NIH eRA Commons Working Group (CWG)

Date/Time: Wednesday, May 19, 2004, 9:00 a.m.–4:00 p.m.
Location: National Academy of Sciences, Washington, D.C.
Chair: David Wright
Next Meeting: TBD

Action

- (JJ Maurer) Prepare a package of information about ebXML for extramural technical staff. Send the information to the CWG listserv and ask for alternatives and feedback.
- (Marcia Hahn) Discuss with the DGCO the possibility of posting a "compliance-in-action" section on the Web as a means of addressing noncompliant/compliant issues.
- (Scarlett Gibb, David Wright) Compile list of all CWG suggestions for Commons and organizational hierarchy. Post on the Web. Provide a way to submit changes to the Web site.
- (Dan Hall) Change the permissions for closeout authority to include the Signing Official.

Presentations

- ITWG Governance (Dr. Israel Lederhendler): http://era.nih.gov/Docs/ITWG_Governance_2004_one_slide_05-10-04b.pdf
- CGAP Update (Jennifer Flach): http://era.nih.gov/Docs/CWG_CGAP_Update_Flach_05-19-04.pdf
- Commons Expansion (David Wright): http://era.nih.gov/Docs/CWG-Commons_Expansion_05-19-04.pdf
- Grant Closeout (Dan Hall, Mike Loewe): http://era.nih.gov/Docs/CWG_Grant_Closeout_05-19-04.pdf
- Enumeration Study (Dr. Walter Schaffer): http://era.nih.gov/Docs/Enumeration_study_Schaffer_05-19-04.pdf

Welcome

David Wright welcomed everyone to the CWG meeting. He noted that with the departure of George Stone, who was the eRA Advocate for the Extramural Community, and his own move to the position of eRA Requirements Branch Chief, there are two NIH eRA openings: eRA Advocate for the Extramural Community and eRA Policy Analyst. He encouraged recommendations for these two positions.

David introduced Dr. Israel (Izja) Lederhendler, who is the acting eRA Project Manager, replacing Dr. John (JJ) McGowan, who left the project last October.

Dr. Lederhendler reiterated that we serve the extramural community and that he is committed to making the eRA project successful. He provided some background on his career. In addition to his position with

the eRA, he is the Chief, Basic Behavioral and Systems Neuroscience Program, and coordinator for Sleep Research at NIMH. He was trained in psychology (McGill University), biopsychology (City University of New York, American Museum of Natural History) and behavioral neurobiology (Marine Biological Laboratory, Woods Hole).

In addition to administering a grants portfolio, he coordinates sleep and chronobiology research for NIMH, serving as a member of the Advisory Board of the National Center for Sleep Disorders Research (NHLBI), and the Trans-NIH Sleep Research Coordinating Committee.

He is a Fellow of the International Behavioral Neuroscience Society, and a member of the Scientific Advisory Board of the Society for Behavioral Neuroendocrinology. He has been at NIMH since 1987 when he was a Senior Staff Fellow in the Laboratory of Biophysics, NINDS.

After moving to NIMH as a research administrator, he led the effort to establish integrative perspectives within the neurosciences. In addition to his scientific activities he has served on Project Officers/Program Officials Forum (POPOF), eRA Program Officials User's Group (ePUG), and the Program Portal JAD.

He said that part of his focus of the eRA project is to backfill any holes left from initial development as well as understanding how our constituency is using our systems. Of high priority is user access and response. He welcomes input from the CWG regarding all aspects of the eRA project.

Dr. Lederhendler presented the NIH information technology (IT) governance structure (http://era.nih.gov/Docs/ITWG_Governance_2004_one_slide_05-10-04b.pdf), which has been reorganized in the last few months. The eRA project is part of the IT organization at the NIH. He noted that the NIH Steering Committee is at the top of the organization with the IT Working Group reporting to it. eRA is part of the Extramural IT effort, reporting to the IT Working Group. Dr. Norka Ruiz Bravo, Deputy Director for Management, is the IC Director and Deputy Program Official for Extramural Research and oversees the eRA project. Missing from the organization chart is the Management and Budget Committee, which plays an important role in the structure.

