White House Response to the National Academy's Report on Strengthening Forensic Science in the United States

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Visiting Committee on Advanced Technology
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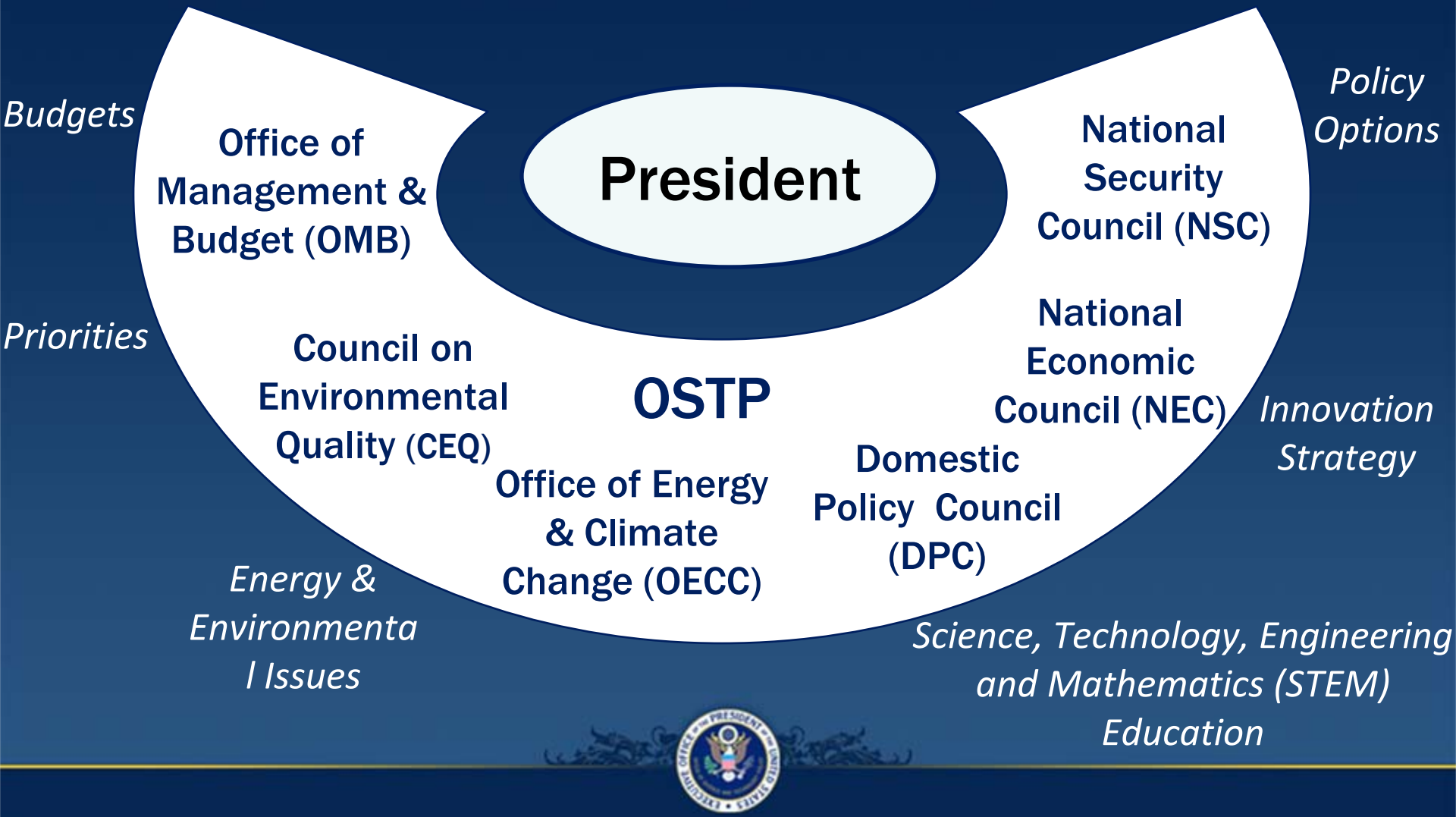
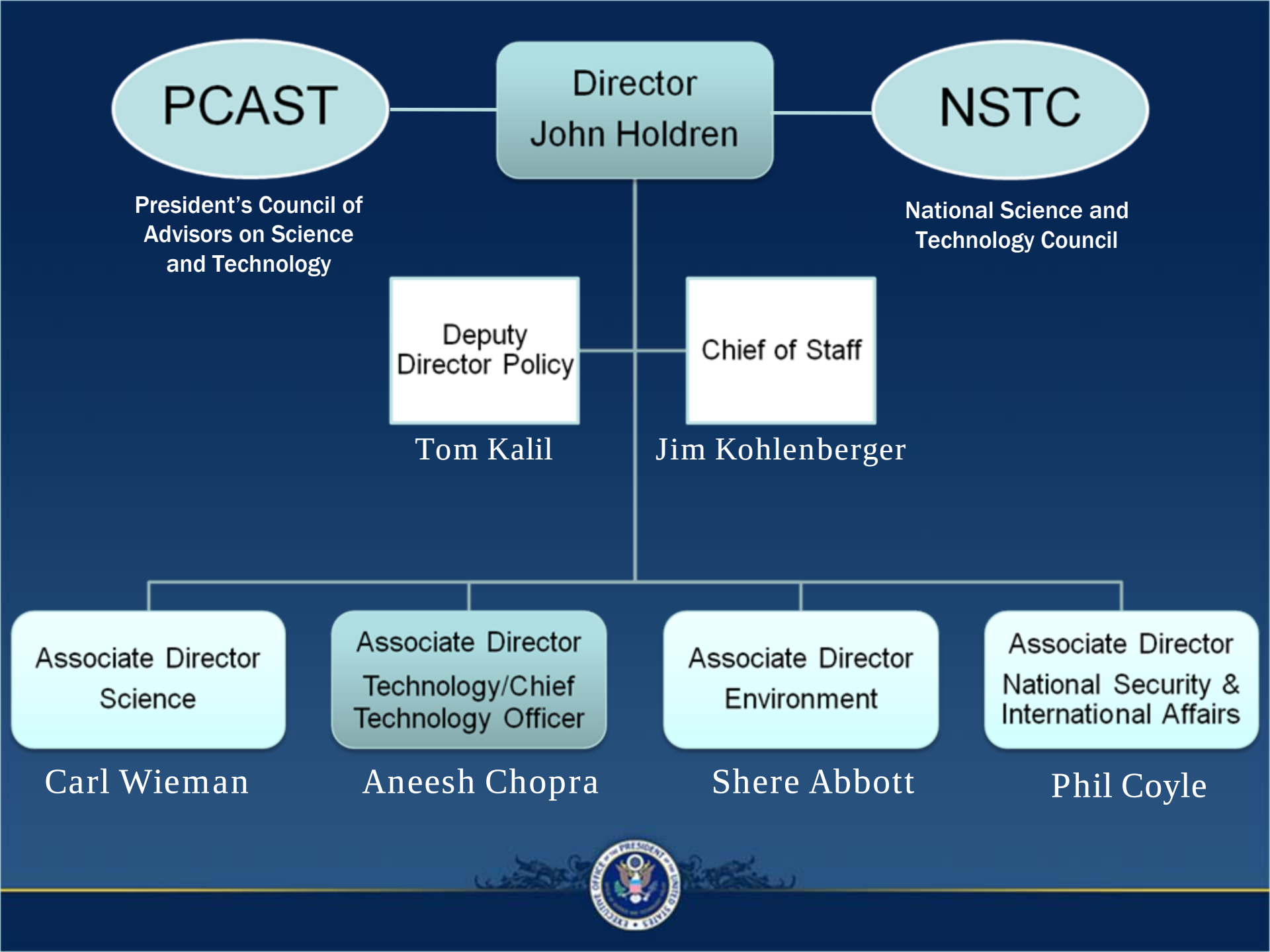
OSTP sits within the Executive Office of the President (EOP)

