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COSSA COLLOQUIUM: SOCIAL AND BEHAVIORAL SCIENCE AND PUBLIC POLICY

CEDS Holds Workshop to Develop Metrics for Enhancing Diversity in Science

On May 24, the Collaborative for Enhancing Diversity in Science (CEDS), chaired by COSSA Deputy Director Angela Sharpe, held its second workshop around enhancing diversity in science (for information about the earlier workshop, including its report, go to www.cossa.org.) The new
workshop, *Enhancing Diversity: Working Together to Develop Common Data, Measures and Standards*, was designed to address the need to establish a more comprehensive and cohesive effort to track the many and various efforts of government, university, private foundations and associations to enhance minority participation in the sciences.

It was sponsored by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) in collaboration with the National Institutes of Health's (NIH) Office of Behavioral and Social Sciences Research (OBSSR), the Office of Research on Women's Health (ORWH), National Institute on Drug Abuse (NIDA), National Institute on Minority Health and Health Disparities (NIMHD); and the National Science Foundation's (NSF) Directorate for Education & Human Resources (EHR) (Historically Black Colleges and Universities Undergraduate Program (HBCU-UP) and Research on Gender in Science and Engineering (GSE)) and the Directorate for Social, Behavioral and Economic Sciences (SBE) (Division of Behavioral and Cognitive Sciences (BCS) - Social Psychology program and the Division of Social and Economic Sciences (SES) programs in Economics, Science of Organizations and Sociology; the Alfred P. Sloan Foundation (Sloan); the Robert Wood Johnson Foundation (RWJF), and the William T. Grant Foundation (W.T. Grant).

The May 24th workshop recognizes that moving towards collaboration on a common set of high priority measures has the potential to inform, target, and strengthen efforts to increase diversity in the sciences, and to do so across institutions participating in these efforts. Further, the process of working towards common measurement in itself can provide an opportunity for mutual updates on data tracking efforts and initiatives that government agencies are sponsoring, and in which colleges, universities, foundations, and nonprofits are already engaged.

**Overview and Purpose**

In explaining the purpose and overview of the meeting, Sally Hillsman, Executive Officer of the American Sociological Association, explained that "diversity and excellence have always been keys to science, to scientific advancement, to creativity and innovation, and to productivity. Diversity in science has long been recognized as requiring that we encourage variability in theoretical, methodological and other perspectives." It has taken somewhat longer, she added, to recognize that diversity and excellence in science also require that "we not only tap all the talent available by broadening the community of scientists to include those from diverse backgrounds, but that we also acknowledge that such inclusiveness is fundamental to the vitality and excellence in science."

Hillsman pointed out that scientific societies and professional associations have been central to systematically addressing the community's efforts to enhance the diversity of science since their emergence in the late 19th and early 20th centuries. It was inevitable, said Hillsman, that scholarly societies and associations of scientists would begin to collaborate to address the diversity of the scientific workforce, as it had come to collaborate on other critical science educational policies. The strength of CEDS lies in the "interdisciplinary approach to fostering communication and forging partnerships that can lead to more effective engagement of scholars, practitioners, administrators and funders who will work with the scientific disciplines to address the increasingly complex challenges of achieving diversity that is essential to scientific excellence."

The workshop builds on one of the major themes of the 2008 Leadership Retreat, a disciplinary-wide retreat of professional associations and scientific societies. The Retreat acknowledged the individual and collective frustration with the lack of "very basic scientific tools, relevant metrics, and standardized data across a broad spectrum of educational institutions that are necessary to evaluate diversity program outcomes, to mentor effectively underrepresented minorities, to retain those underrepresented minorities in science from their roles as students of science and through the process of becoming major productive career professionals, and finally, to generate the broad support we need to enhance the goal of a diverse scientific workforce."

"Collaboration is the key to this effort...individual efforts, whether they are individual persons or individual organizations, is not enough. We are now facing a far more complex environment and need to think strategically and collaboratively about how we are together going to move this
Welcoming workshop participants, NICHD Deputy Director Yvonne Maddox noted that she thought found it "very fitting that NICHD serve as grantee” for the workshop, because it is looking at issues that the Institute cares about. "We're looking at data, we're looking at measures, and we're looking at standards. And how can one look at a problem or circumstance - because there are circumstances, perhaps, that exist around diversity - without having the appropriate data and the appropriate tools to measure and to track diversity."

Maddox pointed out that "at the time in which minority population in this country is really growing, we are seeing what appears to be a diminution or a dropping or laying-off of those who come into the sciences, particularly in engineering and math." Emphasizing that the operating word is "appears" to be, Maddox declared that "we really do need to have the data to substantiate where we are and what is really happening. We need to start with a base that each of us can operate around and that we use the same terminology with, we use the same approaches to gathering this information and, of course, in tracking it."

