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Scientific Advisory Board:

Quality and Protection of Science Subcommittee

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Principles for Science Agencies: Independence, Objectivity, and Quality

1. Independence in science implies freedom from political interference and pressure. While this principle commands broad support, institutional practices do not always follow suit in protecting key staff. Independence can exist only when all senior scientific staff, including agency heads, are selected based on high standards of scientific accomplishments and integrity, and when all staff and leaders feel secure and are free to act without undue political or non-scientifically based influences.

To ensure this broad principle we recommend the following specific measures:

- A. Institutionalize the selection of strong researchers as directors and associate directors.
- B. All directors should have fixed terms.
- C. Directors of NIJ and BJS, especially, should be chosen by soliciting candidates from major stakeholders and scientific communities, including the OJP Science Advisory Board, the American Society of Criminology (ASC), the American Academy of Criminal Justice Agencies (ACJS) and others.
- D. Members of the scientific community should participate in framing the research portfolio of the agency. The research agenda should be reflective of the good ideas, creativity, and needs of the field. It should be independent of partisan or politically-motivated influence.
- E. Although elected or appointed policymakers have the right to mandate requests for types of research, details regarding methodology or specific research questions should be independent of such outside influences.
- F. OJP should consider assigning dedicated staff members or some other approach to respond to legislators' ad hoc requests for information or research, which would leave the agencies free to pursue their research agendas without undue interruption and redirection of resources.
- G. Policies should promote approval and oversight of research findings based on scientific quality; there should be no pre-publication approval or clearance other than through some established objective review process by scientific peers.

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2. Objectivity within a federal agency should be maintained at all levels by instituting norms of common scientific practice. Building on principle 1, these practices should be free not just from political pressure, but individual predilection, personal relationships, and happenstance. Agenda-setting should also involve an integrated approach across the various divisions under OJP and stakeholders. The allocation of research grants should be based solely on the quality of the research and great care should be taken to protect the independence of the review process. Findings should be disseminated in a fair and open manner regardless of results.

To achieve these goals we recommend:

- A. Increase the rigor of agenda setting within and among all agencies under OJP. Agendas should be established via communication with stakeholders (practitioners, researchers, academics, legislators) and as part of a multi-year strategy to address broad goals.
- B. While the agency should have discretion to withhold funding for recommended proposals based on scientific or programmatic grounds (just as editors make decisions that are sometimes at odds with reviewers because they have additional information or specific expertise), the reasons for such actions should be made explicit to the scientific community and other stakeholders, to avoid the appearance of political bias or other non-substantive motivations.
- C. Despite the need for a clear and planned research agenda, some portion of the budget of each OJP agency should be allocated to field-generated, investigator-initiated research to capture new ideas and different questions that arise independent of agency goals, thus improving the agencies' objectivity by "listening to" all stakeholders, not just those who have been part of the research agenda setting process. The dollar amount should be clear and such proposals should be evaluated against each other, not against solicited research proposals.
- C. Transparency in solicitations received and projects awarded is necessary. A public posting of how funds are expended goes far in assuring the research community that the resources are being used in an objective manner. Furthermore, data archiving requirements should be clearly stated and enforced, and project research papers and final reports should all be easily accessible via the web from the OJP page and linked to the original solicitation.
- D. Principal investigators should be given access to verbatim reviews, not just a summary put together by staff. A list of successful proposals should be made publicly available as soon as possible.
- E. Decisions regarding funding should be based solely on the expertise of the PI, the quality of the methodology proposed, and the potential value of the research to the field. There will be times when projects that are potentially unpopular for political or ideological reasons should be funded nonetheless—for example, to better inform controversial issues.

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3. Quality refers to the science products of the agencies, whether they are statistical reports of BJS, program evaluations or basic science research reports. Although there certainly is much room for debate as to the definition of quality, the following should reasonably be included in any definition: (1) scientific rigor, (2) scientific impact, and (3) policy impact. How these are weighted needs further study and would depend on the specific question addressed. In the past, scientific rigor has been evaluated by the review process and an external review of the researcher's final report, but more detailed quality analyses have not been pursued.

We thus recommend that:

A. NIJ's new standing review committee process be subject to a process evaluation after the first year. Stakeholders (applicants, recipients, and NIJ staff) should be involved in the review process of the new procedures. BJA and OJJDP may want to consider adapting their review process as well if the new review process is successful.

B. There should be some attempt to institute "revise and resubmit" procedures as is the case in other science agencies (e.g., at NIH some proposals are meritorious in their priority scores but are not funded and applicants are recommended to resubmit after committing to revisions that attend to reviewer and/or budgetary considerations). That is, if a proposal has promise but is deficient in minor or few areas, then there should be clear direction and a focused review the second time to ensure fair consideration of revised proposals.

C. A review of past work should normally be a part of the funding decision. Past performance is an excellent predictor of the quality of future performance.

D. An effort should begin within the agencies to evaluate the quality of the science products from funds expended; for instance, publication records and scientific impact (including but not limited to citation analysis and adoption of ideas in practice). Policy impact studies should also be conducted to discover whether funded research meets some well-defined measure of quality. Low quality studies can have an impact on policy or be highly cited, of course, so construction of a metric for evaluation needs to be carefully considered and monitored—no one measure is foolproof. Thus at the least, a discussion of the definition of quality should begin with how objective and public measures can be developed, evaluated, and improved, and in turn applied to subsequent research.