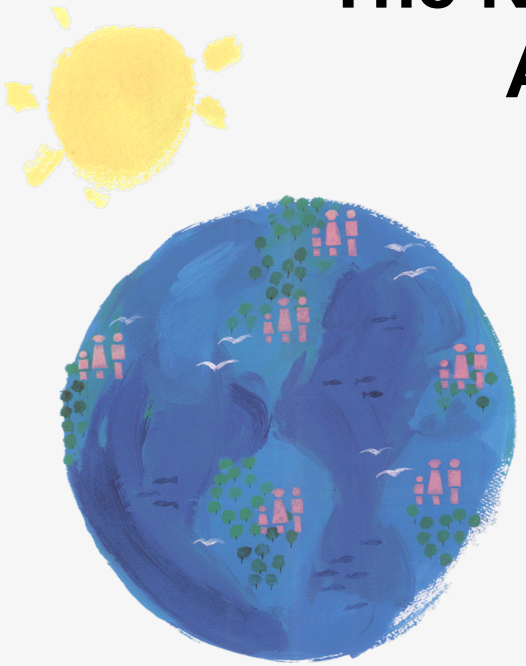
NICEATM ICCVAM

National Toxicology Program
Interagency Center for the Evaluation of Alternative Toxicological Methods

Interagency Coordinating Committee on the Validation of Alternative Methods

The NICEATM-ICCVAM Five-Year Plan: A Vision Towards the Future



Marilyn Wind, Ph.D.

Chair, ICCVAM

Ten-Year Anniversary Symposium

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National Toxicology Program

NIEHS

National Institutes of Health

Department of Health & Human Services • USA

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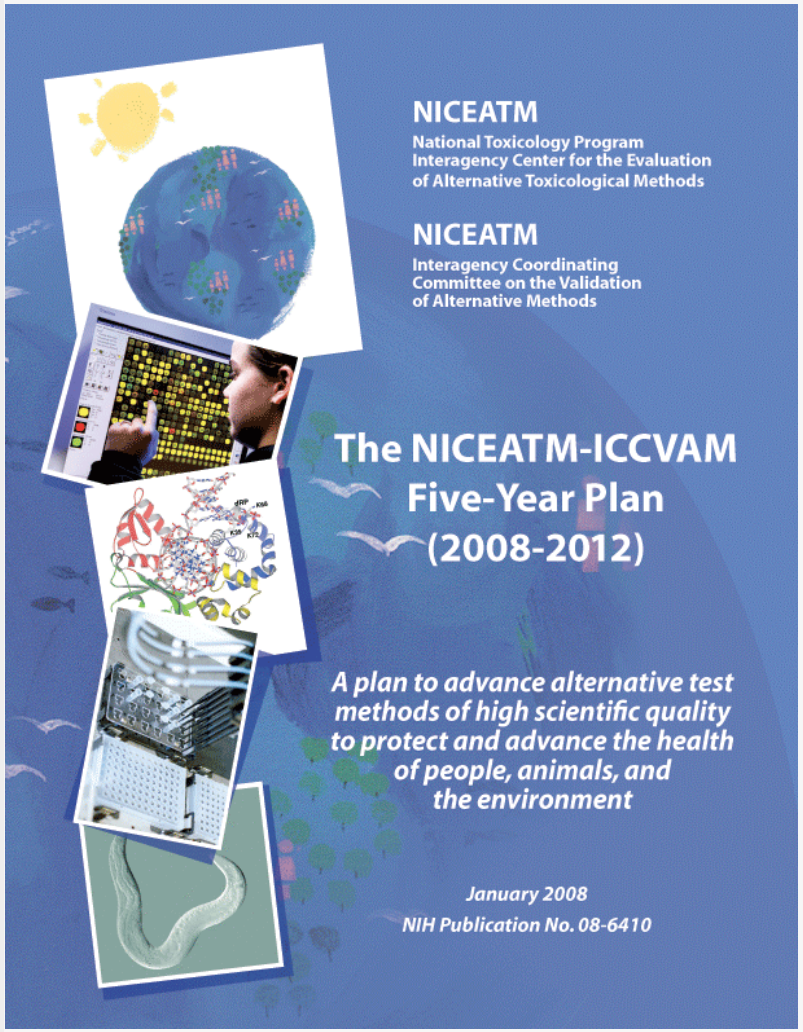
NICEATM-ICCVAM Five-Year Plan