Noting that many of the Fortune 500 companies want to say they are diverse or they're working toward diversity, Maddox remarked that one of the "critical issues" addressed by the workshop and which would be very important for the NICHD, is to get a handle around how one measures the value that one puts on diversity and having a diverse workforce. Looking at how one could appreciate diversity and why it is important is significant for the NICHD, Maddox asserted, because the Institute feels that a "diverse medical research enterprise will allow us to really address the scientific areas that are critical to it." We need to appreciate that when minorities are not included in research or not included in science, math, and technology, everybody is disadvantaged.

Maddox emphasized that another reason "the NICHD is very interested in supporting this workshop is because we believe in the concept of excellence. And we think that diversity brings about that extra level of excellence that one does not get when there is a homogeneous group of people working together...diversity gives you that fresh look and gives you other eyes that can make things a little bit more appropriate for a particular community or for a particular individual."

Diversity and the NIH

NIH Deputy Director Lawrence Tabak addressed the importance of diversity from the perspective of the agency. Tabak reviewed the data associated with the changing demographics in the U.S. and the census of principal investigators on research programs grants at the NIH. Tabak highlighted the fact that black or African Americans, Hispanic or Latinos of any race, and all native persons in this nation are woefully underrepresented among [NIH] investigators. "There are many, many reasons for this," he declared, "and you would need multiple, multiple conferences to dissect all of the causes and issues surrounding this. But the bottom line is that . . . our principal investigators, our workforces, our scientific leaders in biomedical research, do not reflect the nation."

Tabak reviewed the NIH-commissioned paper that appeared in SCIENCE magazine, co-authored by Wally Schaefer, and former Deputy Director Raynard Kington, which uncovered a racial disparity in grant awards, in particular for black or African American applicants. He highlighted another set of conclusions in the SCIENCE paper in which Donna Ginther is the lead author, which showed that award probabilities correlate with the NIH funding rank of the applicant's institution. The other sobering piece to this, lamented Tabak, is that even within the top 30 funded organizations, black or African Americans applicants still showed a disparity in the funding. "So it is not only about great research infrastructure; it is not only about the great toys that you have at your disposal; it is not only about the great colleagues. There is something else going on. And the only things that seem to make a difference for black or African American applicants are prior grant review experience," he explained. The "conundrum," Tabak continued, is that "you don't get on a study section until you have a grant, but unless you get a grant, you are not going to be on study section, and if you are not on study section it will not help you." He recognized that it is a circular argument.
In response to the commissioned study, Tabak noted that he and NIH director Francis Collins offered a policy forum article in SCIENCE that laid out the NIH's plan of action: the need to evaluate extant training programs so that we can phase out the programs that don't work well and expand the ones that are successful, and increase the number of early career reviewers, which speaks directly to the conundrum noted above. Accordingly, the NIH is seeking nominations of individuals who have not received their first NIH grant yet, to experience the review process by serving on an ad-hoc basis from the "broadest and most diverse set of institutions from around the country (self-nomination is allowed), looking at the grant review process, the potential biases and then the quest to develop interventions and proof support for individuals preparing grant applications, and then finally to gather expert advice on additional steps."

He pointed out that the NIH has conducted a request for information (RFI). He shared some of the main issues identified from the RFI: transition points, the need for mentorship, and conscious and unconscious biases. Tabak concluded his remarks by highlighting the NIH Director Working Group on the Diversity in Biomedical Research Workforce, which is scheduled to report on June 14.

NSF and Broadening Participation

NSF Deputy Director Cora Marrett began by noting that Albert Einstein recognized that "new ideas, new mechanisms and new approaches to old problems are essential for making advances in science." She added that the same thing pertains when we talk about advancing the broadening of participation, which "requires new approaches, new ideas, new collaborations and new metrics as very much this workshop will emphasize. It will require new investments."

Marrett pointed to the importance of investments in what's in the science of broadening participation. This suggests it is important for all fields to think about the level of diversity, including the social and behavioral and economic sciences, Marrett emphasized. But the science of broadening participation, she continued, draws especially on the models, the ideas, and the frameworks that can evolve from particular disciplines. "Thus it is extremely important to draw on and draw in the range of disciplines, many of those represented here, if we are going to advance the science of broadening participation - not just the science, but the outcomes that are of profound interest," stressed Marrett.

She emphasized that NSF shares with others the commitment to the broadening of participation for the reasons elaborated: the loss of talent that has implications for the nation and means the blocking of opportunities for individuals. NSF's assurance to pursuing this issue is evident in the strategic plan of the Foundation. Marrett reemphasized the importance of the systematic, methodologically-advanced ways for thinking about the broadening of participation.

