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Welcome to 2013

Happy New Year! This is the first issue of Volume 32 of the newsletter of the Consortium of Social Science Associations (COSSA). Our goal remains to inform the social and behavioral science community about activities in Washington, DC and elsewhere that have important implications for

the conduct of research and its dissemination to policy makers. As we return, the watchwords in Washington are "uncertainty," "turmoil," and "fiscally challenging." When President Obama reveals his Fiscal Year (FY) 2014 budget-- the date is uncertain at this time-- COSSA will produce a special issue that will analyze that blueprint for over 50 agencies important to the production of social and behavioral science research. We hope you will appreciate our coverage and if you have any questions or comments please let us know at <u>cossa@cossa.org</u>. May your New Year be productive and enjoyable!

The 112th Congress adjourned on the morning of January 3, 2013. The 113th Congress convened that afternoon. Despite the agreement on taxes, the last Congress managed to kick a bunch of cans down the road, so that the country now faces a trifecta of difficult policy situations - raising the debt ceiling, deciding about sequestration, and finishing FY 2013 appropriations.

The President has vowed not to negotiate with Congress on the debt ceiling. What that means if the Republicans repeat their vow not to increase the ceiling without significant funding reductions is unclear. This confrontation will occur sometime in February.

Included in the session-ending deal on taxes was an agreement to postpone the across-the-board cuts known as sequestration until the beginning of March. To accomplish this, the President and the Congress agreed to reduce the appropriations cap for FY 2013 by \$4 billion and for FY 2014 by \$8 billion. The postponement would also likely decrease the amount of the cuts necessary, so that analysts suggest the previous eight percent reductions may wind up slightly lower if sequestration occurs. Both advocates for defense spending and non-defense discretionary spending are trying to pressure the White House and the new Congress to avoid the sequestration.

The FY 2013 appropriations process, as has happened often recently, did not conclude with the 112th Congress. Although it appeared that the appropriators were ready with an Omnibus bill before the session ended, the focus on the tax-sequestration problem and the death of Senate Appropriations Committee Chairman Daniel Inouye (D-HA) precluded any action.

Thus, the agencies' funding for FY 2013 remains guided by the Continuing Resolution (CR) that provides the same allocation as the FY 2012 appropriations. That CR expires on March 27. So another debate looms on spending. A simple solution, expected by many, is to simply extend the CR for the rest of fiscal year 2013, which ends on September 30, and move on to the FY 2014 budget.

All of these spending decisions will be front and center at the same time the White House is trying to move substantive legislation on gun control and immigration as well as get some controversial appointees confirmed (e.g. Chuck Hagel).

There are other substantive issues for the new Congress that could include: a reauthorization of the America COMPETES Act, which includes the National Science Foundation; a reauthorization of the Higher Education Act, while still trying to finish a new version of the Elementary and Secondary Education Act, which may also cover the Institute of Education Sciences; and another shot at completing an overhaul of the nation's basic farm law.

So despite President Obama's re-election and the small increase of Democrats in the Senate, there are still many roadblocks for political action. The negotiations on the tax package appeared to demonstrate a way for the Administration to move forward. Try and work with the Senate and then force the House Republicans to accept the legislation. However, with no filibuster reform, the Senate will remain a body where a majority means 60 votes, and the House Republican Caucus will remain a land mine for its leadership to navigate.

Will political dysfunction continue to dominate Executive-Legislative relations as they did the past two years or are the problems significant enough that our leaders will work to solve them? Stay tuned!

The New Congress Continues to Organize

The 113th Congress opened on January 3. The leadership of both Houses selected in December (see <u>Update</u>, <u>December 10, 2012</u>) has selected a number of the heads of committees and subcommittees, and more will come when the House returns on January 14 and the Senate on January 21.

The House Appropriations Committee, with Rep. Harold Rogers (R-KY) continuing as Chairman, has chosen its Cardinals or Subcommittee (SC) leaders. Rep. Frank Wolf (R-VA) will remain as Chairman of the Commerce, Justice, and Science spending panel, which has jurisdiction over the budgets of the National Science Foundation, the Census Bureau, the Bureau of Economic Analysis, the National Institute of Justice, and the Bureau of Justice Statistics.

Kingston to Lead House Labor, HHS, Education Spending Panel

Rep. Jack Kingston (R-GA) will move from heading the Agriculture and Rural Development panel to lead the Labor, Health and Human Services, and Education SC. Kingston's district includes beach communities south of Savannah, Brunswick, and Valdosta, Georgia. He is a graduate of the University of Georgia and lives in Savannah. He is proud that the National Journal rated him the "most conservative member of the House." He voted against the tax agreement.



Rep. Robert Aderholt (D-AL) will replace Kingston as head of the Agriculture and Rural Development spending subcommittee. He is in his ninth term representing north central Alabama. Tuscaloosa, home of the University of Alabama is just outside the district. The Homeland Security Appropriations Subcommittee also

Rep. Jack Kingston

has a new leader, Rep. John Carter (R-TX). His district, between Austin and Waco, includes Fort Hood, Killeen, and Temple Texas. As House Republican Conference Secretary Carter is the sixth highest-ranking Republican in the House. Carter is a former Judge of the Texas District Court.

Bucshon to Chair SST's Research Subcommittee



The House Science, Space and Technology Committee (SST) has also selected its Subcommittee leadership. Rep. Lamar Smith (R-TX) will chair the full committee. The Research Subcommittee (the Science Education nomenclature has been dropped for the new Congress) has a new boss. He is Rep. Larry Bucshon (R-IN), who replaces Rep. Mo Brooks (R-AL). A heart surgeon, Bucshon represents a district that includes Evansville and Terre Haute, with Bloomington just outside the district. He supported the Flake Amendment in 2012 to eliminate NSF's political science program.

Rep. Larry Bucshon (R-CA) has announced that Rep. Blake Farenthold (R-TX) will chair a

Subcommittee on the Federal Workforce, U.S. Postal Service and the Census. Farenthold, a former radio commentator and lawyer who was first elected in

2010, represents a South Texas district that includes Corpus Christi and Brownsville. He voted yes on the Webster Amendment in 2012 to eliminate the American Community Survey.

The Democrats have not selected their Subcommittee Ranking Members yet.

Mikulski New Senate Appropriations Chair

With the passing of Sen. Inouye, Sen. Barbara Mikulski (D-MD), the longest-serving woman in congressional history, has ascended to the leadership of the spending panel. Mikulski, who has led the Commerce, Justice, Science (CJS) Subcommittee, will be the first woman to chair the full committee. Sen. Richard

Shelby (R-AL), who worked with Mikulski as both Chair and Ranking Republican of the CJS Subcommittee, will be the Ranking Republican of the full Appropriations Committee in the 113th Congress.

