

Update on ICCVAM Activities

Background Material:

- A New Vision and Direction for ICCVAM
- ICCVAM Communities of Practice Webinar
- ICCVAM Public Forum
- Guidance Document on Developing and Assessing Adverse Outcome Pathways (OECD)
- Applying Adverse Outcome Pathways (AOPs) to support Integrated Approaches to Testing and Assessment (IATA)
- Integrated Testing Strategies (ITS) for Safety Assessment

ICCVAM Vision Document:

In September 2013, ICCVAM developed and published on its website the draft document *A New Vision and Direction for ICCVAM*, which communicated a change in how the committee would operate and the activities it would undertake. The new vision and direction responded to a change in philosophy for ICCVAM and NICEATM that was announced in January 2013 by NIEHS and NTP Director Dr. Linda Birnbaum. Briefly, the draft document presented (1) areas for immediate priority and scientific focus, (2) plans for improved communications with stakeholders, and (3) a proposed role in exploring new paradigms for the validation and use of alternative toxicological methods.

Since the 2013 SACATM meeting, both NICEATM and ICCVAM have been working diligently to implement the draft vision and direction document. The draft has not been updated or revised *per se*. Instead, NICEATM and ICCVAM are considering options for a process to regularly update the public on priorities and projects. At the September 2015 SACATM meeting, NICEATM and ICCVAM look forward to input from SACATM and the public on ICCVAM's progress towards implementing the draft vision and direction document and on additional scientific areas for NICEATM and ICCVAM to consider pursuing. In addition, individual agencies will provide updates to SACATM on agency-specific activities related to implementing the 3Rs (i.e., replacement, reduction, or refinement of animal use).

Areas of priority and scientific focus for immediate resource investment:

In 2013, ICCVAM set as priorities three areas: acute toxicity, vaccine potency and safety, and skin sensitization testing, based on their likelihood for successful implementation into regulatory use. Updates on vaccine potency efforts will be provided by USDA and FDA during the Federal Agency updates. ICCVAM's progress on acute toxicity and skin sensitization testing is provided below.

Acute Oral and Dermal Toxicity Testing

NICEATM and the Environmental Protection Agency (EPA) Office of Pesticide Programs (OPP) are collaborating to evaluate the relative contribution of data from acute oral and dermal toxicity tests to pesticide hazard classification and labelling. A draft dataset of acute oral and dermal LD50 data for formulations of a variety of pesticides, including conventional pesticides, antimicrobials, and biopesticides, is nearing completion. The formulations being tested span all four EPA hazard categories for acute toxicity (I, II, III, IV). Substantial progress has been made on this effort; an update on this project will be provided by the U.S. EPA during the meeting.

Skin Sensitization Testing

Fostering the evaluation and promotion of alternative test methods for regulatory use in skin sensitization hazard assessment has been one of ICCVAM's long-standing priorities. Because the adverse outcome pathway (AOP) for skin sensitization is well characterized, and a number of non-animal test methods have been developed, it has promise for the near-term development of testing strategies that do not require the use of animals.

The Organisation for Economic Cooperation and Development (OECD) has published new test guidelines in the area of skin sensitization based on two non-animal methods for skin sensitization testing, using the [KeratinoSens \(OECD TG 442D\)](#) and [Direct Peptide Reactivity Assay \(DPRA\) \(OECD TG 442C\)](#) test methods. NICEATM has been working with the ICCVAM skin sensitization working group (SSWG) to use these validated methods as part of a battery of *in silico* and *in vitro* tests that can be combined as an Integrated Approach to Testing and Assessment (IATA), which has been submitted to OECD. An update on this project will be provided during the meeting.

Communication and Public Outreach:

Public Forum

In May 2015, ICCVAM held its second [Public Forum](#), an opportunity for ICCVAM agency representatives to interact with and receive feedback directly from the public. The meeting at NIH drew 27 participants and nearly 100 webcast viewers, representing academia, industry, and animal welfare organizations. Key points raised included requests for more transparency in reporting animal use by industry, more training for regulators on available non-animal methods and strategies, and better communication to the public of the science behind non-animal methods.