Pointing out that the NSF is not only interested in broadening participation because it will help the agency's agenda, but because the Executive Office of the President recently submitted to all federal agencies a call that begins this way: "Since taking office, the president has emphasized the need to use evidence and rigorous evaluation in budget, management and policy decisions to make government work effectively. Where evidence is strong, we should act on it. Where evidence is suggestive, we should consider it. Where evidence is weak, we should build a knowledge base to support better decisions in the future."

Her attendance at the meeting, she said, was more than just a passing interest. She was at the workshop to state that NSF needed help because of the need to bring together the best of the evidence to try to suggest what should be used in the programs the agency supports for broadening participation. NSF, Marrett shared, has already made some plans for expanding the initiative around the science of broadening participation, primarily by the Directorate for the Social, Behavioral and Economic Sciences. The Education and Human Resources Directorate will also support the initiative. The interest, however, is not limited to those parts of the NSF. "Every part has an interest and a need, even if they haven't recognized it: systematic, logical, theoretically driven work that can underlie-that must underlie-the science of broadening participation," said the
Deputy Director.

Marrett noted that the agency is reviewing all of the programs that are in the portfolio of broadening participation because "some of the programs have direct implications." Others would be rather indirect, meaning that they might make contributions.

Marrett requested the assistance of the workshop participants for the "kind of collaboration that is going to be needed, collaboration across disciplines, collaborations across sectors, because it is only through that kind of collaboration [she] believes we are going to have the new ideas, the new methods that Einstein indicated is so critical for advancing all science."

She shared another directive from the Office of Management and Budget that says OMB and the Council of Economic Advisors will organize a series of topical discussions with senior policy officials and research experts in the agencies that will focus on administrative and policy levers for driving an increasing share of federal investments into evidence-based practices. "We collectively, then, need your input and ideas, as we say, here is a significant area of importance for the nation, the broadening of participation....it will require far more of the innovativeness, the creativity that should undergird anything we undertake," Marrett concluded.

**Framing the Issues**

Felice Levine, Executive Director of the American Educational Research Association, was charged with framing the issues and sharing remarks that would serve as a catalyst for advancing the key issue of the workshop: working together to develop common data measures and standards. Levine began by emphasizing the importance of research and data generally on these issues.

She noted that the 2008 Leadership Report recognized the need for enhancing diversity, "not just in the interest of equality or to redress past, or prevent current, discrimination and unequal access, but it is, above all, to promote our national interest. The collective intellectual capital in the United States and the capacity of our nation to remain in its leadership role across the sciences in a world where intellectual property is coming to be as or more valuable than other property depends on broadening the domestic base of science participation."

Levine recognized that while there has been progress over the last four years since the Retreat, the stakes for our nation are, if anything, greater than they were four years ago. She pointed out the recent announcement that for the first time since our nation's start, births from ethnic minority groups exceeded those from white Americans. "We simply cannot afford a society in which the potential of three-quarters of America's children is not fully developed and tapped and where the talent is not capitalized to the benefit of science," Levine insisted.

She reviewed the purpose of the 2008 Retreat which, among the issues highlighted, selected for special attention the array of programs, some run by professional associations and some by universities and other institutions that were designed to recruit women and minorities to careers in science. Suggestions, Levine noted, were made about how those goals might be accomplished and the need to collect data to determine where we stood collectively, both as a nation and as an integral community of science fields and disciplines.

The goal of the May 24th workshop is to map out those very steps needed to follow up on that conclusion. She noted that all or almost all of those attending the workshop were scientists from one background or another, or representatives of organizations whose role is to support or advance one or another of the sciences. But the ultimate goal of their activities, Levine underscored, is to promote diversity of all sciences, social or physical, biological or behavioral, educational or medical, data is the conference's focus. "Science relies on data, and we must collect scientifically valid data to advance science."

This observation, she noted, however, begs the question, what data are needed and how must the data be gathered and exploited to tell us what we need to know? She suggested some areas as they
relate to our need to assess the presence of women and minorities in science and how diversity may be enhanced.

First, we need to gather, collect, organize, make available and analyze data which relate to the dimensions of the issues that concern us. We need to know about the presence of women and minorities in science education pipeline in all sciences. How many people of diverse backgrounds do we find, and at what stages? How do different people sort themselves into different career trajectories? And at what point, under what influences, are crucial decisions made between higher education and no further education, between the science and humanities, between graduate school and professional schools, between the social sciences and the natural sciences, between sociology and economics or biology and physics, between stopping at the bachelor's degree or being stopped - or master's degree or going on to the Ph.D.? The challenge is to identify and collect data that help explain these different trajectories, Levine stressed. She recognized that such grand issues require large-scale systemic, often longitudinal data systems, where the attention is to the articulation between levels of education, career and scientific fields.