The appointments of Senate Ranking Members and Subcommittee Chairs are forthcoming.



Sen. Barbara Mikulski

Positions Filled in the Executive Branch



Erica Groshen

One of the last acts of the 112th Congress was to confirm Erica Groshen as the new Commissioner of the **Bureau of Labor Statistics**. Groshen, who was nominated by the Administration in February 2012, comes to BLS from the New York Federal Reserve Bank. For more on Groshen's background see <u>Update</u>, <u>February 20, 2012</u>. Jack Galvin had served as Acting Commissioner throughout 2012.

The Senate also confirmed Mark Doms as the new **Undersecretary of Economic** Affairs at the Department of Commerce. Doms had been serving as the

Department's Chief Economist since August 2009. Prior to coming to Commerce, Doms served as the Senior Economist at the Federal Reserve Bank in San Francisco. He has a Ph.D. in Economics from the University of Wisconsin, Madison.

Also in the statistical agency world, John Gawalt, who had served as Acting Director of the **National Center for Science and Engineering Statistics** at the National Science Foundation since Lynda Carlson's departure in January 2012, has had the Acting dropped from his title.

The National Institute of Justice (NIJ) and the Bureau of Justice Statistics (BJS) have new Acting Directors. Former NIJ Director John Laub and former BJS Director James Lynch are now at the University of Maryland. NIJ Deputy Director Greg Ridgway has replaced Laub and BJS' Principal Deputy Director William Sabol has replaced Lynch. Ridgeway comes to NIJ from the RAND Corporation in Santa Monica, California, where he was Director of Safety and Justice and the RAND Center on Quality Policing. He has a Ph.D. in Statistics from the University of Washington. Sabol has more than 20 years' experience researching criminal justice issues in different settings, including the Government Accountability Office, Case Western Reserve University, the Urban Institute, and the University of Maryland. His Ph.D. is from the University of Pittsburgh.

In the meantime, the search continues to replace Myron Gutmann as the Assistant Director for NSF's Social, Behavioral and Economic Sciences Directorate. The deadline for applying has been extended until February 1, 2013. For more information, go to: http://www.nsf.gov/od/searches/sbe-121116/nsf_adsbe_search_letter.jsp.

NIH Data and Information Implementation Plan

At the December 7, 2012 meeting of the National Institutes of Health (NIH) Advisory Committee to the Director (ACD), deputy director Lawrence Tabak presented the agency's Data and Informatics Implementation plan. The Plan is in response to the recommendations made by the ACD Data and Informatics Working Group (DIWG) at the June 15th ACD meeting.

The DIWG was led by Tabak and David DeMets, University of Wisconsin, and was in response to the recent "explosion" of biomedical data, including genome sequence data and public health databases and the need for new and better ways to make the most of the data to speed discovery and

innovation and ultimately lead to improvements in the nation's health and economy.

DWIG's charge was to "provide the ACD and NIH director with expert advice on the management, integration, and analysis of large biomedical datasets." It was further charged to address the areas of research spanning basic science through clinical and population research; administrative data related to grant applications, reviews, and management; and management of IT at the NIH.

The DIWG's vision statement noted that: "The colossal changes in technologies and methods for doing biomedical research have shifted the bottleneck in science productivity from data production to data management, communication and data interpretation. Given the current and emerging needs of the biomedical research community, NIH has a number of key opportunities to encourage and better support a research ecosystem that leverages data, tools, and the biomedical workforce."

The DIWG made five recommendations:

- 1. Promote data sharing through central and federated catalogues:
 - a. Establish a minimal set of relevant data descriptions for data sharing:
 - Learn from the Google model-- minimal format restrictions for data plus applications development to create new knowledge
 - Facilitate the non-expert users to easily find, access, and use data
 - Convene experts to define the metadata framework
 - b. Create catalogues and tools to facilitate data sharing:
 - Establish a centralized catalogue of data appendices
 - Link to the published literature
 - Include associated metadata as defined by the framework
 - c. Enhance and incentivize a data sharing policy for NIH funded data:
 - Update the current data sharing policy to require additional availability of data
 - Make the number of accesses / downloads from the centralized catalogue available
 - Create and provide model data use agreements to facilitate appropriate sharing of data.

2. Support the development, implementation, evaluation, maintenance, and dissemination of informatics methods and applications

a. Fund all four phases of scientific software development via appropriate, targeted mechanisms: prototyping, engineering and hardening, dissemination, maintenance and support

b. Assess how to leverage the lessons learned from the National Centers for Biomedical Computing (NCBCs):

- The NCBCs have been a valuable engine of collaboration
- Consider the natural evolution of the NCBC into a more refocused activity

3. Build capacity by training the workforce in the relevant quantitative sciences (e.g., bioinformatics, biomathematics, biostatistics, and clinical informatics)

- a. Increase funding for quantitative training and fellowship awards:
 - Training of experts should grow to meet the increasing demand for this field
 - Perform a supply versus demand gap analysis
 - Develop a strategy to meet demand
- b. Enhance review of quantitative training applications:

- Specialized quantitative training grants are often not reviewed by those with the most relevant experience
- Consider the formation of a new study section focused on the review of quantitative science training grants.
- c. Create a required quantitative component for all NIH training and fellowship awards:
 - Enable the clinical and biological scientist workforce with basic proficiency in the understanding and use of quantitative tools
 - Draw on experience of the Clinical and Translational Science Awards (CTSAs) centers in developing the curriculum for a core competency

4. Develop an NIH-wide IT strategic plan to be cost effective by avoiding redundancies, filling gaps, and disseminating successes to the wider NIH community

- NIH administrative data:
 - Update and share the inventory of existing and analytic and reporting tools
 - Enhance coordination and sharing of resources and tools
- NIH Clinical Center:
 - Enhance coordination of common services
 - Create a new informatics lab
 - Strengthen relationships with the CTSAs centers and the National Center for Advancing Translational Sciences (NCATS)
- NIH IT and information environment:
 - Assess the current state of IT services/capabilities
 - Develop a plan for trans-NIH IT design and implementation model for IT initiatives
 - Continue to refine and expand IT governance
 - Recruit a Chief Science Information Officer (CSIO)
 - $\circ~$ Establish an external advisory group for the NIH Chief Information Officer (CIO) and CSIO
- 5. Provide a serious, substantial, and sustained funding commitment to Recommendations 1-4
 - Without a systematic and increased investment in advanced computation and informatics support at the trans-NIH level and at every NIH Institute and Center, the research community will not be able to optimally use the massive amount of data that are currently being generated with NIH funding.
 - Create a sustained funding mechanism for IT
 - Motivate a culture change to recognize the key role of informatics and computation in the NIH mission.