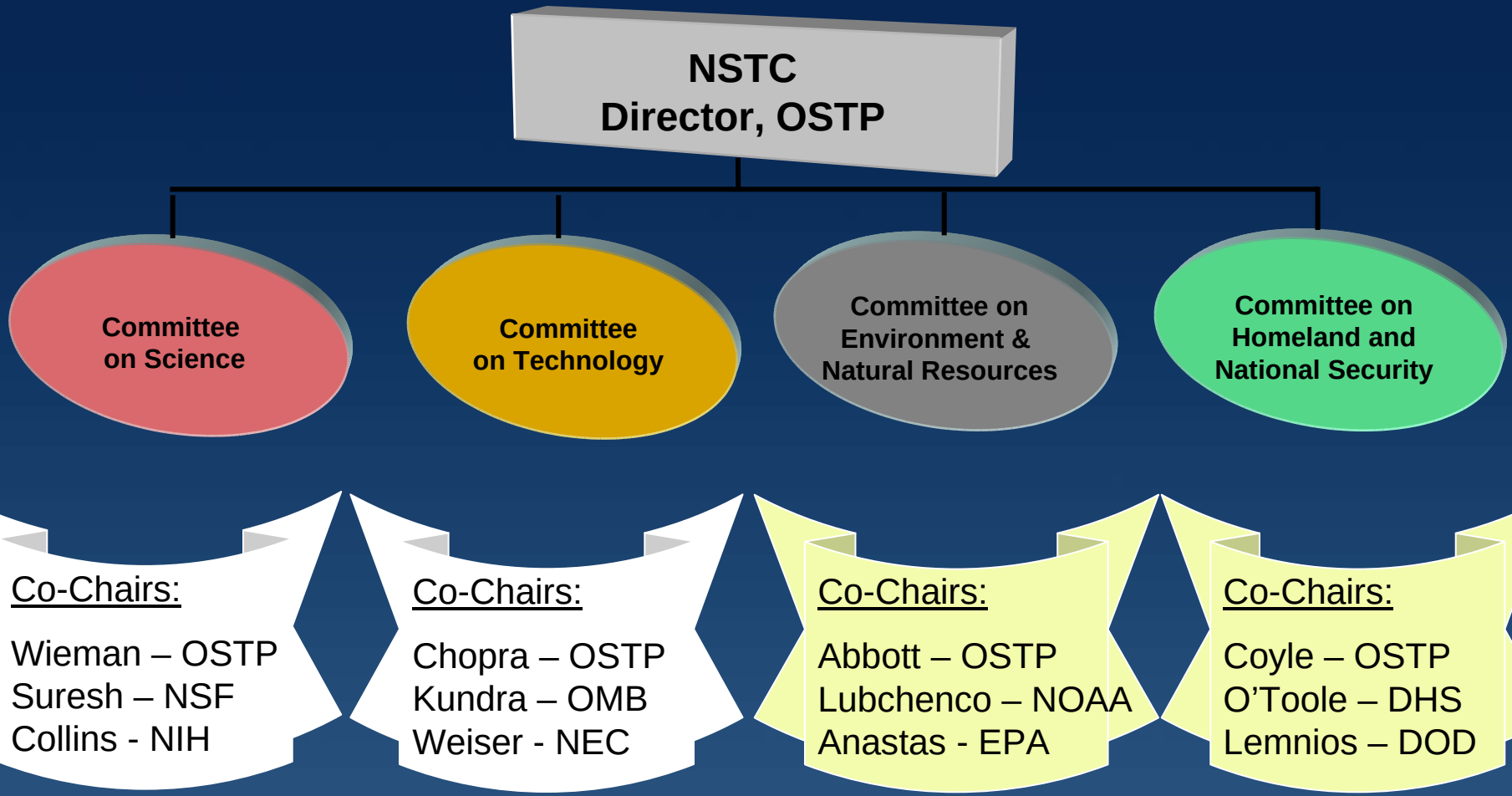



PCAST
President's Council of Advisors on Science and Technology
Director
John Holdren
NSTC
National Science and Technology Council
Deputy Director Policy
Tom Kalil
Chief of Staff
Jim Kohlenberger
Associate Director Science
Carl Wieman
Associate Director Technology/Chief Technology Officer
Aneesh Chopra
Associate Director Environment
Shere Abbott
Associate Director National Security & International Affairs
Phil Coyle

Principal Functions of the NSTC

- Coordinate the science and technology (S&T) policy making process
- Ensure that S&T policy decisions and programs are consistent with President's goals
- Help integrate the President's S&T policy agenda across the Federal Government
- Ensure that S&T are considered in the development and implementation of Federal policies and programs
- Further international cooperation in S&T

Top-level NSTC Structure



NATIONAL SCIENCE AND TECHNOLOGY COUNCIL

COMMITTEE ON ENVIRONMENT & NATURAL RESOURCES		
AIR QUALITY RESEARCH (SC)	GLOBAL CHANGE RESEARCH/ CLIMATE CHANGE SCIENCE (SC)	US GROUP ON EARTH OBSERVATIONS (SC)
DISASTER REDUCTION (SC)	OCEAN SCIENCE & TECHNOLOGY (SC)	WATER AVAILABILITY & QUALITY (SC)
ECOLOGICAL SYSTEMS (SC)	TOXICS AND RISK (SC)	

