



# Interagency Coordinating Committee on the Validation of Alternative Methods

## ICCVAM 2022-2023 Biennial Report

Scientific Advisory Committee on Alternative  
Toxicological Methods  
September 17, 2024

Agency for Toxic Substances and Disease Registry • Consumer Product Safety Commission • Department of Agriculture  
Department of Defense • Department of Energy • Department of the Interior • Department of Transportation Energy  
Department of Veterans Affairs Office of Research and Development • Environmental Protection Agency • Food and Drug Administration  
National Institute for Occupational Safety and Health • National Institutes of Health • National Cancer Institute  
National Institute of Environmental Health Sciences • National Institute of Standards and Technology • National Library of Medicine  
Occupational Safety and Health Administration



# The ICCVAM Authorization Act of 2000

“ICCVAM shall...prepare reports to be made available to the public on its progress under the Act. The first report shall be completed not later than 12 months after the date of enactment of this Act, and subsequent reports shall be completed biennially thereafter.”

Public Law 106–545  
106th Congress

## An Act

To establish, wherever feasible, guidelines, recommendations, and regulations that promote the regulatory acceptance of new or revised scientifically valid toxicological tests that protect human and animal health and the environment while reducing, refining, or replacing animal tests and ensuring human safety and product effectiveness.

### SEC. 3. INTERAGENCY COORDINATING COMMITTEE ON THE VALIDATION OF ALTERNATIVE METHODS.

(e) DUTIES.—The ICCVAM shall, consistent with the purposes described in subsection (b), carry out the following functions:

(1) Prepare reports to be made available to the public on its progress under this Act. The first report shall be completed not later than 12 months after the date of the enactment of this Act, and subsequent reports shall be completed biennially thereafter.



# 12<sup>th</sup> ICCVAM Report Now Available

The screenshot shows the top portion of the ICCVAM website. At the top left is the ICCVAM logo. To its right is the text "BIENNIAL PROGRESS REPORT 2022-2023" and "Interagency Coordinating Committee on the Validation of Alternative Methods". A search bar is located in the top right corner. Below the header is a navigation menu with items: Home, Technology, Confidence, Utilization, Leadership, About, Reference Pages, Search Agencies, and Search Topics. The main content area features a large image of a human head profile with a grid overlay and the text: "ICCVAM facilitates the development, validation, and regulatory acceptance of test methods that replace, reduce, or refine the use of animals in testing." Below this is the title "ICCVAM 2022-2023 Biennial Progress Report" with a URL: <https://ntp.niehs.nih.gov/go/2023iccvamreport>. A paragraph follows: "The ICCVAM Authorization Act of 2000 directed ICCVAM to prepare a progress report on its first anniversary and biennially thereafter." Another paragraph states: "In January 2008, ICCVAM published a Strategic Roadmap for Establishing New Approaches to Evaluate the Safety of Chemicals and Medical Products in the United States IV. The roadmap described how ICCVAM agencies will encourage development of new technologies for, support utilization of, and build confidence in new methods. This report summarizes progress toward these goals during 2022-2023." A bulleted list of links is provided: "Key NIEHS and ICCVAM Accomplishments and Impact 2022-2023", "Message from NIEHS and NTP", and "Message from NICEATM and ICCVAM". At the bottom of the page are three small images: a person in a lab coat working with equipment, two people in lab coats talking, and a close-up of a laboratory instrument.

<https://ntp.niehs.nih.gov/go/2023iccvamreport>



# Report Outline

- **Home**
- **About NICEATM and ICCVAM**
- **Technology**
  - Assay Development
  - Data Resources
  - Computational Tools Development
  - Tox21 Cross-partner Projects
- **Confidence**
  - Assay Application
  - Communication and Education
  - Computational Tools Applications
- **Utilization**
  - Assessments of Agency Needs and Practices
  - Initiatives to Replace or Reduce Animal Use
  - Policies and Guidance for Implementation of Alternative Methods
- **Leadership**
  - Resources for Alternative Methods Development
  - International Interactions
  - Collaboration
- **Reference Pages**
  - Agency Representative in 2022 and 2023
  - NICEATM and ICCVAM Publications, 2022-2023
  - Glossary of Key Terms
  - Acronyms and Abbreviations