NIH's Response to ACD Recommendations

According to Tabak, the challenges associated with Big Data that the NIH must solve include: creating an adaptive and highly collaborative environment, both within NIH, and the extramural community, to enable optimal use of Big Data; creating a governance structure that aligns scientific leadership with resource management and oversight; and committing to a shared governance and resource plan to ensure the use and ownership of Big Data among all NIH institutes and centers.

Accordingly, the NIH is proposing two initiatives designed to overcome roadblocks: Big Data to Knowledge (BD2K) and InfrastructurePlus.

1. Big Data to Knowledge (BD2K) is designed to enable the biomedical research enterprise to maximize the value of biomedical data through (1) facilitating of broad use of Biomedical Big Data; (2) developing and disseminating analysis methods and software; (3) enhancing training for Biomedical Big Data; and (4) establishing centers of excellence for Biomedical Big Data. For all

three areas, NIH is planning to hold workshops for planning and to refine implementation plans in FY 2013.

Other activities planned for FY 2013 include: establishing new policies to encourage data and software sharing; cataloging research datasets to facilitate data location and citation; creating community-based development of data and metadata standards; holding workshop(s) to define software needs and update existing program announcements (PARs); investigating storage and analysis options, evaluating ongoing cloud pilots, and developing NIH policies; investigating innovative uses of social media. The agency intends to issue a request for applications to fund investigator-initiated centers. NIH-specified centers will hold workshops to identify needs and issues RFA(s).

In FY 2014, the agency plans to provide support for analytical software for underserved areas and data management/processing software; and have the scientific data council recommend follow-up programs; support research, develop new policies and begin implementation; have the Scientific Data Council recommend follow-up programs; provide implementation supplements or new awards; support courses and the development of new approaches (e.g., curriculum development and creation of innovative delivery approaches. In FY 2014 and FY 2015, the agency intends to award up to 15 centers along with two to five NIH-specified centers.

2. InfrastructurePlus is designed to create an adaptive environment at NIH to sustain world class biomedical research; adopt agile and cost-effective hosting and storage approaches; modernize the NIH Network; implement an information-rich environment of systems, applications and tools including implementing critical capabilities to support administrative and management and extramural staff, including: improved data analysis and reporting tools, improved electronic grants management capabilities, new electronic principle investigator biosketch (SciEncv), new contracts management application from proposal receipt to close out, new travel management system, and a new budget formulation and execution system; make critical technology upgrades and improvements for eRA and financial systems.

Both of the initiatives will be led by Trans-NIH Advisory Data Councils that will be chaired by the NIH CIO and the currently being recruited Chief Data Scientist. The Councils will report to the NIH director through the NIH Steering Committee.

The next steps, according to Tabak, include constituting governing boards (Advisory Data Councils) for the proposed initiative, finalizing plans for FY 2013 activities, and initiating implementation plans.

Search for Associate Director for Data Science

One of the major recommendations made by DWIG is the creation of a new NIH leadership position focused on data science. In response, on January 10, NIH director Francis S. Collins announced that the agency intends to recruit a new senior scientific position, the Associate Director for Data Science. The new associate director will lead a series of NIH-wide strategic initiatives that collectively aim to capitalize on the exponential growth of biomedical research data, such as from genomics, imaging, and electronic health records.

Collins noted that "There is an urgent need and increased opportunities for advanced collaboration and coordination of access to, and analysis of, the rapidly expanding collections of biomedical data." According to Collins, "NIH aims to play a catalytic lead role in addressing these complex issues -- not only internally, but also with stakeholders in the research community, other government agencies, and private organizations involved in scientific data generation, management, and analysis."

Meanwhile, Collins has asked National Human Genome Research Institute (NHGRI) director Eric Green to serve as the Acting Associate Director for Data Science. He will continue to serve in his current role at NHGRI while serving in this acting leadership position.

Overall Success Rate for NIH Research Grant Remains Static

In FY 2012, an increased number of research grant applications were received by the National Institutes of Health (NIH) and reached the highest level ever. According to Deputy Director for Extramural Research Sally Rockey, the <u>success rates</u> using the investigator-initiated (R01) mechanism remained unchanged in 2012 from the 18 percent rate in 2011. Rockey posted the information on her blog, "<u>Rock Talk</u>." The January 2 blog entry provides information about applications and awards in FY 2012, compared to FY 2011. Rockey reported that the overall success rate for research project grants (RPGs) also stayed the same compared to 2011.

She also reported that the number of R01 awards increased, reflecting the increase in the number of R01 applications received by the agency. NIH also received more small grant (R21) applications resulting in the highest number of R21 awards ever made by the agency.

At the same time, the success rate for center grant applications experienced a decrease, but the average size of a center grant increased from \$1.863 million to \$1.914 million.

Rockey noted that the above data is from the <u>NIH Data Book</u> which provides summary statistics on NIH awards. The data along with charts are exportable for easy incorporation and use in reports, presentations, and the like.

Justice Office Scientific Advisory Board Meets

The Office of Justice Programs (OJP), led by Acting Assistant Attorney General (AAG) Mary Lou Leary, convened its Scientific Advisory Board, chaired by former COSSA President and Carnegie Mellon Professor Al Blumstein, for its fifth meeting on January 11. The meeting took place amidst the budget uncertainty and turmoil currently affecting the federal government, which was referred to by a number of speakers and Board members. The Board heard from the new Acting Directors of the National Institute of Justice, Greg Ridgway, and the Bureau of Justice Statistics, William Sabol (for brief bios, see <u>other story</u>).

Sabol focused on BJS' current efforts to revitalize the National Crime Victimization Survey (NCVS), including providing sub-national data. The Acting Director noted improvements in the survey's sample, including increases in certain sub-national areas, pilot efforts for state specific estimates, and greater collaboration with the Office for Victims of Crime (OVC). He also discussed the NCS-X Project, which seeks to build a nationally representative system of incident level records on offenses known to law enforcement agencies. The system would leverage the capabilities of current record management systems and other automated information exchanges and return meaningful statistical information and analytical support to the law enforcement community.

Ridgway pledged to continue to focus NIJ on developing new models of crime prevention and deterrence through its research and evaluation functions. He also stressed continuing to build a "culture of self-assessment" with significant attention to NIJ program reviews. In addition, Ridgway suggested that NIJ contributions on the technology side of law enforcement do not necessarily mean the agency has to perpetuate its role as the testing agent for things like body armor.