Second, we need data to evaluate the many efforts that have been, or will be, undertaken to increase the presence of women and minorities in the various sciences. How important are targeted scholarships and fellowships? How much difference, if any, does the presence of a mentor make? Are mentors who share the mentee's gender or ethnicity more effective than mentors who lack these characteristics? And if so, why? How important is affirmative action at both the undergraduate and graduate levels been in increasing the presence of women and minorities in fields where they have been underrepresented?

Does reaching out to students while still in high school or even junior high or elementary school have positive long-term effects? What is the effect of special programs like summer research internships or the commitment of diverse groups to careers in science? What programs are differentially successful? What determines these differences? How much does program leadership matter, financial support, teaching innovations, the kinds of students attracted to the area of science and the culture within that area of science for inclusivity? The challenge is to identify and collect data that explain the effectiveness of different interventions, said Levine.

Third, we need to know more about the people whose careers concern us. What leads women and minorities to choose careers in science? At what ages do they decide? What family members or other significant persons, if any, are important influences on their decisions, the kinds of mechanisms and processes that Deputy Director Marrett made reference to? How much do subjective views of mathematical skills matter in career choice, that self-perception and the sense of self and how that relates to the career choices and career trajectories we all make? How much do objective measures of these skills matter, e.g. verbal skills? Do women and minorities feel disadvantaged by discrimination? If so, what examples do they give?

Are some kinds of undergraduate institutions, small colleges, women's colleges, majority-minority institutions more likely to send their students on for advanced degrees in the sciences than other institutions? Has this pattern remained stable over time? Do women and minorities perceive the costs and benefits of science careers differently than white males? Do women and minorities who have embarked on science careers perceive the costs and benefits differently than white males? The challenge is to identify and collect data that explain personal characteristics and experiences that lead people toward or away from careers in science.

These are but some of the questions and kinds of questions that we need data to answer. But are these the right questions? What kinds of data will tell us the most about career choice of women and minorities, about what affects them and how even differences between and among racial and ethnic groups play themselves out? Can we develop models that explain the science career choices of women and minorities and how they differ from each other or from similar choices by white males?

Levine pointed out that our needs extends beyond collecting data to developing reliable,
empirically testable theory that will help us understand what matters to the career choices of women and minorities and the mechanisms by which individual backgrounds and experience and planned interventions interact and work.

We lack the kind of rigorous, replicated research or, often, a priori designs that would allow for a Campbell collaborative report or similarly useful synthesis. While there are indicators and instances of collaboration and communication, we are not close to where we need to be. People doing research on these issues collect data in many different ways. Studies typically lack common metrics, sometimes for even some basic concepts as ethnicity. Seldom can we put these findings of different studies together in ways that might help us to develop testable theories about what variables are important and what interventions work, with whom and why. Developing common standards and metrics and establishing a repository for data would enable advances in the understandings we all desire.

In undertaking this effort, Levine explained, we will want to attend to such standards as they need to come into play, one in individual studies and evaluations; two, in the development and enhancement of large-scale databases; and three, in the improvement of administrative records and data systems of federal and state governments of which we know, for all of our sciences, we are going to increasingly rely.

She noted, that the act of engagement of our federal science agencies and the federal statistical agencies within them, in particular the National Center for Education Statistics at the Department of Education and the National Center for Science and Engineering Statistics at the National Science Foundation, could and should be important allies, partners and collaborators in the process.

We are also in an area where it is easy to imagine experimenting with interventions. For example, oversubscribed programs designed to attract women and/or minorities to careers in a particular science discipline might choose its beneficiaries at random and follow both those chosen and not chosen to determine if the intervention affected the choices of or success in science careers, she posited.

We should not overlook the value of qualitative research and gaining understandings of the dynamics and mechanisms underlying diversity, nor should we ignore the ways in which qualitative data can today be preserved and shared. One might, for example she noted, learn a good deal from in-depth interviews with women and minorities and white males who have started on the path to a science doctorate and then dropped out. Knowing whether motivations for dropping out or persistence differ by race, ethnicity, or gender would be of considerable value. It would be similarly valuable to know if reasons differed systematically by field of science, for knowing these differences might enable poorly performing institutions or fields to ameliorate and address the problem. Completely separate studies are unlikely to take us far in these directions. But if a common core protocol were developed and if the qualitative data were coded using the same programs and following a common science, much could be learned.

Levine concluded her remarks by noting that the point of the conference was not just to be stimulating. It seeks to advance the ball that we kicked off in 2008 and to be a step toward developing the knowledge we need in order to promote the diversity of science that is necessary not just for individual fairness and fulfillment, but also for the nation's well being. The knowledge we produce must be used, and researchers, professional associations, and federal and foundation funders must be prepared to build on the exchanges in the room to develop better measures of how well we are doing in promoting diversity in science and a good understanding of the individual dynamics and organizational actions that can promote a more diverse scientific community. "I am optimistic about what a collaborative effort can yield and will be catalyzed by the work that will unfold today," said Levine.