# Report at a Glance


- Number of articles: **212**
- Number of topic tags: **29**
- Number of agencies represented: **17**



# Key Accomplishments

- Publication of updated guidance: “Validation, Qualification, and Regulatory Acceptance of New Approach Methodologies”
- Articles describing agency information needs and testing requirements
- Curation and publication of human skin sensitization database
- Broadening applicability of defined approaches for skin sensitization
- Development of approaches to predict and characterize cardiotoxic potential
- Web tools for chemical exploration and toxicity prediction

# Explore Agency Activities



**BIENNIAL PROGRESS REPORT 2022-2023**  
Interagency Coordinating Committee on the Validation of Alternative Methods

Search ICCVAM Report

Home About Technology Confidence Utilization Leadership Reference Publications **Search Agencies** Search Topics

facilitates the regulatory acceptance, reduce, or refine

### ICCVAM 2022-2023 Biennial Progress Report

The [ICCVAM Authorization Act of 2000](#) directed ICCVAM to prepare a progress report on its first and

In January 2018, ICCVAM published a [Strategic Roadmap for Establishing New Approaches to Evaluate Products in the United States](#). The roadmap described how ICCVAM agencies will encourage development, utilization of, and build confidence in new methods. This report summarizes progress toward these

- [Key NICEATM and ICCVAM Accomplishments and Impact 2022-2023](#)
- [Message from NIEHS and NTP](#)
- [Message from NICEATM and ICCVAM](#)

**About ICCVAM and NICEATM**

- [ICCVAM Establishment and Purpose](#)
- [How NICEATM Supports ICCVAM](#)
- [ICCVAM Advisory Committee](#)

**Technology**

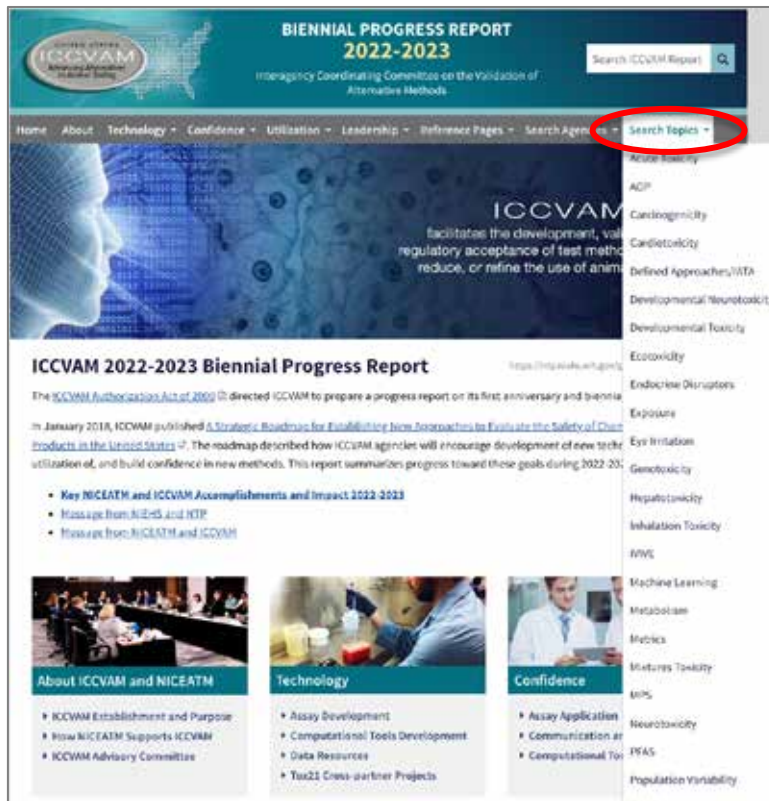
- [Assay Development](#)
- [Computational Tools Development](#)
- [Data Resources](#)
- [Tox21 Cross-partner Projects](#)

**Confidence**

- [Assay Application](#)
- [Communication and Education](#)
- [Computational Tools Applications](#)

ASDH  
CFSC  
DEB  
DOE  
DOI  
DOD  
EPA  
FDA  
ICCVAM  
NIH  
NIEHS  
NIH  
NIOSH  
NIST  
NLM  
OSHA  
USDA  
VA ORO

# Explore Topic Areas



**BIENNIAL PROGRESS REPORT 2022-2023**  
Interagency Coordinating Committee on the Validation of Alternative Methods

Search ICCVAM Report

Home About Technology Confidence Utilization Leadership Reference Pages Search Agency **Search Topics**

ICCVAM facilitates the development, validation, regulatory acceptance of test methods that reduce, or refine the use of animals in research.