Dr. Lederhendler said that the FY2005 budget is done and that the FY2006 budget is being prepared for presentation in January.

He asked for input from the CWG in the following areas:

- Recommendations for eRA Advocate for the Extramural Community
- How to broaden access to the Commons
- How to increase and make easier Principal Investigator (PI) access to the Commons
- How to encourage graduate students and post docs to register in and use the Commons

CGAP Update

Jennifer Flach

Presentation: http://era.nih.gov/Docs/CWG_CGAP_Update_Flach_05-19-04.pdf

Jennifer Flach, task manager and business analyst for the eRA Project, said that while the project was rather bumpy when she first came four months ago because of the change in contract structure, the project now is running more smoothly with the identification of a new development contractor. She pointed out that there were 13 applications in the first pilot last fall and 4 in the March pilot.

The June/July pilot is open to production today, with six Service Providers participating. She said that a few universities have expressed interest in developing their own software and their representatives participate in the technical conference calls for Service Providers.

For October/November, the team wants to test for volume and refine CGAP processes. Also, this will be the first time to link the processes to Grants.gov.

Some of the issues include:

- Operational procedures and support, including technical support for Service Providers and support to the Principal Investigator (PI), Signing Official (SO) and others.
- Business process and policy changes.
- Corrections after initial submission. They are working on how to facilitate this electronically.
- Coordination with Grants.gov.
- Technical architecture.

Jennifer said that they continue to look for avenues of communication both into and out of the project. Presentations are being made in a variety of venues where potential applicants and grantees are in attendance.

Grants.gov has developed a new application, the 424, which is a bit different from the 398. There will be added elements in the 424 that may be extraneous to the NIH as well as NIH-specific elements. She noted that Grants.gov does not have a mechanism to provide feedback to the applicant when there are problems with their submission. The agency does the validation of the submitted application.

Discussion

PI issues—We must assuage PIs' fears that electronic grants will impact the consideration of the grant. It was suggested that there be a parallel electronic and paper submission process for a year until PIs become accustomed to the new process. However, Jennifer responded that, while this was a good idea, parallel systems are far too complicated to administer.

Outreach to PIs—It was suggested that the eRA Commons/CGAP roadshow team go to PI professional meetings and talk with PIs themselves.

Approval Process—The issue of final approval was raised. It looks like the SO approves the application, it goes to the Service Provider who submits it, and then the PI and SO must again approve the final, electronic copy. There was some discussion and clarification of this process. While the SO approves the application before it is sent to the Service Provider, this approval does not extend to the transmitted version that is received and considered by the NIH. It is important that the received electronic application also be confirmed that it contains the content of the original application. Approval must take place after submission. This policy has been put into place to ensure that the electronic application received is the same as the one sent.

JJ Maurer said that a feature has been put into place where the PI and SO can look at the electronic image that will be submitted prior to its submission by the Service Provider. There may be a way to get approval at this stage rather than after submission. However, it's important that there be an electronic signature because this provides the legal responsibility for the application submission. It was noted that the National Science Foundation Grants Office submits applications after approval. However, they have a

Web-based system and not a data stream, which makes the process somewhat different. JJ also pointed out that the SO has 24 to 48 hours to approve the submitted application after a deadline.

Suzanne Fisher said that the grant image from CGAP is better than the scan of the paper applications. The paper version of the CGAP is generally not as good as the paper that PIs submit.

It was suggested that NIH establish a test environment for university staff to practice electronic submissions while they continue to submit by paper. When they feel comfortable with the electronic process, they can switch over. Jennifer stated that this environment already exists and this was reiterated by the Service Providers in the room.

PI Participant Package—Scarlett Gibb said that a Web page is being developed that specifically targets PIs who want to submit their applications electronically. It explains what the CGAP electronic submission program is, how to submit with a complete list of Service Providers, schedules, working with the Commons, specifics such as font sizes and special characters, what type of computer and software to use, and a guarantee from CSR that their application will be considered the same as paper applications.