A report by Phelan Wyrick, Senior Adviser to the AAG, noted the increasing use of <u>crimesolutions.gov</u> and the development of a "diagnostic center" where OJP will provide technical assistance working with communities trying to solve crime problems. OJP plans to fund thirty of these projects in FY 2013. The Board also heard from Joye Frost, Director of the OVC, and Linda Baldwin, Director of the Office of Sex Offender Sentencing, Monitoring, Apprehending, Registering, and Tracking

The Board then turned to reports from its subcommittees. Rob Sampson, Harvard, chaired the Quality and Protection of Science panel. He noted that the SAB had adopted the Subcommittee's

report last year. To infuse science into the DNA of the Justice Department, the Subcommittee recommended that OJP programs remain independent of political influence, maintain objectivity in its grant process through the use of peer review, and exercise quality control through grant assessments.

The BJS Subcommittee chaired by Richard Rosenfeld of the University of Missouri, St. Louis noted the Bureau's need to improve its IT capabilities, and expressed support for the NCVS changes, particularly the move to state-level victimization data. They also remained concerned about the resource situation and wondered how BJS, in the face of the expected challenging budget situation, would handle priority setting. Rosenfeld laid out some "criteria for cutting." These included maintaining programs that were in the Bureau's core statistical responsibilities, determining demand for information products, especially those that affected multiple audiences, undertaking a cost-per-output analysis, and analyzing the need for continuity in data series.

The NIJ Subcommittee, chaired by David Weisburd of George Mason University and a former COSSA Board member, produced a discussion paper on "The Distinctive Role of NIJ in Research and Evaluation in the Department of Justice." After much deliberation, the SAB accepted the recommendation to create an OJP interagency research coordination council.

Mark Lipsey of Vanderbilt University reported for the Office of Juvenile Justice and Delinquency Prevention (OJJDP) Subcommittee. He noted that a recent reorganization had decided to concentrate OJJDP's research function, rather than disperse it through the agency's programmatic offices, as has been the case for many years. The new Innovation and Research Division would include research, evaluation, and statistics, as well as training and technical assistance and communications. The Subcommittee also discussed how to apply the principles proclaimed by the Quality and Protection of Science panel to OJJDP. There was also a reference to the National Academies' report *Reforming Juvenile Justice: A Developmental Approach* (see <u>Update, November 19, 2012</u>).

Finally, Thom Feucht, Senior Science Adviser at NIJ, reported on three possible areas for future SAB consideration: data archiving, human subjects protection, and research training. Blumstein noted that the June SAB meeting could discuss these further, particularly the human subjects issue since there is an expectation that the federal government could issue proposed new rules by then. The Chairman also asked that OJP offices prepare reports on how they decide the topics of their grant solicitations for the next meeting.

NSF to Alter Research Reporting Requirements

In a Dear Colleague letter dated January 10, 2013, the National Science Foundation (NSF) announced current plans to implement a significant change in the way Principal Investigators (PIs) (and co-PIs) report on their NSF-funded projects. Beginning on March 18, 2013, NSF will require PIs to submit their annual, final and interim project reports in <u>Research.gov</u>, NSF's modernization of FastLane.

According to NSF, this change results from the implementation of the Research Performance Progress Report (RPPR). The RPPR is the product of the Research Business Models (RBM) Subcommittee of the Committee on Science, a committee of the National Science and Technology Council (NSTC). The subcommittee wants to create greater consistency in the administration of federal research awards through streamlining and standardization of forms and reporting formats. This new format will result in benefits to grantees and NSF staff including:

- A consolidated project reporting dashboard that includes the Annual, Final, Interim, and Project Outcomes Reports;
- A more structured collection of the project reports data for enhanced NSF use; and
- The adoption of a federal-wide data dictionary to increase the consistency of implementation across federal research agencies.

In order to prepare for the migration to Research.gov, NSF requests that PIs stop submitting new project reports through FastLane on February 1, 2013. PIs should also submit to NSF any due or overdue project reports prior to this date. Any reports prepared in FastLane prior to February 1st, but not submitted, may need to be re-entered into Research.gov.

Beginning March 15, 2013, PIs will no longer have access to the FastLane Project Reporting System. Instead, they will be re-directed to Research.gov where they can log-in with their NSF ID and password in order to prepare and submit reports.

NSF admits that switching to a new system for project reporting may cause some confusion within the grantee community. NSF will therefore extend overdue dates for project reports that are currently scheduled to become overdue between January 31 and April 30, 2013 to allow for a smooth transition to Research.gov.

NSF advises that grantees take some time to familiarize themselves with Research.gov by logging in with their NSF ID and password. Visit <u>Research.gov Project Reports</u> for additional information including fact sheets, frequently asked questions, and a Getting Started Guide. Direct any questions about this transition to <u>feedback@research.gov</u>. For technical assistance, please contact the Research.gov Help Desk 7 AM - 9 PM Eastern Time, Monday through Friday (except for federal holidays) at <u>rgov@nsf.gov</u> or 1-800-381-1532.

DBASSE Holds Planning Meeting on Science of Team Science Study

On January 11, the National Academies' Board on Behavioral, Cognitive, and Sensory Sciences (under the Division of Behavioral and Social Sciences and Education) held a Planning Meeting on Interdisciplinary Science Teams. The goal of the meeting was to lay the groundwork for a consensus study that will "review the emerging interdisciplinary research in team science, examining factors that affect collaboration, such as team dynamics, team management, and institutional policies, and will recommend ways to enhance the effectiveness of collaborative research in science teams, research centers, and institutes."

Stephen M. Fiore, University of Central Florida, gave an overview of the history and current state of the science of team science. He noted that a major question of the research was how problems (which are not bound by disciplines) influence the practice of science. Scientists have long collaborated across disciplines to address complex problems. However, such collaborations create new challenges, related to both infrastructure (such as the way universities are organized) and interaction (effective communication). These hurdles are not new (Fiore quoted an article published in Science in 1944 that summarized such concerns), so the question is: what makes this a good time to address these challenges? Fiore argued that three factors have converged to give new efforts a greater chance of success: 1) an increased focus on collaborative research, 2) a desire by government, academia, and industry to explore the efficacy of scientific collaboration, and 3) the maturation of the science of teamwork.

Fiore traced the roots of the science of team science through the history and philosophy of science, science and technology studies, studies of collaborative technologies in computer science, interdisciplinary scholarship, and the psychology of science. The science of team science developed out of a need to "systematically integrate scholarly examination of scientific processes and outcomes" regarding collaborative research efforts. The science of team science has developed and matured over the past decade or so, he asserted.

Fiore argued that the consensus study should be viewed as a transdisciplinary project, requiring contributions from a number of fields. He cautioned against equating collaboration with "big science," against establishing false dichotomies like "basic vs. applied," and against forgetting about non-scientist team members who could provide valuable insights. Fiore concluded by observing that the consensus study has "the potential to transform not only the practice of science but also our understanding and improvement of the world around us."