Next steps include a report which will be posted on COSSA's website.
House Subcommittee Marks Up FY 2013 Agriculture and Rural Development Spending Bill

The House Appropriations Agriculture, Rural Development, Food and Drug Administration Subcommittee on June 6 gave voice vote approval to the FY 2013 spending bill for the Agriculture Department, as well as the FDA and the Commodity Futures Trading Commission (CFTC). The bill gives these organizations $19.4 billion in discretionary funding - two percent lower than FY 2012 enacted levels, and $1.7 billion less than President Obama requested.

The bill provides $2.5 billion for agriculture research programs. This is a reduction of $35 million below last year's level. This funding will, according to the Subcommittee, support high-priority research on devastating crop diseases, food safety, and water quality. The bill also maintains investments in the nation's land-grant colleges and universities. The Economic Research Service (ERS) receives $75 million in the bill from the Subcommittee; the Senate Committee provided $77.4 million, the same as the President's request. The House bill funds are tied to a mandate that the Secretary of Agriculture provide a detailed spending plan for them no more than 15 days after the Act's enactment.

The National Agricultural Statistics Service (NASS) receives $175.2 million from the Subcommittee; the Senate Committee allotted $177.5 million, again the same as the President's request. Within the NASS recommendation, the House recommended $61.3 million for the completion of the Census on Agriculture. NASS' funds were also tied to an expected spending plan.

The House Committee provides the National Institute of Food and Agriculture (NIFA) $691.5 million for research and education activities. Details of this allocation will have to wait until the release of the report following full House Appropriations Committee action. For the integrated research, education, and extension grants programs, the bill provides NIFA with $21.1 million.

The bill provides a total of $2.1 billion for rural development programs - a decrease of $180 million from FY 2012. The subcommittee professes that these programs support basic rural infrastructure, provide opportunities for rural businesses and industries, and help balance the playing field in local housing markets to create an environment for job and economic growth across rural America. The legislation includes some investments in basic rural infrastructure needs. This includes $484 million for rural water and waste programs, $7.3 billion for rural electric and telephone infrastructure loans, $15 million for the Distance Learning and Telemedicine program, which addresses educational and health needs in rural communities, and $21 million for rural broadband loans.

For more information on this bill, including the full text of the bill itself, please visit the Subcommittee's website here.

NSF Releases Data on Proposal Reviews

In an annual report to the National Science Board released in May 2012, the National Science Foundation (NSF) provided data and other information relative to its merit review process for FY 2011.

In that fiscal year, NSF received a total of 51,562 proposals. This is a decrease of about seven percent from the number of proposals received in FY 2010, but an increase of over 61 percent from the number received in FY 2001. The Foundation made 11,192 awards in 2011, resulting in a 22% funding rate. The average funding rate varies by NSF directorate and there is an even greater variation of funding rate by program.

In FY 2011, the Social, Behavioral and Economic Sciences directorate received 5,112 proposals, up from 4,619 in FY 2004. It made 998 awards for a funding rate of around 20 percent. The number of awards decreased significantly from FY 2010 and FY 2009 when stimulus funding provided additional dollars to make 1,257 awards in FY 2010 and 1,337 awards in FY 2009.
The Education and Human Resources directorate received 4,660 proposals in FY 2011 comparable to the 4,644 in FY 2004. The awards totaled 807 in FY 2011 and 925 in FY 2004. Funding rates were 17 percent in FY 2011 and 20 percent in FY 2004.

According to the report, NSF exceeded its "time to decision" goal of informing at least 70% of Principal Investigators (PIs) of funding decisions within six months of receipt of their proposals. In FY 2011 78% of all proposals were processed within six months.

The report also notes that NSF externally reviewed proposals by three methods: panel only, mail plus panel, and mail only. In FY 2011, 62 percent were reviewed by panel only, 28 percent by mail plus panel, and seven percent by mail only. These percentages have remained fairly constant over the last several years. In addition, about three percent of proposals are not reviewed externally (these include, for example, proposals for travel, symposia, Early Concept Grants for Exploratory Research, and Grants for Rapid Response Research).

The average NSF grant was $159,000 in FY 2001; up from $136,000 in FY 2003, but a five percent drop from FY 2010. In SBE, the average grant climbed from $89,000 in FY 2003 to $113,000 in FY 2011.


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**OMB and OSTP Offer Guidelines for FY 2014 S&T Budgets**

While Congress continues to work on the FY 2013 appropriations process, the Executive Branch continues to prepare for the FY 2014 budget. Of course, whether these budgets will need revising depends on the outcome of the presidential election.