COMMITTEE ON HOMELAND & NATIONAL SECURITY		
DECONTAMINATION STANDARDS & TECHNOLOGY (SC)	FOREIGN ANIMAL DISEASE THREAT (SC)	NUCLEAR DEFENSE RESEARCH & DEVELOPMENT (SC)
DOMESTIC IMPROVISED EXPLOSIVE DEVICES (SC)	HUMAN FACTORS (SC)	STANDARDS (SC)
ELECTRIC GRID VULNERABILITY (IWG)	INFRASTRUCTURE (SC)	

COMMITTEE ON SCIENCE		
AQUACULTURE (SC)	FORENSIC SCIENCE (SC)	PRION SCIENCE (IWG)
BIOTECHNOLOGY (SC)	HUMAN SUBJECTS RESEARCH (SC)	RESEARCH BUSINESS MODELS (SC)
DIGITAL DATA (IWG)	LARGE SCALE SCIENCE (SC)	SCIENTIFIC COLLECTIONS (IWG)
DOMESTIC ANIMAL GENOMICS (IWG)	PHYSICS OF THE UNIVERSE (IWG)	SOCIAL, BEHAVIORAL, ECONOMIC SCIENCES (SC)
EDUCATION & WORKFORCE DEVELOPMENT (SC)	PLANT GENOMES (IWG)	

COMMITTEE ON TECHNOLOGY		
AERONAUTICS (SC)	INNOVATION & COMPETITIVENESS (SC)	SIMULATION_BASED SCIENCE (FTAC)
BIOMETRICS & IDENTITY MANAGEMENT (SC)	NANOSCALE SCIENCE ENGINEERING & TECH. (SC)	SMART GRID (SC)
BROADBAND (SC)	NETWORKING & INFORMATION TECHNOLOGY (SC)	STANDARDS (SC)
BUILDINGS TECHNOLOGY RESEARCH & DEV. (SC)	INFORMATION PRIVACY (SC)	TELEJOBS (FTAC)
HYDROGEN & FUEL CELLS (IWG)	QUANTUM INFORMATION SCIENCE (SC)	

July 2010

For more information, go to:

www.whitehouse.gov/ostp/nstc

Charter of the Subcommittee on Forensic Science Committee on Science, NSTC

Objective:

"The purpose of the Subcommittee is to advise and assist the Committee on Science, the National Science and Technology Council (NSTC), and other coordination bodies of the Executive Office of the President on policies, procedures, and plans related to forensic science in the national security, criminal justice, and medical examiner/coroner systems at the local, state, and federal levels..."

Charter of the Subcommittee on Forensic Science Committee on Science, NSTC (continued)

To achieve this goal, the Subcommittee shall:

- **Inventory and analyze activities already underway aimed at addressing forensic science challenges**

- **Develop strategic plans for the improvement of forensic science capacity, infrastructure, standards and quality management, with particular attention to priorities in the 2009 NRC report**

Subcommittee on Forensic Science

- Co-Chairs:
  - Mark Stolorow, National Institute of Standards and Technology
  - Kenneth Melson, Bureau of Alcohol, Tobacco, Firearms, and Explosives

- Executive Secretary:
  - Robin Jones, Department of Justice

Subcommittee on Forensic Science Membership - Agencies

- Department of Commerce
- Department of Defense
- Department of Energy
- Department of Homeland Security
- Department of the Interior
- Department of Justice
- Department of Labor
- Department of the Treasury
- Environmental Protection Agency
- Intelligence Community
- National Institutes of Health
- National Science Foundation
- Smithsonian Institution
- United States Postal Service

Interagency Working Groups

- Research, Development, Testing, and Evaluation (RDT&E)
- Standards, Practices and Protocols
- Education and Ethics
- Certification and Accreditation
- Outreach and Communications

Subcommittee Membership

- Leadership-level subject matter experts from Federal agencies with S&T activities in forensic science, covering a wide array of backgrounds and disciplines.

Conundrum: Forensics is predominantly non-Federal in nature

- By some estimates, more than 95% of forensic activities are performed at the state/local levels.

- How best to collaborate effectively with non-Federal offices and organizations?

Solution: Invite state and local representatives to be members of IWGs

- Federal Advisory Committee Act: State, local, or tribal employees can serve as advisors on IWGs as long as they are either elected officials themselves or have the written authorization of an elected official with jurisdiction over the employee's office/agency to act on that official's behalf for purposes of the working group.