Funder Perspectives

Robert Croyle, National Cancer Institute (NCI), commented on contextual changes in how science is conducted that have created a demand for data on effective science teams from researchers who might not otherwise take an interest in those questions. One factor is the development of new technology and tools that require many scientists to coordinate and cooperate. Croyle noted that there is a long tradition of such collaboration in physics and computer science, and other disciplines are becoming increasingly reliant on these large-scale technologies, almost to the point where "you can't do research unless you're collaborative." Another factor driving interdisciplinary and team research is the growing interest in global health, which Croyle noted, has "taken off like wildfire." Finally, Croyle argued, scientists wouldn't be working in teams if they were not producing compelling research.

Croyle talked about the "painful process" NCI's centers went through to become multi-, then inter-, and finally, transdisciplinary. In 1998, The Institute launched a series of Requests for Applications (RFAs) and initiatives motivated by transdisciplinary science in areas such as tobacco control, obesity, and health disparities. He characterized these efforts as essentially an attempt to "bribe people to work together." When talking about how to encourage collaboration, Croyle used a term he had originally coined for behavioral health efforts: MINC (minimal intervention necessary for change), or the least intrusive way to encourage people to change their behavior. For team science, he argued, funders should try to identify that minimal intervention. One way NCI has tried to do this is by allowing two Principal Investigators (PIs) on a research grant. Croyle said that this has worked well in encouraging team research but has had an unintended consequence: leaving NCI to adjudicate divorces between PIs when partnerships don't work out.

Wanda Ward, National Science Foundation (NSF), said that NSF is "very interested" in interdisciplinarity and the science of team science. She identified three types of challenges in encouraging team science. First is enabling transformative interdisciplinary research. Ward noted that NSF uses the scientific community as a resource to know what emerging fields are most likely to produce transformative results. NSF sees interdisciplinary research as a "valued paradigm" for making progress in solving complex problems. It encourages innovation and addressing global societal challenges.

Second is developing diverse and globally competitive science and engineering talent. Broadening participation is a high priority for NSF and should be central to efforts to increase interdisciplinarity, not only because of considerations of equity but also because diversity of thought enriches the scientific enterprise. Ward discussed NSF's experience with its IGERT (Integrated Graduate Education Research Traineeship) program. A 2011 report found that IGERT-trained and non-trained cohorts were equally interested in multi- and interdisciplinary work, but IGERT-trained students believed they were more willing and better prepared to undertake such work. Ward discussed research about women and interdisciplinarity that indicated that female scientists were more likely to embrace interdisciplinarity and teamwork across several different measures.

Ward cautioned that it is only ethical to use interdisciplinary research to attract scientists from underrepresented groups if such research can lead to stable and secure career pathways. Pursuing an interdisciplinary career is challenging enough on its own; when encouraging young researchers to combine those challenges with the hurdles of being a member of an underrepresented minority, it is important to take care.

The third challenge in encouraging interdisciplinary and team research is identifying the optimal modes of support. Ward noted that over the past decade, NSF gave more awards to single PIs, but that multi-PI team awards were for larger amounts. She noted that the number of PIs on an award is not a precise indicator of interdisciplinarity, and a better way to identify team and interdisciplinary research is needed. Ward discussed a number of ways NSF currently supports interdisciplinary research, including solicited interdisciplinary programs, center competitions, unsolicited

interdisciplinary research, areas of national importance (like sustainability and cyberinfrastructure), education and training, and workshops, conferences, and symposia. She also noted two new NSF programs, INSPIRE, which expedites awards to promote transformative, high-risk, high-yield research, and I-Corps, which seeks to build on research to create new technologies that benefit society.

Reform at Arizona State

Michael Crow, president of Arizona State University, gave the keynote lecture about his experience transforming the disciplinary structure of Arizona State. Crow commended the science of team science as an example of "internal self-reflection sorely missing from the academic and scientific community." Crow described himself as a "knowledge enterprise architect." His tenure at ASU has led to the creation of 15 new transdisciplinary schools and institutes. The new schools are centered around three broad principles: 1) approach-based science, as opposed to focused-based, and encompassing initiatives like ASU's Biodesign Institute; 2) outcome-oriented science, which organizes scientists around a particular outcome, including the Global Institute of Sustainability; and 3) objective-based science, which focuses on a particular intellectual orientation, and includes the School for Earth and Space Exploration.

Crow argued that in order to move forward in facilitating team and interdisciplinary science, one must make two basic assumptions: that disciplines are social constructs, and therefore subject to our designs, and that scientists are susceptible to the draws of social hierarchy, social status, and the use of status to exercise power. He suggested several additional presumptions that could further aid efforts to improve interdisciplinarity. First, since as actors within disciplinary constructs, we cannot be fully objective about them. Second, that there are many deeply-held and unquestioned "canons" within our scientific and cultural system (Crow likened such canons to religious doctrine). Third, that the past seventy years of government investment in science has had a huge impact on the direction of innovation. Finally, that there is a philosophical struggle between two ideals of the scientist. The first is based on Plato's "philosopher king" model (pursuing knowledge for its own sake) and the second is a "scientist as hero" conception of the scientist working to solve a specific problem. Crow argued that the "philosopher king" model is often held as the purer ideal, but that both should be viewed as equally valid.

Crow argued that individual factors have the greatest impact on team dynamics. He noted that many highly successful scientists are rigid in their way of thinking and interacting with others. These scientists should not be given controlling roles in teams and are unlikely to be successful team participants. Crow suggested that institutional factors may facilitate the production of scientists with low social capacity. Crow argued that administrators should take care to create environments without cultural rigidity. He talked about coping with pushback from faculty by engaging his detractors on an intellectual basis. He argued for open-mindedness in management and team leadership and said that there should be no tolerance for disciplinary bias. Crow argued that for a team to be successful, everyone must contribute; one person can sink a team. Finally, Crow argued that there can be no sacred cows, and no acceptance of the status quo. Reformers must be willing to start from scratch and work with chaos in order to build something new.

Interdisciplinarity at the Institute for Social Research

James Jackson, Director of the Institute for Social Research (ISR) at the University of Michigan and COSSA's President, spoke about how ISR has encouraged team and interdisciplinary research. ISR is composed of five permanent autonomous centers. Research programs within the centers, composed of anywhere from a few researchers to a hundred, change according to the progress of the science and funding availability. He noted that researchers primarily come from the social and behavioral sciences, but also include people with backgrounds in engineering, biology, medicine, and mathematics.