As they have done in recent years, the Office of Management and Budget (OMB) and the Office of Science and Technology Policy (OSTP) have issued a memo announcing the current administration's priorities for next year's budget and providing guidance to the heads of Executive Branch Departments and Agencies that fund science and technology (S&T).

Acting OMB Director Jeffrey Zients and OSTP Director John Holdren begin with the notion that: "Scientific discovery, technological breakthroughs, and innovation are the primary engines for expanding the frontiers of human knowledge and are vital for responding to the challenges and opportunities of the 21st century." Yet, at the same time, the administration acknowledges that: "In a time of constrained resources, agencies should continue to direct resources to high-priority activities and identify potential eliminations or reductions in less-effective, lower-quality, or lower priority programs."

Faced with criticism from Congress and the Government Accountability Office about redundancies and duplication in programs, the administration takes heed and says agencies "engaged in complementary activities should consult with each other during the budget planning process so that resources are coordinated to maximize their impact and to avoid inappropriate duplication." In addition, "they should also avoid duplicating research in areas that already receive funding from the private sector."

The memo advises that "agencies should balance priorities to ensure resources are adequately allocated for agency-specific, mission-driven research while focusing resources, where appropriate, on addressing...multi-agency research activities that cannot be addressed effectively by a single agency." The administration identifies the following as those multi-agency research activities: advanced manufacturing, clean energy, global climate change, research and development (R&D) for informed policy making and management, information technology R&D, nanotechnology, biological innovation, science, technology, engineering, and mathematics (STEM) education, and innovation and commercialization. Many of these activities have been part of the Obama administration's R&D priorities since its beginning.
Within Global Climate Change, the guidance includes giving priorities to the new activities identified in the 2012 U.S. Global Change Research Program. According to the memo, "particular emphasis should be given to research that advances understanding of vulnerabilities in human and biogeophysical systems and their relationships to climate extremes, thresholds, and tipping points. This will require integrated cross-sectoral, biogeophysical, and socioeconomic observations as well as improved simulation and modeling." Specific areas include: attribution of change to human or natural causes; integrated research on Earth and human systems; simulation and prediction at spatial and temporal scale conducive to decision making; and adaptation responses to changing frequency and intensity of extreme events.

Within the continuing Nanotechnology Initiative, the guidance asserts that agencies should give priority to implementation of the 2011 Environmental, Health, and Safety (EHS) Research Strategy, presenting an approach to ensuring the safe, effective, and responsible development and use of this new technology.

The full memo is available at: http://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-15.pdf.

NAS Report: Higher Education Productivity Faces Definition and Quantification Difficulties

The National Academy of Sciences (NAS) has issued a report, Improving Measurement of Productivity in Higher Education. The report, a co-production of the Committee on National Statistics and the Board on Testing and Assessment of the NAS Division of Behavioral and Social Sciences and Education, was generated by a committee chaired by Teresa Sullivan, President of the University of Virginia (on June 10 she announced her resignation as President).

Sullivan's panel was charged with identifying "an analytically well-defined concept of productivity for higher education and to recommend practical guidelines for its measurement." These objective, valid productivity measures would supplement other information to guide policymakers' resource allocation decisions. They would also provide administrators with better tools for improving their institution's performance. Finally, the measures would inform individual consumers and communities who are ultimately accountable for private and public investments in higher education. (For an earlier story on this study, see Update, February 8, 2010).

The report suggested that "the capacity to assess the performance of higher education institutions and systems remains incomplete, largely because the input and outputs in the production process are difficult to define and quantify." It also noted that "a single, high-stakes measure is a flawed approach in that it makes gaming the system simpler."

The panel members also made a decision to focus on the "instructional mission" of higher education. They admit this omits research, "a central mission of a large subset of institutions," and they cite former Columbia University Provost Jonathan Cole's argument that research capacity is the primary factor distinguishing U.S. universities from the rest of the world. The Committee recommended development of measures to assess the value of the nation's investments in research.

Applying the standard economic concept of productivity using the ratio of changes in the quantity of outputs (in the higher education case, degree completion and passed credit hours) to changes in the quantity of inputs that include both labor and non-labor factors of production, the committee produced a "starting point" or "statistical construct" for measuring higher education productivity. Again, they acknowledged that "additional research is essential for addressing a number of thorny issues that impede full and accurate productivity measurement."

Using degree completion and passed credit hours as a measure of output "does not explicitly take account of changing quality of outputs or inputs," the panel admitted. Thus, "continued research to improve measurements of the quality dimension of higher education is essential." For outputs, these
would include identifying and quantifying student learning outcomes, readiness for subsequent coursework and employment, degree- and credit-related income effects, and the social value of education. Adjustments to reflect the quality of inputs would include the mix of students with respect to preparedness and socio-economic background and the effectiveness of faculty instruction.