Subcommittee co-chairs solicited applications via

- professional forensic science organizations
- criminal justice organizations
- national standards organizations

Approximately 50 respondents fulfilled requirements and are now sitting on IWGS, including:

- academics from state universities
- state and local prosecutors
- public defenders
- judges
- professionals from state and local crime labs

Participants are active:

- Subcommittee meets monthly
- IWGS generally meet more frequently, often for full-day meetings

Strengthening Scientific Underpinnings

- NAS report highlighted weaknesses in scientific underpinnings of several forensic disciplines but did not detail precise gaps or prioritize specific research needs

- Not clear in all disciplines that “foundational scientific literature” that is most relied upon by working professionals is, in fact, the best science available today

Science and Technology Policy Institute

- Federally funded research and development center that provides analytic support to the White House Office of Science and Technology Policy
- Chartered by an act of Congress in 1991 and began operation in 1992
- Sponsored by the National Science Foundation

Conducting bibliometric analysis incorporating citation analysis and other means to, among other goals, compare "foundational" literature underpinning current laboratory standards and practices with literature being cited by contemporary thought-leaders

- Findings will guide creation of an expert panel to be convened by the Subcommittee in early 2011
- Panel will use data to assess the rigor of the scientific research basis in forensic subfields and identify specific knowledge gaps
- Information will help guide NIJ and other funders of research to fill most pressing gaps

Accreditation

- The recognition of technical competence through third-party assessment of a laboratory's quality, administrative, and technical systems.

- Provides information to laboratories to strengthen their operations

- Provides general public and users of laboratory services a means of identifying those labs in compliance with established standards relating to
  - staff competence and training
  - continuing education
  - validity and appropriateness of test methods
  - traceability of measurements and calibrations to national standards
  - suitability, calibration, and maintenance of test equipment
  - documentation, sampling, and handling of test items
  - quality assurance of data

Gold Standard:

- Accredited to ISO standards and/or supplemental standards specific to forensic science.

- Subcommittee is considering approaches and costs

Two tiers to the challenge of increasing accreditation rates

- Federal forensics labs
  - Significant progress has been made but voluntary accreditation has proven inadequate
  - Currently nearly half of the Nation's approximately 115 Federal forensics laboratories are unaccredited to ISO standards

- State and local labs and forensic units
  - About 7,000 state and local units in US provide forensic services, most in police agencies
  - Some states (eg., NY, OK, TX) have passed legislation mandating accreditation of some (but not all) forensic science service providers
  - Nationwide, a minority are accredited

Ethics and Professional Responsibility

- Various jurisdictions and accrediting organizations have promulgated codes of ethics or professional responsibility, as have some accrediting organizations (eg., American Society of Crime Laboratory Directors Laboratory Accreditation Board (ASCLD/LAB) Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists)

- No uniform code exists for all Federal forensics laboratories covering all forensic disciplines

- Subcommittee's Education & Ethics IWG reviewed 45 codes for professional responsibility in use by various forensic science organizations
- Identified major crosscutting themes:
  - exhibit professional competence
  - provide clear and objective testimony
  - avoid conflicts of interests
  - avoid bias and influence, real or perceived.

Ethics and Professional Responsibility

- IWG is crafting a draft uniform code for widespread promulgation, with goal of being required of Federal laboratories
- State and local forensic laboratories would be encouraged and perhaps obligated by state legislation or Executive Memoranda to adopt
- Accreditation and certifying organizations would require as part of their requirements for accreditation and certification

Selected Other Issues Being Addressed by IWGs

- AFIS Interoperability
  - AFIS = Automated Fingerprint Identification Systems
  - Five different commercial versions of the technology on the market
  - Lack of universal search software complicates searches for matches across jurisdictions
  - Subcommittee looking into the blend of relevant technical and policy issues

Selected Other Issues Being Addressed by IWGs

- Scientific Working Groups
  - Discipline-specific assemblies of Federal, state and local subject matter experts
  - Exist for approximately 20 major forensic disciplines
  - Generally populated by practitioners
  - Generally lack statutory authority, so can provide only guidelines rather than being able to promulgate standards that require labs to meet best practices.
  - Subcommittee considering options for reorganization/reform

Selected Other Issues Being Addressed by IWGs

- Human Observer Bias and Sources of Human Error
  - NAS identified need for research leading to Standard Operating Procedures to minimize bias and human error
  - Subcommittee recently arranged for NSF to convene a workshop on cognitive bias

Looking ahead

- Subcommittee is generating white papers and formal recommendations for consideration by NSTC/OSTP

- OSTP will work with other White House offices to consider options