A plan to advance alternative test methods of high scientific quality to protect and advance the the health of people, animals, and the environment

Available at http://iccvam.niehs.nih.gov/docs/5yearplan.htm

Acknowledgements

- **ICCVAM**
- **ICCVAM Five-Year Plan Subcommittee**
  - Dr. Alan Poland, Subcommittee Chair
  - Dr. Suzanne Fitzpatrick
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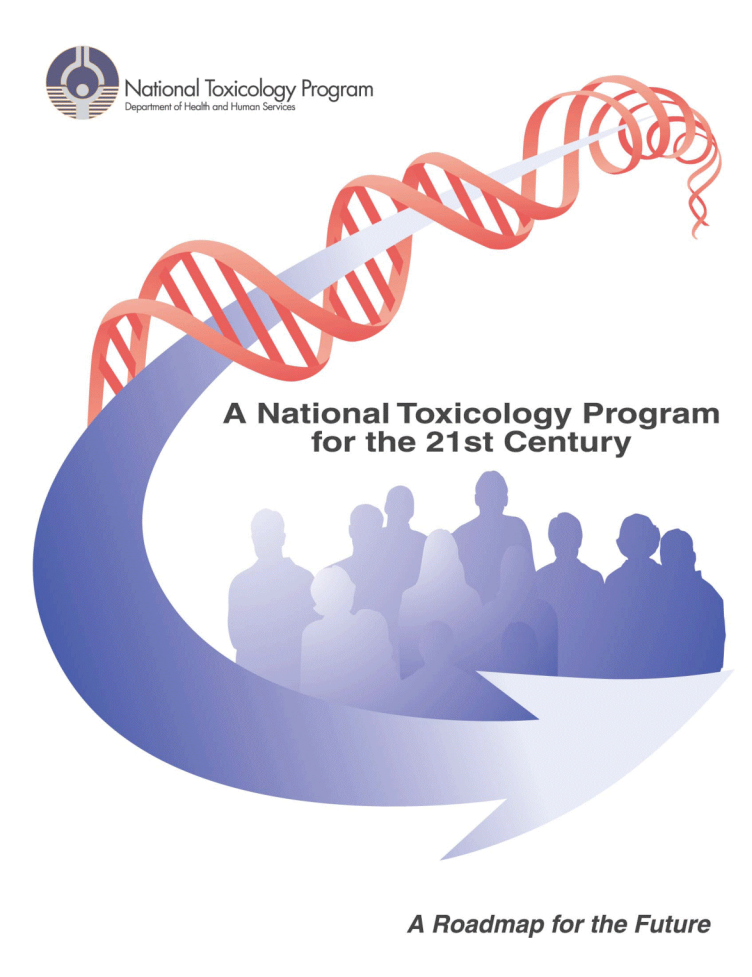
  - Dr. Jodie Kulpa-Eddy
  - Dr. Amy Rispin
  - Dr. Margaret Snyder
  - Dr. William Stokes
  - Dr. Raymond Tice
  - Dr. Marilyn Wind
  - Dr. Shelia Newton, NIEHS Planning Office Liaison
- **The 15 ICCVAM Agency Program Offices**
- **Stakeholders**
- **Public Commenters**
- **NICEATM**
- **NICEATM Support Contractor**
- **SACATM**