The report also noted that "some of the benefits of schooling are non-pecuniary and non-market in nature." Therefore, policymakers should evince concern, according to the panel, with the social value generated by higher education. Valuing degrees solely by salaries graduates earn is misleading and the "consumption component of college, including the student enjoyment of the experience, is quite clearly significant," the report argued.

The panel also indicated that measurement complications are also exacerbated by recognizing the diversity of missions across the range of colleges and universities. The role of community colleges, which have both degree and certificate-granting outputs and preparation for transfer to a four-year institution, was particularly noted in this discussion.

Finally, the report asserted that despite the many complications, dismissing the idea of measuring productivity in higher education is a mistake. "Failure to implement a credible measure may indefinitely defer the benefits achievable from a better understanding of quantitative productivity, even in the absence of a viable method of quality adjustment," the panel concludes.

For the full report go to: http://www.nap.edu/catalog.php?record_id=13417.

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New Report on Investing in Early Childhood Education Released

The Center for American Progress (CAP) released a new report on June 1, Increasing the Effectiveness and Efficiency of Existing Public Investments in Early Childhood Education, detailing the changes needed in the early childhood education system to ensure that it provides a high quality education for all children.

Research demonstrates access to high quality early childhood education is linked to significant improvements in child's long-term educational, social and economic outcomes. However, few children, especially poor children, receive such an education. In 2007 less than 25 percent of poor children between the ages of three and six were able to recognize all the letters of the alphabet, compared to 35 percent of their peers living above the federal poverty level. Only half of poor young children were able to count to 20 or higher compared to 67 percent children living above poverty. The effects of a poor early education continue far beyond Kindergarten graduation. According to the Ounce of Prevention Fund, a public private partnership, research shows that without high quality early childhood education an at-risk child is: 25 percent more likely to drop out of school; 40 percent more likely to become a teen parent; 70 percent more likely to be arrested for a violent crime; and 60 percent more likely to never attend college.

Cecilia Muñoz, Director of the Domestic Policy Council declared it a "moral imperative," as well as an economic one, to aggressively approach the challenges of early childhood education. She said unless the U.S. is able to adequately prepare our students for school, college, and careers, we will be unable to compete globally.

The administration is attempting to improve early childhood education through its Race to the Top-Early Learning Challenge (RTT-ELC) grant competition, which focuses on supporting states' efforts to improve early learning and development programs for young children. Last year nine states-California, Delaware, Maryland, Massachusetts, Minnesota, North Carolina, Ohio, Rhode Island and Washington-won RTT-ELC and split the $500 million in grant money. This year, Department of Education officials announced the second round of RTT-ELC, which will be open to the finalist who missed out on the first round awards. Wisconsin, Colorado, Illinois, New Mexico and Oregon will be eligible for a share of $133 million.
The CAP paper deems part of the problem with the current early education system a lack of coordination between the four federal agencies that fund early education. Currently there are four federal funding streams from Head Start, the Child Care Development Block Grant, the Elementary and Secondary Education Act, and the Individuals with Disabilities Education Act. Although the agencies have similar goals, they are often working independently of one another. The authors believe this lack of coordination means the investment in early childhood education is often inefficient and ineffective.

The paper outlines ten federal reforms that could be undertaken within the context of the current law and through increased cooperation with states: partnering with states to align early learning standards and connecting those content standards to K-12 content standards; investing with states to build assessments and assessment systems that demonstrate standards are being met; moving toward state level data collection and analysis to improve early childhood data; and developing professional development for early childhood education staff, while identifying the training, credentialing and degree requirements needed for future staff.

The authors believe that “in many ways, the Race to the Top Early Learning Challenge is the man on the moon goal for our early childhood and public education systems.” While it is clear that federal funds provide early learning opportunities to a large number of America’s poorest children, it is also clear that additional federal and state financing is needed to further expand access to high quality early learning programs to even more children.

For the full report go to: http://www.americanprogress.org/issues/2012/06/pdf/earlychildhood.pdf.

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**Relationship Between Tobacco Use and Mental Illness Examined**

In observance of Mental Health Awareness Month, Legacy hosted a special Warner Series Lecture on *A Hidden Epidemic: Tobacco Use and Mental Illness*. This event was first established in 2003 as a means for leaders in public health to start dialogue on emerging policy issues. More than 700 people tuned in for the event’s webcast.