Jackson discussed ways ISR has encouraged and implemented team science. When an ISR social

science team looked at how the University could reduce its energy consumption, the University encouraged ISR to act as its own guinea pig and implement the team's suggestions. ISR worked with engineers to implement the social science results and saved \$60,000 in energy costs. Another experiment Michigan is trying is giving researchers tokens worth \$20,000, which they can only cash in if they find two other researchers in different disciplines to work on a project with (giving the team of three interdisciplinary researchers \$60,000 to work on a project of their choosing). ISR is currently evaluating the results, but they believe it will increase team and interdisciplinary science across the University. The University also consulted with ISR on ways to encourage interdisciplinary collaboration in a new health and biological science research center, such as placing teams in certain configurations within the center.

More information about the consensus study is available here: <u>http://sites.nationalacademies.org/DBASSE/BBCSS/CurrentProjects/DBASSE_080231#.UPJIZ29CjSi</u>. A webcast of the Planning Meeting can be accessed at: <u>http://tvworldwide.com/events/nas/130111/#</u>.

NAS Holds Workshop on the Design of the National Children's Study

On January 11, the National Academy of Sciences' (NAS) Committee on National Statistics and the Board on Children, Youth, and Families held a day-long meeting to begin discussions regarding the sampling design of the National Children's Study (NCS). The Senate Appropriations Committee directed the Secretary of Health and Human Services (HHS) to enter into an agreement with the NAS to review the sampling strategy of the NCS.

The findings of the workshop will be used to inform the NCS Program Office on specific design questions. According to the background paper provided for the workshop, the ideas presented at the workshop will "be considered for incorporation into the Main Study Design." In addition, the Program Office has been advised by NCS Federal Advisory Committee to seek "input from a Federal Consortium of colleagues with expertise in specific subject areas, as well as contemporaries involved in international cohort studies."

Four panel discussions made up the workshop:

- 1. Decisions About Environmental Measures;
- 2. Composition of Sample: Alternatives for Cohorts Of Women;
- 3. Weighting, Imputation, and Estimation in Proposed Design; and
- 4. Factors, Issues, and Values to Balance and Consider In Reaching Decisions about the NCS Design

The workshop agenda and the background paper are available on the Academies' website.

Shorter Lives, Poorer Health: U.S. Losing Ground in the Control of Diseases, Injuries, and Other Sources of Morbidity

Although Americans have achieved very high levels of health over the past century and are healthier than people in many other nations, according to the recently released National Academies' report,

U.S. Health in International Perspective: Shorter Lives, Poorer Health, "a growing body of research suggests that the health of the U.S. population is not keeping pace with the health of people in other economically advanced, high-income countries." The report states that "this research documents a growing U.S. health disadvantage: the United States is losing ground in the control of diseases, injuries, and other sources of morbidity."

The NAS report notes that compared with many other high-income countries, the population of the U.S. is more racially and ethnically diverse, receives immigrants from multiple countries, and struggles with higher poverty rates. The accompanying poor health of racial and ethnic minorities

and socioeconomically disadvantaged groups is well documented. A growing body of research is beginning to suggest that the U.S. health disadvantage is not limited to socioeconomically disadvantaged groups: even the most advantaged Americans are in worse health than their counterparts in other countries.

The answer to the question of why the U.S. is falling behind, according to the report, could "reveal one or more factors that threaten the health of Americans and their economic competitiveness relative to other countries. Understanding the complex factors responsible for the U.S. health disadvantage could improve understanding of the factors responsible for health itself and point toward more strategic policies to improve the health of the American public."

The report is the work of the Panel on Understanding Cross-National Health Differences Among High-Income Countries, a joint effort between the <u>Committee on Population</u> in the <u>Division of Behavioral and Social Sciences and Education</u> at the National Research Council and the <u>Board on Population Health and Public Health Practice</u> in the <u>Institute of Medicine</u> and sponsored by the National Institutes of Health's (NIH) Office of Behavioral and Social Sciences Research (OBSSR). The Committee's charge was to "examine what is known about international differences among high-income countries in measures of health and disability over the life cycle, and what those findings imply for public health." The panel concluded that "the findings from this report could suggest the need for new data collection, an agenda for further research, or the opportunity to design more effective public health strategies in the future."

Yet, the report also emphasizes that "research in the areas of biomedicine, health services, public health, social epidemiology, and the social and behavioral, and environmental sciences are all vital. Diverting support of funding for these important research endeavors to study the U.S. health disadvantage would be a fundamental mistake."

Recommendations and Data Needs

Recommendation 1: Acting on behalf of all relevant data-gathering agencies in the U.S. Department of Health and Human Services, the National Institutes of Health and the National Center for Health Statistics should join with an international partner to improve the quality and consistency of data sources available for cross-national comparisons. The partners should establish a data harmonization working group to standardize indicators and data collection methodologies. This harmonization work should explore opportunities for relevant U.S. federal agencies to add questions to ongoing longitudinal studies and population surveys that include various age groups-- especially children and adolescents-- and to replicate validated questionnaire items already in use by other high-income countries.

Recommendation 2: The NIH and other research funding agencies should support the development of more refined analytic methods and study designs for cross-national health research. These methods should include innovative study designs, creative uses of existing data, and novel analytical approaches to better elucidate the complex causal pathways that might explain crossnational differences in health. The report emphasizes the daunting methodological challenge of how to design studies to understand the causes of the U.S. health disadvantage. It further emphasizes that "randomized controlled trials, which are considered the strongest evidence of effectiveness in much medical research, are hardly the answer for this field... The more important question in understanding the U.S. health disadvantage is to explore the relationship between antecedent factors and health outcomes, some of which occur relatively soon after a risk exposure (e.g., unintended pregnancies) and some of which transpire over years or decades."

Recommendation 3: The NIH and other research funding agencies should commit to a coordinated portfolio of investigator-initiated and invited research devoted to understanding the factors responsible for the U.S. health disadvantage and potential solutions, including lessons that can be learned from other countries. The knowledge gleamed from such research has the potential not only to help the U.S. regain its footing as a leader in health and improve its long-term economic outlook

but also to broaden universal understanding of the factors responsible for cross-national health differences.

The report acknowledges that the cause-effect relationships for some aspects of the social and nonmedical determinants of health are not yet well established. To fill the gaps in scholarship on the subject, the panel explained that it envisions a portfolio of research supported by the NIH and other funding entities, including:

- International tracking studies that maintain a current epidemiologic dashboard on crossnational patterns in the prevalence of diseases, biomarkers, and risk factors, all-cause and cause-specific mortality rates; and the incidence of injuries for key age groups (especially for people under age 50), by administering the same instrument in a standard group of highincome countries;
- Further research on how the U.S. health disadvantage is distributed by income and education and what factors may be responsible for the differential influence of income on heath;
- Long-term prospective cohort studies and other innovative designs that could document the role of antecedent factors (policy, the environment, social factors, behaviors, and health systems) on the U.S. health disadvantage;
- Questions about past experiences and exposures (retrospective questions) on population surveys, which can facilitate research on life-course influences (although validation of such questions may require longitudinal studies);
- Retrospective studies of historical data and time-series analyses to better elucidate how past conditions in the U.S. might help explain current health patterns;
- Environmental measurement to understand place-based influences on cross-national health disparities, including the effect of land use and urban planning decisions in cities and contextual factors in the large rural areas of the U.S., and
- Area-based research using geocodable data, geographic information systems (GIS) technology, and a variety of newer approaches based on global positioning.