**ICCVAM 2022-2023 Biennial Progress Report**

The ICCVAM Authorization Act of 2009 directed ICCVAM to prepare a progress report on its first anniversary and biennially. In January 2018, ICCVAM published [A Strategic Roadmap for Establishing New Approaches to Evaluate the Safety of Chemical Products in the United States](#). The roadmap described how ICCVAM agencies will encourage development of new test methods, increase utilization, and build confidence in new methods. This report summarizes progress toward these goals during 2022-2023.

- Key NICEATM and ICCVAM Accomplishments and Impact 2022-2023
- Message from NIEHS and NTP
- Message from NICEATM and ICCVAM

**About ICCVAM and NICEATM**

- ICCVAM Establishment and Purpose
- How NICEATM Supports ICCVAM
- ICCVAM Advisory Committee

**Technology**

- Assay Development
- Computational Tools Development
- Data Resources
- Tox21 Cross-partner Projects

**Confidence**

- Assay Application
- Communication
- Computational Tools

Acute Toxicity  
ADP  
Carcinogenicity  
Cardiotoxicity  
Defined Approaches (DATA)  
Developmental Neurotoxicity  
Developmental Toxicity  
Ecotoxicity  
Endocrine Disruptors  
Exposure  
Eye Irritation  
Genotoxicity  
Hepatotoxicity  
Inhalation Toxicity  
MWE  
Machine Learning  
Metabolism  
Metrics  
Mixtures Toxicity  
MMS  
Neurotoxicity  
PFAS  
Population Variability





# Live Demo of Website

<https://ntp.niehs.nih.gov/iccvamreport/2023>



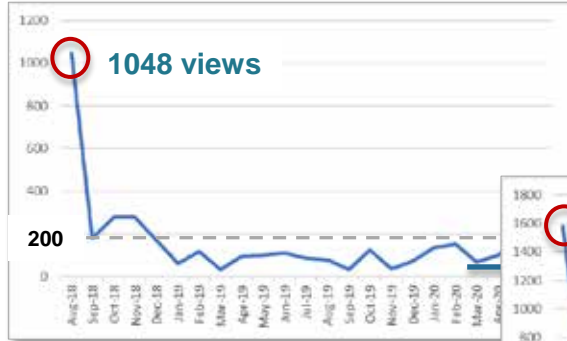
# Evolution of the Biennial Report Since 2005

- **2004-2005, 2006-2007:** 75-page Word document, no illustrations, focused on workgroup activities
- **2008-2009, 2010-2011:** graphics and layout added, still focused on workgroup activities
- **2012-2013, 2014-2015:** shift to encompass more agency activities
  - 2014-2015 edition first to be published as a website
- **2016-2017:** current website platform implemented; greater focus on agency activities
- **2018-2019:** structure updated to reflect Strategic Roadmap; filtering tags implemented