It was noted that while much of this information is important for PIs, it is also important for Grants Office staff and they should be included in the target market for this Web page.

Biosketch and Commons Profile—There was some concern that applications may be rejected because the information in the biosketch is not an exact match to the Commons Profile. It was suggested that the Commons Profile data should be pulled as the correct data. There is no gain to the PI to prepare the biosketch with the restrictions that the data has to exactly match.

Greek Letters—The issue of not using Greek letters in titles was raised. It was acknowledged that Greek letters in titles cannot be used because of NIH systems' inability to handle them. Currently, all Greek letters in titles are manually changed to words by NIH staff.

Business Topology—JJ Maurer discussed the business topology for electronic transactions (ebXML). He said that it is important to have a standard for electronic transactions and ebXML is a standard that could be used. ebXML includes standards for medical transactions and research trials. This would provide a single infrastructure for transactions. More information for ebXML from Oasis can be found in the presentation and at http://ebxml.org/.

Action: **(JJ Maurer) Prepare a package of information about ebXML for extramural technical staff. Send the information to the CWG listserv and ask for alternatives and feedback.**

eSNAP IRB/IACUC Post Reviews

Marcia Hahn

When eSNAP was instituted, there were some potential business process changes that were incorporated into the system, including removing the requirement of submitting the Institutional Review Board (IRB) and Institutional Animal Care and Use Committee (IACUC) approval dates at the time of submission. Instead, this data is being submitted and reviewed retrospectively every quarter. NIH analyzes the data to make sure that institutions remain in compliance of having these approvals in place before the start of the new budget period. So far, it has been determined that 98–99 percent of the eSNAPs are in compliance. However, 100% compliance is the only acceptable measure to proceed with considering a permanent business process change. Division of Grant Compliance & Oversight (DGCO), OPERA is providing follow-up with the non-compliance cases to determine that Institutions have appropriate systems in place

to monitor these issues. Non-compliance institutions need to understand that they may not be able to use eSNAP if their submissions continue to be in non-compliance. Non-compliance means that a current approval date(s) was not in effect as of the budget start date of the grant.

Action: **(Marcia Hahn) Discuss with the DGCO the possibility of posting a "compliance-in-action" section on the Web as a means of addressing noncompliant/compliant issues.**

Commons Expansion

David Wright

http://era.nih.gov/Docs/CWG-Commons_Expansion_05-19-04.pdf

David explained that a new contract process now is in place and a New Development Task Order has been issued for the Commons. Additionally, there will be maintenance releases in June and July. Normally, maintenance releases will occur every six to eight weeks.

There are three production releases planned for the Commons Expansion Task Order.

Release	Schedule	Description	Comments
1	Approx 3–4 months	• Add Closeout functionality • Content Management • IAR issues: – Provisional account login – Search meetings (NIH only) – Upload extra meeting materials • Error logging and error data sent to Helpdesk • Integrate PubMed data (?)	***Content Management***—Will provide the ability to change and update such things as edits and typos on the fly instead of waiting for a major release. ***Errors***—Adding ability of user to send error to NIH staff and Helpdesk. ***PubMed***—This will pull PubMed data and automatically populate corresponding data fields. There is some question as to whether this will be in this iteration or the next.
2	Approx 6–8 months	• Organizational hierarchy • Web QT • Download FSR search results to Excel • Electronic transactions/submissions monitor • X-Train	***Organizational hierarchy***—will provide rights-based security rather than role-based security. ***Web QT***—Provides queries and saving of queries.
3	Approx 10–12 months	• FSR "short" form • Allow other OPDIVs to use FSR • Move grants within the Org	***Move grants***—When a grant is moved with the organizational hierarchy, it updates CRISP at its weekly update.

		hierarchy • Allow for stored queries in FSR • Things that weren't finished in earlier iterations.	

Discussion

Organizational Hierarchy—This was presented two meetings ago but it was agreed that it should be presented again in its present iteration for input and refining.

