Dr. Weiner asked for clarification about merging the UGPP study section with the KMBD study section on kidney disease. From the floor, John Ivins, Ph.D., DKUS IRG Chief, said the two communities have different philosophies. Neither group, nor NIDDK, supports a merger of the urology and kidney study sections.
- ***Role of CSRAC:*** Dr. Mayo asked about the role of CSRAC in these situations. Dr. Nakamura said while the Council is advisory, staff asks CSRAC for its considered opinion. Dr. Essock said the suggestion, as well as others during the meeting, reflects how science changes. Dr. Nakamura said he concludes from the discussion that CSRAC supports the proposal. There was no dissent from the committee.

XIV. Summary and Closing Comments

Orphan Applications

Cathie Cooper, Ph.D., Director of the Division of Receipt and Referral, discussed two scenarios of "orphan applications" for which it is difficult to make assignments for review:

- Applications that cover an area that no IC has expressed an interest in funding. CSR still makes an assignment to the most relevant IC, but even if the application is well scored, it is not likely to get picked up for funding. She said only a small number of applications per year fall under this situation.
- Applications (R21s and R03s) that come in under Funding Opportunity Announcements (FOAs) but the IC with the most relevant science is not participating in the opportunity. She estimated about 25 to 50 applications per year might fall under this situation.

She asked for CSRAC advice and possible remedies going forward.

Discussion Highlights

- ***Involvement of NIH leadership:*** Dr. Hollingsworth said the NIH director or deputy director, possibly with a committee, should broker these situations.

- ***Distinguishing between the two scenarios:*** Dr. Essock said in the first situation, the IC has the responsibility to provide feedback to the applicant. In the second scenario, the applicant needs to understand which ICs are and are not participating in the FOA. Dr. Orr agreed that the onus is on the applicant in the second situation, although Dr. Weiner said sometimes the situation is less clear about what the FOA does and does not cover.
- ***IC funding:*** Dr. Nakamura said the struggle is that NIH has a broad mission but because of tightness in the budget, ICs have gaps in what they are willing to fund. To him, fairness requires that the ICs make clear to the public and the scientific community what they consider relevant to their missions.

Closing Comments

Dr. Nakamura said CSR will continue with the exploratory studies discussed and on the larger process of reorganization. He referred CSRAC to a draft strategic plan (2014 CSR Goals and Philosophy). He asked for other comments and questions.

- ***Communication to applicants:*** Dr. Hollingsworth said many in the community see a disconnect between their scores and the summary statements, or learn there was no discussion for an application with mismatched scores. Dr. Nakamura recognized the concern and said SROs try to work with study sections on this.
- ***Assigning reviewers:*** Dr. Hollingsworth questioned whether assigning reviewers as primary, secondary, and tertiary (R1, R2, R3) limits the fairness of the review. He asked whether the SRO should assign which is primary, secondary, and tertiary after the reviews come in, noting the perception that the reviewer who speaks first affects the outcome. From the floor, an SRO said the only distinction is that R1 gives the summary. An IRG chief said SROs would not usually have time between posting the critiques and a meeting to select the R1. He also said SROs ask reviewers to provide more consistent feedback if their views have changed during a meeting, but reviewers do not always go back to make changes.
- ***Working with reviewers:*** Another SRO said SROs rotate assignments, so one person is not always R1. SROs also contact reviewers who give discrepant scores so they know to prepare to discuss their decisions. They also point out when reviewers' words and scores are mismatched. Another issue is when an application receives a glowing critique but is not discussed. Dr. Nakamura suggested further discussion about handling highly discrepant scores.

With no further comments or questions, Dr. Nakamura thanked CSRAC for their participation. The meeting adjourned at 3:00 p.m.

We do hereby certify that, to the best of our knowledge, the foregoing minutes of the May 19, 2014, meeting of CSRAC are accurate and complete. The minutes will be considered at the next meeting of the Advisory Council, and any corrections or comments will be made at that time.

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Donald Schneider, Ph.D.
Executive Secretary
Center for Scientific Review Advisory Council

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Richard Nakamura, Ph.D.
Chair
Center for Scientific Review Advisory Council