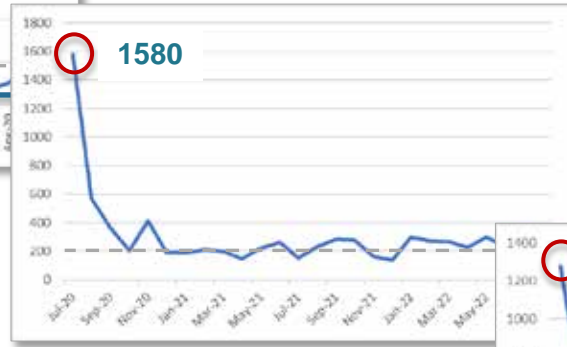


# Audience Engagement

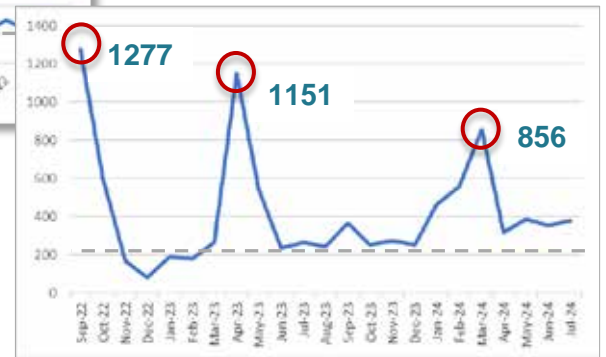
2016-2017 Report



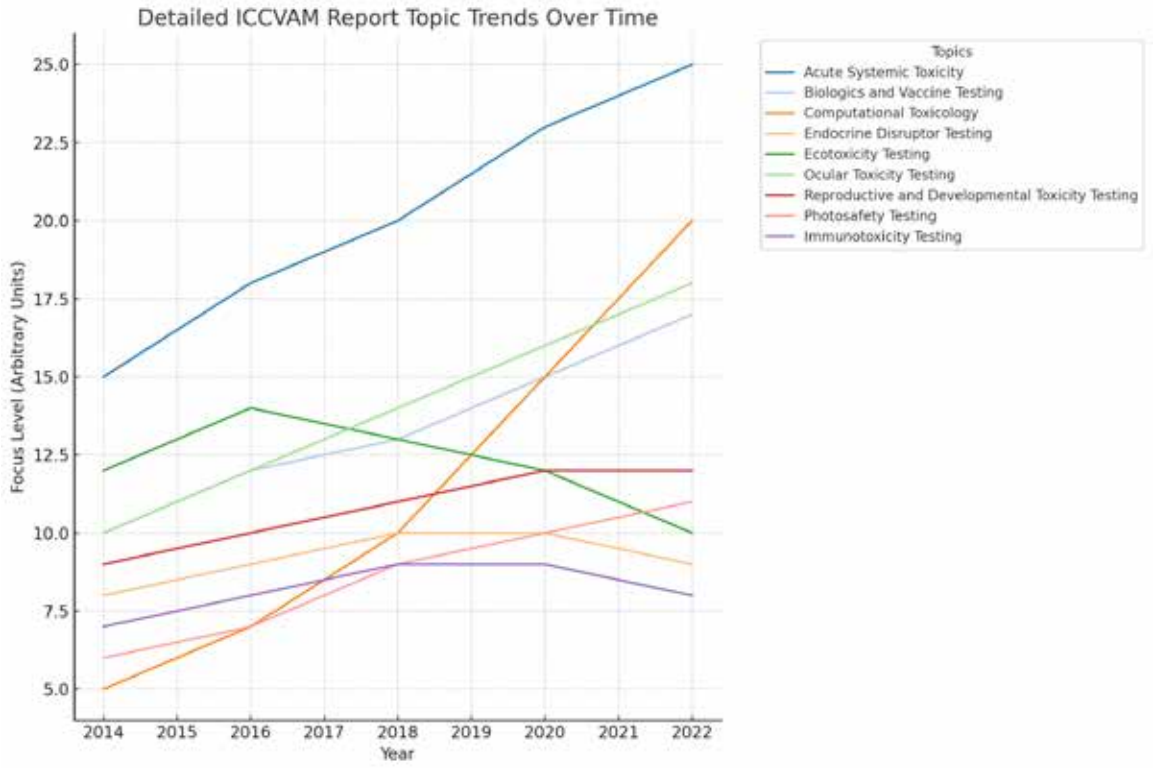
2018-2019 Report



2020-2021 Report



# Topical Trend Analysis





# Regulatory Acceptance and Policy Development

- Steady increase in efforts to validate and accept new methods.
- 2018-2019: Notable progress in international harmonization, working closely with OECD.
- 2020-2021: Policies adapted to accommodate rapid method development.
- 2022-2023: Established frameworks begin to streamline acceptance processes.



# Questions?

<https://ntp.niehs.nih.gov/go/iccvam>