All Commons Suggestions—It was suggested that a master list be compiled of the changes suggested by everyone. The list then could be distributed to the CWG for them to rank.

Action: **(Scarlett Gibb, David Wright) Compile list of all CWG suggestions for Commons and organizational hierarchy. Post on the Web. Provide a way to submit changes to the Web site.**

Grant Closeout Module

Mike Loewe, Dan Hall

Presentation: http://era.nih.gov/Docs/CWG_Grant_Closeout_05-19-04.pdf

Mike gave an overview of the Grants Closeout Module (GCM). The requirements were defined by a working group of the NIH Grants Management and eRA staff in Fall 2001–Winter 2002. The module was deployed in August 2002. Currently, there are 26,000 records in GCM: 18,500 are closed and 7,500 are open.

The basic module functionality identifies and captures expiring and terminating grants via monthly queries. The grants can be marked *open* for closeout, *pending* for future action or *closed*. The modules provide the ability to assign grants to individual system users and to send email to the business official and PI requesting missing closeout items and documents. It also tracks the collection of closeout documents.

When the GCM is fully integrated with the Commons, there will be a shared functionality between the grantee and the NIH. Grantees will be able to access their open or closed closeout grants and will be able to submit required closeout documents and information through the Commons.

Dan Hall demonstrated the module. He explained that developers are trying to make electronic grant closeout as easy as possible. A PI can look at a grant on the screen and it will be clear if closeout information is needed.

Discussion

Permissions—It was noted that the Closeout Module permissions allow only the PI to submit closeout information. However, it was clear that this should be changed to include the Signing Official. It happens that a PI may retire or leave without closing out their grant or that the central grants office is responsible for submitting some of the information on behalf of the PI. Consequently, someone else must have permissions to submit the information.

Action: (Dan Hall) Change the permissions for closeout authority to include the Signing Official.

eNotifications— Dan mentioned that there is an eNotification initiative that will be incorporated into the Commons. This should streamline the email communications between NIH and the grantee as well as within the grantee organization itself.

Data Field—It was suggested that there be an open field that could be used for a entry of data after closeout.

iEdison—Dan said that eventually Commons and iEdison will work together, but this is not the case as yet.

Benefits—Electronic closeout benefits include pre-populated fields and the ability to close out the grant with the click of a button if everything is in order.

Electronic Notice of Grant Award

Cathy Walker

Cathy provided a handout of a typical Notice of Grant Award (NGA), highlighting in red those items she thought would be of particular interest for discussion. She asked the group for their input as to what information they need on an NGA. What data is not in your institution's database that we could provide to you through this vehicle? She pointed out the section on the second page showing how much money an individual IC has contributed.

It was suggested that Cathy present this to the eRA Committee of the Federal Demonstration Project (FDP) for input.

NIH Terms and Conditions currently are in a text block and are not tracked. There may be a way to break them out in the future so they can be tracked. Also, sometimes an IC has additional terms and conditions. It was suggested that when this is the case, the URL for these terms and conditions be added.

Development of the electronic NGA, which will look quite similar to the current one, will start in the fall.

Miscellaneous Discussion

Late submission—There is a notice that is sent to PIs that states the due date for progress reports. However, often the Grants Office misses the date.

Commons—The PI is told to submit through the Commons but often doesn't know how to get to the Commons. It was agreed that more training is required. Additionally, when this type of problem arises, the group was asked to notify the NIH so that the problem can be addressed.

Incorrect overdue notice—Sometimes, a notice appears on an eSNAP stating that it is overdue on the date that it is due. Apparently, this is related to the clock. Staff will investigate and fix.

Delegation—St. Jude's requires that a PI initiate an eSNAP by the 1st to say that it will be submitted electronically. However, the PI can delegate the initiation of an eSNAP to someone else. It was suggested that there be information in a Release Note regarding who can delegate to initiate an eSNAP.

Approvals—The question was asked why only a PI can initiate and route an eSNAP. Why can't the PI delegate anyone to initiate and route the eSNAP? The answer was that when PIs route the eSNAP, they

are also "signing" the report and this would bypass that signature. Another question was asked about the possibility of an electronic way for notifying the PI that the eSNAP has been completed by a delegate. Now, notification is done by going out of the system and writing an email.