The report also highlights some of the crucial unanswered research questions about the U.S. health disadvantage, including:

- What specific factors explain the unfavorable birth outcomes (e.g., high infant mortality rates) experienced in the U.S., which exist even after adjusting for race, ethnicity, and maternal education?
- To what extend does inadequate health care explain why Americans are more likely than their counterparts in peer countries to die from transportation-related injuries, violence, non-communicable diseases or communicable diseases?
- Is mental illness generally, and are specific mental illnesses, more common in the U.S. than other peer countries?
- Why are Americans more likely than people elsewhere to describe their health as good or excellent?
- To what extent do social and economic inequality and low social mobility, independent of absolute poverty, contribute to the aggregate disadvantage in U.S. health?
- To what extent do epigenetic processes help explain the links between environmental factors and the biological outcomes observed in the U.S. health disadvantaged?

Recommendation 4: The nation should intensify efforts to achieve established national health objectives that are directed at the specific disadvantages documented in this report and that use strategies and approaches that reputable review bodies have identified as effective.

Recommendation 5: The philanthropy and advocacy communities should organize a comprehensive media and outreach campaign to inform the general public about the U.S. health disadvantage and

to stimulate a national discussion about its implications for the nation.

Recommendation 6: The NIH or another appropriate entity should commission an analytic review of the available evidence on: (1) the effects of policies (including social, economic, educational, urban and rural development and transportation, health care financing and delivery) on the areas in which the U.S. has an established health disadvantage, (2) how these policies have varied over time across high-income countries, and (3) the extent to which those policy differences may explain cross-national health differences in one or more health domains. This report should be followed by a series of issue-focused investigative studies to explore why the U.S. experiences poorer outcomes than other countries in specific areas documented in this report.

The Committee concludes the report by emphasizing that "the important point about the U.S. health disadvantage is not that the U.S. is losing a competition with other countries, but that Americans are dying and suffering at rates that are demonstrably unnecessary. The fact that other high-income countries have better health outcomes is evidence that better health is achievable for Americans."

PCAST Releases Agricultural Preparedness Report

The U.S. agricultural enterprise has made the American farmer among the most efficient in the world. However, over the past decades, the government's interest in agricultural innovation has waned, even as we face emerging environmental challenges. The President's Council of Advisors on Science and Technology (PCAST) commissioned a report to assess our readiness to meet these new challenges and offer solutions for reforming agricultural research. The report, entitled "Agricultural Preparedness & the United States Agricultural Research Enterprise," was authored by the PCAST Agricultural Preparedness Working Group and was released in December.

At the release event, Daniel Schrag, study co-chair, gave an overview of the report. The working group began by discussing what they saw as the challenges and priorities for agriculture over the next decade, including economic and job pressures and food stability and security. Schrag noted that agriculture research and development is in some ways a victim of its own success; there is an assumption that with no additional investment, it will continue to flourish. Government investment in agriculture R&D has remained stable while investment in other sciences has grown. In addition, the report notes that "one of the drawbacks of the current system of agricultural research is that there is often a separation of agricultural research from other areas of biology, chemistry, social sciences, earth sciences, computer sciences, and engineering."

Schrag noted that while there is vibrant private investment in agriculture research, there are research needs in the public domain that the private sector is not interested in. The major public sector challenges the report identified are:

- new pests, pathogens, and invasive species;
- water efficiency and quality;
- reducing agriculture's environmental footprint (including production of greenhouse gases, pollution, and eroding soil quality);
- meeting greater demand for bioenergy;
- producing safe and nutritious food;
- global food security and abundance.

In addition, the report indicates that consumer behavior is another area for exploration because "there are also challenging social science issues that underpin consumer choice and preference."

The working group next examined whether the U.S. was prepared to meet these challenges and concluded that it is not. One major problem with the current public agriculture research enterprise is that it is dominated by noncompetitive processes, unlike most other science areas, which may hinder innovation. The working group also noted that there is significant overlap between private

and public efforts at the expense of other areas in the public domain that are currently neglected.

Overall, Schrag characterized the report's recommendations as a "reinvigoration" of agricultural research, training, workforce, education, and infrastructure. The report recommends expanding investment in basic science relevant to agriculture at NSF and making competitive funding available for research through the USDA. The report recommends establishing private/public partnerships between the USDA, industry, and academia (using projects like the BP Biofuels Center and some of the Department of Energy's partnerships as a model). Schrag observed that a reoccurring theme from the working group was the need to attract and train students better. He noted that many of the best students are choosing to pursue other sciences instead of going into agriculture. The report therefore recommends the expansion of the USDA fellowship program to graduate and postdoctoral students. Finally, the report recommends a planned investment in infrastructure that funds key institutions and avoids redundancies.

Catherine Wotecki, Department of Agriculture, discussed the ways the USDA can implement some of the report's recommendations within its current appropriations. First, the Department can rebalance its grant portfolio away from intramural and towards competitive grants. Second, the report recommends a review of agriculture regulatory policy. Wotecki affirmed that her programs are ready to assist with such a review. The report argues for the creation of six multidisciplinary institutions to address emerging agricultural challenges. She pointed to grants through the Agriculture and Food Research Initiative (AFRI) that are aimed at spurring innovation. Regarding the infrastructure and human capital issues the reports raises, Wotecki noted that Congress had already asked the Agricultural Research Service to prepare a capital investment plan. However, she noted that the department has no currently funded authority to replace agricultural infrastructure. The report also recommends the creation of a science advisory committee to advise the Chief Scientist of the USDA. Wotecki acknowledged that though the USDA has many advisory committees, there is not one that serves that purpose and that such a committee would be useful.

A panel comprised of Robin Schoen, National Academies' Board on Agricultural and Natural Resources, Tom Sinclair, University of Florida and North Carolina State University and Working Group member, and Ellen Bergfeld, American Society of Agronomy, and moderated by Schrag, gave stakeholder perspectives on the report. Schoen commended the report's recommendation for more competition in funding and noted that past National Research Council panels had recommended the same thing. She argued competition presses scientists to be rigorous, which moves the scientific enterprise forward. Sinclair argued that there is a "serious crisis" in agriculture training and education. The number of crop scientists is less than half of what it was twenty years ago. He argued that more funding opportunities will excite people about agriculture. Bergfeld noted that the report addresses a number of "chronic issues" in agriculture research. Such issues make it more difficult to attract students of all ages to the pipeline. The biggest challenge, she said, is how to make agriculture more attractive to the public and to Congress. Schoen also noted that agricultural problems are big, system-wide problems that excite scientists in other disciplines, so a remaining challenge is how to re-integrate agriculture into the other sciences.