Plan Overview

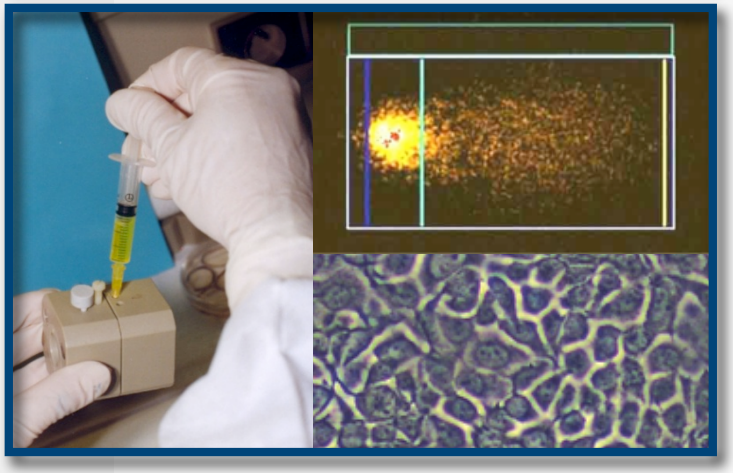
- Introduction
- Chapters 1-4: 4 Key Challenges
- References and Information Resources
- Glossary of Terms
- Acronyms and Abbreviations
- Appendices
  - Appendix A: ICCVAM -- Mission, Vision and Strategic Priorities
  - Appendix B: Federal Agencies and Programs with Authority to Require or Use Toxicological Testing Information
  - Appendix C: Process For Development of the NICEATM-ICCVAM Five-Year Plan
  - Appendix D: U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training
  - Appendix E: The ICCVAM Authorization Act of 2000
  - Appendix F: Test Methods Reviewed by NICEATM and ICCVAM

The NICEATM-ICCVAM Five-Year Plan Builds on the NTP Roadmap



- **Goal 2 of the Roadmap**
  - *"Develop and validate improved testing methods and, where feasible, ensure that they reduce, refine, or replace the use of animals"*
- **From Page 7**
  - *"Activities and assays developed under the NTP Roadmap will be done in cooperation and consultation with ICCVAM to maximize their value to regulatory agencies."*

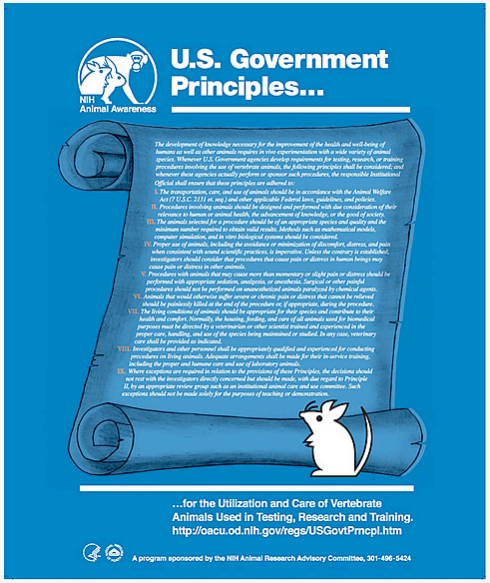
The NICEATM-ICCVAM Five-Year Plan Builds on Current U.S. Laws



- **Agencies have mandates to protect human and animal health and the environment**
  - In order to fulfill these mandates, agencies must ensure that substances are safe, or properly labeled if hazardous
- **Agencies must determine if alternative test methods can provide equal or better protection before their adoption or endorsement**
  - The ICCVAM Authorization Act of 2000 requires that new, revised, and alternative test methods must be determined to be at least equivalent for risk assessment purposes

[1] ICCVAM Authorization Act of 2000, 42 U.S.C. 285*l*–3

The Five-Year Plan Builds on Current U.S. Animal Protection Laws, Policies, and Regulations



- U.S. laws, policies, and regulations require, prior to the use of animals for research and testing, that available alternatives must be considered and used where appropriate that will[1]:
  - **Reduce** the number of animals to the minimum required to obtain scientifically valid data
  - **Refine** procedures to lessen or eliminate pain and distress to animals
  - **Replace** animals with non-animal systems or with a phylogenetically lower animal species

[1]All of ICCVAM's activities are grounded in the *U.S. Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training*
http://grants.nih.gov/grants/olaw/references/phspol.htm#USGovPrinciples

Five-Year Plan Introduction: Roles of ICCVAM and NICEATM

- NICEATM and ICCVAM work with stakeholders to ***promote and facilitate*** research,development, translation, and validation activities
  - ICCVAM depends on other stakeholder organizations to conduct and achieve successful test method research, development, translation, and validation
  - ICCVAM reviews test method submissions from stakeholders to determine the validation status (usefulness and limitations) of new and revised test methods
- Federal agencies with statutory authority to conduct research, development, translation, and/or validation activities:
  - Department of Defense
  - Department of Energy
  - Environmental Protection Agency
  - Department of the Interior
  - NIEHS/NTP
  - Food and Drug Administration
  - NIOSH
  - ATSDR
  - NIH Office of the Director
  - National Cancer Institute
  - Department of Agriculture