Human Subjects form—There should be a way for a PI to create the human subjects enrollment form for a protocol if it is not already created. However, it was noted that there are some policy issues with this because of very specific requirements that must be included.

File uploads—It was requested that there be a way to upload multiple "other support document" files.

Increase field size—The justification field is too small and needs to be increased.

Duplicate profiles—There have been some issues with the PI information on an eSNAP not being complete. This probably is caused from a duplicate Profile in Commons. Enormous effort is being expended to reduce the number of duplicates but they still appear. Should anyone find a problem that could be related to a duplicate profile, contact the Helpdesk.

Default change—The Federal/Non Federal box in the employment section of the personal profile is a mandatory required field and must be checked. However, it is currently defaulted to "Federal" and the checkbox often is overlooked. It was suggested that the default be changed to "Non-Federal."

Accomplishments—The Accomplishments section on the eSNAP often is not filled out because it is incorrectly thought that this should be the same information as is in the progress report. However, it was originally intended to provide a place to write seminal accomplishments for the entire project, not just updated task accomplishment and goal status. However, the NIH on its part has not pursued how to use Accomplishments data better internally. NIH needs to do more work in making better use of this data. It was pointed out that Program Officers do look at this section. It was suggested that there be a message on the screen explaining what type of information is looked for in Accomplishments and the importance of entering the information.

Co-PI/Co-Investigator and Accounts & Profiles for Non-PI Applicants

Dr. Walter Schaffer

Presentation: http://era.nih.gov/Docs/Enumeration_study_Schaffer_05-19-04.pdf

Dr. Schaffer gave an overview and provided background about the increased needs and uses of data about people who work on projects that are funded by the Federal government. Looking at the PI, Co-PI and Co-Investigator issue, he said that it is important to recognize all the people who work on a research project team. Additionally, it is important to understand how project funds are dispersed to the team. Up until now, there has been little research done on the number of personnel involved in NIH projects. Recently, this research was done and some surprising facts and figures emerged:

- Estimated number of personnel involved with the sampled projects was 207,711 (if you add NIH staff and others, the number rises to 250,000)
- Estimated 35,967 Principal Investigators
- Estimated 51,678 Lead Investigators (involved in the overall scientific direction of the research and include: co-principal investigators, co-investigators and project leaders.
- Estimated 69,360 Secondary Investigators, including post-doctoral fellows and research associates

- Estimated 23,376 technicians
- Estimated 11,117 students
- Estimated 2,944 administrative staff
- Estimated Degrees:
  - 96,277 Ph.Ds
  - 39,708 MDs
  - 9,720 M.D./PH.Ds
  - 908 veterinarians
  - 737 dentists
- Estimated 86,629 FTEs (2.4 FTEs per award)
- Estimated total individuals involved in NIH research is 212,410 when K awards are included
- Matching SSNs to CGAF showed that some 1,300 of the sampled lead secondary and administrative staff had been PIs at some past date

It is no longer enough to record information about the PI only. There needs to be data on the composition of the entire team and a source of information about the workforce. Actuarial approaches could be used to estimate replacement needs and the size of training programs. There could be more involvement of clinicians and others with special backgrounds. There also needs to be training outcome studies. All of these things are essential for the proper stewardship of projects.

We need to give proper credit to Co-Investigators and others who make substantive contributions to the design of a research project.

Now, there is a need to retain all the people-related information present in paper applications. How should this data be collected in an electronic environment? How do we reduce the respondent burden and still obtain the data we need?

Discussion

Several issues were raised regarding Profiles, which contain key data about PIs:

- How do we retire the Profile for people who no longer are PIs or who have left the institution?
- There is a definite gap between data needed and what currently is part of the Profile. This data gap should be defined and then a standardized form should be available for everyone to use.
- Multiple Profiles are a real burden for PIs. However, Grants.gov has not committed to one, agency-wide Profile and no one has broached the subject with OMB.
- Profiles are sought from everyone who contributes to a research project, not just the PI. However, it was noted that there are a lot of minor players. For example, technicians may perform some contribution to the project at a point in time, but they often do not contribute enough to track. Therefore, should registration on the Commons be extended, it was suggested that it be limited to "most meaningful contributors."