Judith J. Prochaska, Associate Professor in Residence at University of California, San Francisco, opened the dialogue with a discussion of the data that indicates correlation between mental illness and tobacco use. According to Prochaska, a quarter of U.S. adults met the criteria for mental illness in the past year - 41 percent of smokers met the criteria in the past month. Prochaska also noted that 14 percent of San Francisco residents use tobacco, 28 percent of those in private outpatient clinics there use it, and a whopping 45 percent of those undergoing inpatient care are smokers. This indicates that smoking is much higher amongst the uninsured. Prochaska discussed a recent survey of people with bipolar who smoked-nearly half used smoking to treat mental illness and few reported that professionals ever advised them to quit. In fact, some reported being discouraged to quit by health professionals. Nearly everyone surveyed thought they had to be mentally healthy to quit, yet most ex-smokers quit smoking in poor or fair health.

In perhaps her most poignant fact, Prochaska noted that those with mental illness die 25 years too early on average, often of tobacco related illness. Tobacco use is also often linked to suicidal behavior, even in controlled studies. In contrast, no study has found that quitting smoking harms mental illness recovery. Left to be discovered, however, according to Prochaska:

- how to best disseminate information,
- how to engage mental health care providers in treating tobacco,
- how to sustain long term quitting,
- how do to work with more diagnostic disorders,
- new studies on those with eating disorders, bi polar and more; and
- how can this behavioral knowledge be broadened to other bad habits they have (inactivity, poor diet etc).
Jill M. Williams, Director of the Division of Addiction Psychiatry at the Robert Wood Johnson Medical School Department of Psychiatry, next spoke about some of the barriers to treating individuals with mental health issues for tobacco addiction. She noted that often nicotine dependence doesn't even make it into the charts of individuals with mental health problems. Further, environmental tobacco exposure is a big issue for this group; people undergoing treatment for mental health issues suffer a lot of exposure to smoking. Williams postulated that perhaps housing and case management could be used to support tobacco initiatives. Studies show there is no adverse effect on patients when hospitals go smoke free. Williams further called for education for mental health facility staffs and other health professionals; staffs are often uneducated on how to help smokers quit. What's more, according to Williams, psychiatrists don't score better than other behavioral specialists. She declared that behavioral health should take a lead in tobacco treatment since this is a group of professionals skilled in treatment of other addictions, and they have longer relationships with the patients.

Chad Morris, Associate Professor and Director at the Behavioral Health and Wellness Program at the University of Colorado reinforced the point that tobacco treatment should be included in treatment for mental illness. He noted that medical professionals failing to do so are “totally missing the boat.” He stated that to be ethical, providers should include tobacco cessation and weight management in treatment plans.

Marie Verna, Program Support Coordinator of the University of Medicine and Dentistry of New Jersey, closed out the panel of speakers and brought a vital voice to the table as a person being treated for mental illness herself. Verna pointed out that one used to frequently hear that people can't or won't quit smoking if they have a mental illness and yet all changes happen when consumers say they need or want something; people just need to speak up about this issue. She noted that at the state level people are trying to make psychiatric facilities smoke-free, but it has not been an easy transition. The National Association of State Mental Health Program Directors released a report in May indicating that while only 20 percent of these facilities were smoke free in 2004, now 49 percent of state facilities are smoke free. Verna pointed to these numbers as a sign of encouragement that the consumer's voice is being heard at last and progress is being slowly made on this vitally important issue. Nevertheless, she noted that while there is ample qualitative research out there, there is a dire need for more quantitative.

SSRC Names Ira Katznelson New President

The Social Science Research Council (SSRC) has announced that Ira Katznelson, Ruggles Professor of Political Science and History at Columbia University, will be its next President. Katznelson replaces Craig Calhoun, who will become the new Director of the London School of Economics and Political Science. Both men will take up their new positions on September 1. Calhoun has led the SSRC since 1999.

Katznelson is a political scientist, whose scholarship ranges across multiple fields, including American politics, comparative politics, and political theory. He returned in the fall of 1994 to Columbia, where he had been assistant and then associate professor from 1969 to 1974. In the interim, he taught at the University of Chicago, chairing its department of political science from 1979 to 1982, and at the New School for Social Research, where he was dean of the graduate faculty from 1983 to 1989.

He is a past president of the American Political Science Association and the Social Science History Association. He edited, with Helen Milner, Political Science: The State of the Discipline, Centennial Edition. He has also been the Chair of the Russell Sage Foundation Board of Trustees and vice-chair of the Academic Advisory Board of the Institute for Human Sciences in Vienna.

Katznelson has been a Guggenheim Fellow and is a fellow of the American Academy of Arts and Sciences and the American Philosophical Society. He was the founding editor of the

The new President has played a leading role in many SSRC activities over the years, notably as a member of the Committee on States and Social Structures, a major Council initiative connecting new analyses of modern states with the social sciences, and as a contributor to that committee’s volume *Bringing the State Back In*.

Katznelson's Ph.D. is from Cambridge University.

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Address all inquiries to COSSA at newsletters@cossa.org  Telephone: (202) 842-3525

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