The NICEATM-ICCVAM Five-Year Plan: Four Key Challenges

1. Identify Priorities and Conduct and Facilitate Activities in These Areas
2. Identify and Promote New Science and Technology
3. Foster Regulatory Acceptance and Use of Alternative Test Methods
4. Develop Partnerships

Challenge 1: Identify Priorities and Conduct/Facilitate Activities in These Areas

- Addressed in Chapter 1 - *Research, Development, Translation, and Validation Activities for Priority Test Methods to Reduce, Refine, and Replace Animals in Regulatory Testing*
- ICCVAM test method prioritization criteria
  1. Potential impact on reducing, refining, or replacing animals for testing
  2. Potential to improve prediction of adverse health or environmental effects
  3. Applicability to multiple agencies
- Priorities may vary across Agencies
- Priorities may change
  - Need to be flexible so we can take advantage of advances in science and technology and availability of new methods

Challenge 1: Identify Priorities[1] and Conduct/Facilitate Activities in These Areas

- Four Highest Priority Areas
  - Ocular Toxicity
  - Dermal Toxicity
  - Acute Toxicity
  - Biologics/Vaccines
- Other Priority Areas
  - Immunotoxicity
  - Endocrine Disruption
  - Pyrogen Testing
  - Reproductive/Developmental Toxicity
  - Chronic Toxicity/Carcinogenicity Testing

[1]These priorities are likely to evolve in response to new testing needs and advances

Challenge 2: Identify and Promote New Technology

- Addressed in Chapter 2 – *Incorporating New Science and Technology*
- Eleven agencies have research and development programs
  - ICCVAM will monitor these for potential methods that may reduce, refine, or reduce animal use for regulatory testing
- Areas currently identified as potentially applicable
  - High Throughput Screening
  - Other Animal Systems (Lower Species)
  - Computational Approaches
  - Biomarkers of Toxicity
  - Nanomaterials Testing Strategies
  - Toxicology Databases
- Most of these areas will require several years of development

Challenge 3: Foster Regulatory Acceptance and Use of Alternative Test Methods

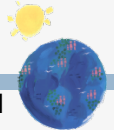
- Addressed in Chapter 3 – *Fostering Acceptance and Appropriate Use of Alternative Test Methods*
- Why is this important?
  - New and revised methods must be both accepted ***and used*** to impact the 3R's
- How will ICCVAM foster acceptance and use of alternative test methods?
  - Provide guidance on adequate validation study design to ensure data is generated to support regulatory acceptance decisions
  - Carry out high-quality public independent peer reviews
  - Provide comprehensive test method evaluations to regulatory agencies
  - Organize implementation workshops for stakeholders

Challenge 4: Develop Partnerships

- Addressed in Chapter 4 – *Developing Partnerships and Strengthening Interactions with ICCVAM Stakeholders*
- Effective interactions are needed to stimulate alternative test method research, development, translation, and validation by stakeholders
- Partnerships will:
  - Leverage and optimally utilize available resources
  - Maximize efficiency/minimize duplication of efforts
  - Ensure early exchange of information
  - Facilitate national and international recognition, acceptance, and implementation of scientifically valid test methods

Challenge 4: Develop Partnerships

- How will we strengthen our interactions?
  - Strengthen interactions to foster appropriate development and validation of test methods
  - Foster interagency collaborations including validation studies
  - Collaborate with stakeholders to organize workshops to review state-of-the-art science and prioritize research, development, translation, and validation needed to advance the 3R's
  - Foster international collaborations by including experts from the international community on panels and workshops
  - Collaborate with ECVAM and JaCVAM to carry out independent validation studies and test method evaluations



The Five-Year Plan: Implementation

- ICCVAM Five-Year Plan Implementation Subcommittee
  - To oversee implementation efforts by ICCVAM
- ICCVAM Research and Development Working Group
  - To identify and promote priority research and development activities across agencies and with stakeholder organizations

What Do We Hope To Achieve?

- Further reduction and replacement of animal use where scientifically feasible
- Further reduction or elimination of pain and distress where animals are still used
- Continued and/or improved protection of public health, animal health, and the environment

We look forward to your participation as we implement this Plan!