The full PCAST report is available at: <u>http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_agriculture_20121207.pdf</u>. A recording of the release event can be viewed at: <u>http://www.youtube.com/watch?v=4JQGHLv_5FM</u>.

NIH Seeks Applications for Exploratory/Developmental Dissemination and Implementation Research in Health

Each year, billions of U.S. tax dollars are spent on research and hundreds of billions are spent on service delivery and community health programs. Conversely, relatively little is spent on, or known about, how best to ensure that the lessons learned from research are relevant to, and inform and improve the quality of health, delivery of services and the utilization and the sustainability of evidence-based tools and approaches. The National Institutes of Health (NIH) recognizes that

closing the gap between research discovery and clinical and community practice is both a complex challenge and absolute necessity to ensure that all populations benefit from the nation's investment in scientific discoveries.

Dissemination and Implementation research intends to bridge the gap between public health, clinical research and everyday practice by building a knowledge base about how health information, interventions, and new clinical practices and policies are transmitted and translated for public health and health care service use in specific settings. Dissemination is defined as the targeted distribution of information and intervention materials to a specific public health or clinical practice audience. There is missing critical information about how, when, by whom, and under what circumstances research evidence spread throughout the agencies, organizations, and frontline workers providing public health and clinical services. There is a need to understand what underlies the creation, transmission, and reception of information on evidence-based pharmacological, behavioral, psychosocial, genomic, policy and system interventions. Implementation is defined as the use of strategies to adopt and integrate evidence-based health interventions and change practice patterns within specific settings.

Accordingly, the agency's offices, centers, and institutes (Office of Behavioral and Social Sciences, Mental Health, Cancer, Human Genome Research, Aging, Alcohol Abuse and Alcoholism, Allergy and Infectious Diseases, Deafness and other Communication Disorders, Dental and Craniofacial, Drug Abuse, Neurological Disorders and Stroke, Nursing, Center for Complementary and Alternative Medicine) are inviting exploratory and developmental grant applications for research that will identify, develop, and refine effective and efficient methods, systems, infrastructures, and strategies to disseminate and implement research-tested health behavior change interventions, evidence-based prevention, early detection, diagnostic, treatment, symptom management, and quality of life improvement interventions, and data monitoring and surveillance reporting tools into public health and clinical practice settings.

Applications that continue to address the complexity of bridging research, policy and practice using established and innovative approaches to theory, measurement, research design, and analyses are encouraged. Examples of topics supported by the announcement include:

- Studies of efforts to scaffold multiple evidence-based practices within care settings, to meet the needs of complex patients, systems of care, and service integration.
- Longitudinal and follow-up studies on the factors that contribute to the sustainability of research-based improvements in public health and clinical practice.
- Studies testing the effectiveness and cost-effectiveness of dissemination or implementation strategies to reduce health disparities and improve quality of care among rural, minority, low literacy and numeracy, and other underserved populations.
- Studies using simulation modeling, evaluability assessments, and other estimation approaches to evaluate proposed D&I actions, policies and practices.
- Studies that address context in descriptive and innovative ways and investigate the relationship of context to adoption, implementation and maintenance.
- Comparative effectiveness research that addresses dissemination and implementation issues and approaches, and that evaluate the cost, resource requirements and other economic and policy outcomes.
- Studies of the adoption, implementation and sustainability of health policies and their interaction with programs and contextual factors.
- Studies of complex health problems, co-morbid patients and complex interventions using innovative methods, models and analyses that fit these needs.
- Analysis of factors influencing the creation, packaging, transmission and reception of valid health research knowledge, ranging from psychological and socio-cultural factors affecting individual practitioners, consumers, primary caregivers and other stakeholder groups to investigations addressing large service delivery systems and funding sources.
- Studies on the fidelity/adaptation of implementation efforts, including the identification of components of implementation that will enable fidelity to be assessed meaningfully.
- Studies of systems interventions to impact organizational structure, climate, culture, and

processes to enable dissemination and implementation of clinical/public health information and effective clinical/public health interventions.

- Studies of efforts to implement health promotion, prevention, early detection, and diagnostic interventions, as well as effective treatments, clinical procedures or guidelines into existing care systems across the lifespan to measure the extent to which such procedures are utilized, adhered to and sustained, by patients, providers and consumers.
- Studies of the capacity of specific care delivery settings (primary care, schools, worksites, community health settings, health departments, etc.) to incorporate dissemination or implementation efforts within current organizational forms.

Applications are due after January 9, and January 16, 2013. For more information and/or to apply see: http://grants.nih.gov/grants/guide/pa-files/PAR-13-054.html or http://grants.nih.gov/grants/guide/pa-files/PAR-13-054.html or http://grants.nih.gov/grants/guide/pa-files/PAR-13-054.html or http://grants.nih.gov/grants/guide/pa-files/PAR-13-055.html or http://grants.nih.gov/grants/guide/pa-files/PAR-13-056.html or

FDA Offers Fellowships to Work on Tobacco Regulation

The Food and Drug Administration (FDA) is soliciting applications for their Tobacco Regulatory Science Fellowship for Mid-Career Professionals.

The fellowships provide the opportunity to gain experience in the regulation of tobacco products by working with an interdisciplinary group of colleagues to develop science-based public health strategies. These would inform the regulation and marketing of tobacco products.

Launched in 2012, this fellowship is a collaborative program between the FDA Center for Tobacco Products (CTP) and the Institute of Medicine. During this 12-month, multidisciplinary, residential experience in Rockville, MD, fellows will gain hands-on expertise in the regulation and marketing of tobacco products while working in one of six CTP offices:

- Office of Compliance and Enforcement
- Office of Health Communication and Education
- Office of Management
- Office of Policy
- Office of Regulations
- Office of Science

Exceptional, highly competitive mid-career professionals from a variety of disciplines are encouraged to apply. Each fellow will be awarded up to \$95,000 based on salary history, and may be eligible to receive a relocation fund of up to \$10,000.

The online application is available from January 9th - February 20th, 2013. For more information, visit <u>http://www.iom.edu/Activities/Education/FDAFellowship.aspx</u>.

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The Consortium of Social Science Associations (COSSA) is an advocacy organization promoting attention to and federal support for the social and behavioral sciences. UPDATE is published 22 times per year. ISSN 0749-4394.