Webinar

In January 2015, ICCVAM held its first [Communities of Practice webinar](#). The goal of these webinars is to provide in-depth examinations of current topics in chemical screening and safety testing. The topic of the January webinar was "Reverse Toxicokinetics: Using *In Vitro* Data to Estimate Exposures that Could Be Associated with Adverse Effects *In Vivo*." The webinar was viewed by over 250 people. To follow up on interest generated by the webinar, NICEATM is organizing a workshop titled "*In Vitro* to *In Vivo* Extrapolation for High-Throughput Prioritization and Risk Assessment" in February 2016.

Website

Traffic on [NICEATM](#) and [ICCVAM](#) pages within the NTP website ranges between 5000–8000 page views per month. NICEATM completed a content review of these pages for accuracy, timeliness, and adherence to plain language guidelines in April 2015, and procedures were established for monthly review and update of frequently viewed and time-sensitive pages. New pages added to the website in the past year include "[3Rs Topics](#)," a page featuring periodic articles for general audiences on topics relevant to NICEATM and ICCVAM activities, and "[ICCVAM Agency Activities](#)," containing brief updates and links to more information on ICCVAM agency activities in support of replacement, reduction, or refinement of animal use. Planned activities include expanding content about international interactions and making large, data-heavy pages more user-friendly.

NICEATM News Email List

NICEATM distributes announcements relevant to alternative methods development via the NICEATM News email list. The list currently has over 1000 members. Formerly known as ICCVAM-all, the list was renamed as part of an April 2015 migration to a new platform that supports formatted text, graphics, and attachment of documents.

Since October 2014, 22 messages have been distributed via the ICCVAM-all/NICEATM News email list. Each message contained one or more articles about meetings, funding opportunities, changes in regulations and guidances, data requests, and resources of interest to test method developers. NICEATM News articles can be viewed by anyone on the [NIH Listserv website](#) and on the [NTP website](#).

Presentations at National and International Meetings

NICEATM staff and eight ICCVAM committee members chaired sessions, gave oral presentations, or contributed to [17 poster presentations](#) at the March 2015 meeting of the Society of Toxicology (SOT). NICEATM staff also presented posters or oral presentations at the [second EPA ToxCast Data Summit](#) (September 2014), OpenTox USA (February 2015), and the annual meeting of the Teratology Society (June-July 2015).

NICEATM submitted five abstracts to two upcoming meetings, the annual meeting of the [American Society for Cellular and Computational Toxicology](#) (October) and the SOT-sponsored [FutureTox III: Bridges for Translation](#) meeting (November). The submitted NICEATM abstracts focus on using non-animal assays and computational methods for identifying potential endocrine disruptors and skin sensitizers.

Publications Describing NICEATM and ICCVAM Activities

NICEATM provides updates on NICEATM and ICCVAM activities to the journal [ALTEX](#) and the [NTP Update](#) newsletter. NICEATM also prepares reports for the monthly [NIEHS Environmental Factor](#) newsletter: recent *Environmental Factor* articles summarized the [May ICCVAM Public Forum](#) and [NICEATM support of international efforts to replace animal use for pertussis vaccine testing](#). Upcoming articles will report on NICEATM contributions to a strategy for using high-throughput assays and computational methods in the EPA Endocrine Disruptor Screening Program and recent international interactions.

NICEATM staff published 11 articles in the peer-reviewed literature since October 2014, compared to eight during October 2013–September 2014. Publications by NICEATM staff are listed [on the NTP website](#).

Charge Questions for SACATM:

- Please comment on ICCVAM's progress, to date, in carrying out the priority areas of work described in the ICCVAM vision and strategy document.
- Please comment on whether there might be short to intermediate term (1-5 years) scientific areas that ICCVAM and NICEATM should consider pursuing.
- Please comment on whether current communication efforts are adequate for keeping interested stakeholders informed about ICCVAM activities. Please suggest any other communication efforts that ICCVAM might consider.
- How can ICCVAM better utilize social media to communicate with stakeholders and public?