Use of the Commons by Other HHS Agencies

Skip Moyer, Agency for Healthcare Research and Quality (AHRQ)

Skip said that he used to work at the NIH and now is with AHRQ. AHRQ decided to use the NIH eRA system for grants management. He noted that the Commons eliminates much work for his agency, even though there are some items in the Commons that AHRQ can't use. He noted that AHRQ would like to get FSRs in the future. Also, when the 2590 is expanded, AHRQ might be able to use it.

For the Admin Module, he suggested adding an extra column that shows the IC/OPDIV, and allowing this column to be sorted.

There was some discussion about how various CWG institutions are training their staff in using the Commons and how they would like to see information about other agencies organized in the Commons.

Service Providers

The group raised the issue of how an institution should evaluate which Service Provider to use for electronic submission of grant applications, and whether or not the institution itself should develop its own system. It was explained that the NIH determined that it would *receive* applications but would not be in the business of developing applications for *sending* applications—hence the Service Provider project.

The group suggested that NIH provide a summary of each Service Provider after they make their presentations to the NIH in June. However, it was pointed out that this is a competitive situation, and the Service Providers have not yet gone "public" with their product or service. Therefore, they would not want to publish this summary unless it was very generic. It was suggested that each institution contact each Service Provider and ask for information about their product or service and a presentation or demonstration. Each Service Provider is targeting a different market (e.g., large, medium or small institution) so by collecting information on each one, the institution can make a choice as to which Service Provider's products or services would work for them.

Evaluation of each product or service should extend to an evaluation of the institution itself, e.g., what are your legacy systems? Are you Oracle-based? Are you ready for this cultural change?

The group asked that there be a presentation at the next meeting by people who participated in the pilots.

Recruiting for the Pilots

Some of the institutions reported having problems recruiting PIs to participate in the pilot. The PIs realize that their next five years of funding is dependent on the award of the grant, and if they have to participate in the pilot, the grant application is due two weeks before their competition using a new system that they don't quite trust. CWG members themselves said they felt that the application process was complicated and they didn't feel that they had enough information to make good decisions or convince PIs to participate.

It was agreed that there needs to be high-level communication about electronic grant applications to the PIs. This information should include expectations, how it works, the process, and how the Service Providers fit in. However, from the NIH's view, it is the Service Provider's job and in their best interests to convince PIs to use the system, not the NIH's responsibility.

One idea was to allow institutions to submit applications using different Service Providers to TEST, as a way to test the various services and products. Of course, the applications would have to be different for each Service Provider submission to prevent confusion.

The issue of deadlines was raised and whether or not the NIH would grant an extra two weeks for CGAP pilot users. However, the NIH cannot allow anyone to gain an advantage or be put at a disadvantage just because of the submission vehicle used. NIH is working with the pilot users when technical issues with the system cause delays in submission. It was stated, however, that the idea of a later submission date for electronic applications may be used as a "carrot" in the future when 50 percent of applications are submitted electronically to encourage paper submitters to switch to electronic.

It was suggested that the Service Providers may want to turn their marketing efforts from the PIs themselves to Grants Offices, where the decisions regarding submissions are made. It would be Grants Office staff who would decide which vehicle to use for electronic submission.

It was noted that the goal of the NIH in awarding grants to the six SBIR awardees was to jumpstart the development of products and tools for universities so that their electronic submission readiness would keep pace with the development of electronic submission applications at the NIH. Currently, institutions can submit their grant applications electronically in one of three ways: use a Service Provider's product or service; use Grant.gov (but there is no support for Macintosh computers) or develop their own submission application that is compliant with the NIH.

Training—The new electronic submission process was compared to the implementation of eSNAP. Implementation plans were developed to introduce and train PIs and other appropriate staff to the new eSNAP. Two people related how they introduced eSNAP:

- At one university, the coordinator sent an email invitation to all PIs who had SNAPs eligible for eSNAP. They used a demo site and held training sessions. About 10 to 12 people would attend, with about 3 to 4 PIs saying they didn't have time. About 50 percent were eSNAP submissions for each cycle. Because they used a demo site, the trainer could go in as the PI and show him/her exactly what to do. Some of issues they encountered despite the training were:
  - Late submissions
  - Uploading files
  - Subject areas
  - Text fields, i.e., didn't know page limitations, etc.
  - Passwords

  However, the overall result is that the PIs LOVE the eSNAP process.
- Another university reported that they invited the PI and/or their assistant to attend training where they completed an eSNAP on the spot. Alternatively, they also sent out a team to the desk of the PI or their assistant to help them submit an eSNAP at their desk. They prepared an eSNAP user guide with screens, which helped.

All agreed that getting all PIs to submit competing grant applications on-line is much more complicated than learning to submit eSNAPs, but the training ideas could be followed.

Telephone training—There also might be telephone training, where the PI is in their office on the live site while the trainer/Help desk person is logged into the demo site but guiding the PI through the process.

Delegation—It was agreed that a SO should be able to delegate submission authority in his/her behalf. There are times when a grant application is due but the SO isn't available to submit it. It was agreed that this should be changed and that changing from a *role* versus *rights* hierarchy should help.

Attendees

CWG Members

Arias, Lynette (Oregon Health and Science Univ.)
Beck, Ellen (UCLA)
Clark, Denise (Cornell Univ.)
Dowdy, Stephen (Mass. Institute of Technology)
Fant, Jane (Univ. of Medicine and Dentistry of New Jersey)
Forstmeier, Kenneth (Pennsylvania State Univ.)
McKinney, Tolliver (St. Jude Children's Research Hospital)
Randolph, James (Univ. of Mich.)
Robins, Sandi (Univ. of Wisconsin Medical School)
Ross, Susan (Northwestern Univ.)
Sommers, Holly (Emory Univ.)
Sweet, Mark (Univ. of Wisconsin, Madison)
Wray, Nancy (Dartmouth College)

Other Institutional Representatives

Beattie, Robert (Univ. of Mich.)
Custer, Tammy (Cornell Univ.)
Drinane, Tom (Dartmouth Coll.)
Dwyer, Dan (Cornell Univ.)
Fay, Robert (Univ. of Maryland, College Park)
Henninger, Kevin (Univ. of Minnesota)
Kirk, Graydon (Emory Univ.)
Lloyd, Brittany (Univ. of Minnesota)
Ludington, Andrew (Northwestern Univ.)
Marcussen, Tom (Oregon Health and Science Univ.)
McKoskey, Kevin (Univ. of Minnesota)
Robinson, David (Oregon Health and Science Univ.)
Stewart, Darin (Oregon Health & Sciences Univ.)
Valenzuela, Richard (UCLA)
Williams, Jim (Oregon Health and Science Univ.)

Vendors

Burnette, Travis (Clinical Tools)
Frampton, Tom (TCG)
Harker, Chris (Cayuse)
Rodman, John (RAMS Company)

NIH Staff

Fisher, Suzanne (CSR)
Flach, Jennifer (OD)
Gibb, Scarlett (OD/PCOB)
Hahn, Marcia (OPERA)
Hall, Dan (Z-Tech)
Katzper, Linda (OD)
Loewe, Mike (NINDS)
Maurer, JJ (OD/eRA)
Mayer, Pamela (NINDS)
Milner, Tina (OD)
Seppala, Sandy (LTS/PCOB)
Siegert, Mark (eRA)
Silver, Sara (IBM/OD)
Small, Rochelle (NIDCC)
Tatham, Tom (CSR)
Turner, David (IBM/OD)
Twomey, Tim (OD)
Walker, Cathy (OD)
Wright, David (OPERA)
Ye, Jane (NHLBI)
Zucker, Sherry (OD)