

DNTP Strategic Planning Framework

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Overview

The mission of the Division of the National Toxicology Program (DNTP) is to improve public health through the development of data and knowledge that are translatable, predictive, and timely. DNTP has been delivering on its fundamental mission for over a decade and last undertook a formal strategic planning exercise prior to being established as an Intramural Research Division within the National Institute of Environmental Health Sciences (NIEHS). A central part of the strategic realignment we initiated several years ago is refining our strategic intent and bringing more focus and cohesion to our research portfolio so that DNTP will continue to be impactful far into the future. The basic planning steps are to: 1) assess opportunities and needs that DNTP is exceptionally well positioned to address and lead, 2) build upon existing organizational strengths, and 3) identify research focus areas that align to our goals and strategic objectives. This planning is a continuous process, and we formulated the DNTP Research Principles (see below, page 3) to guide decisions regarding what types of problems we take on and why.

Areas of focus in the DNTP portfolio are designed to align to the following overarching strategic objectives: 1) solve contemporary public health problems related to environmental exposures, 2) enhance our progress in becoming a more predictive science through the deliberate application of a Translational Toxicology Pipeline of capabilities, and 3) invent disease-focused environmental toxicology. The result is a portfolio partitioned into four strategic areas of focus, namely 1) health effects innovation, 2) exposure-based research, 3) responsive research, and 4) strengthening capabilities. Within these four areas of focus there are a total of ten research programs (see below) to which all DNTP portfolio projects have been mapped.

Strategic Areas of Focus

Health Effects Innovation

Cardiovascular
Carcinogenicity
Developmental Neurotoxicity

Exposure-Based Research

Combined Exposures and Mixtures
Consumer Products and Therapeutics
Occupational and Inhalation Exposures

Responsive Research

Emerging Contaminants and Issues of Concern
Safe and Sustainable Alternatives

Strengthening Capabilities

Novel Tools and Approaches
Scientific Cyberinfrastructure

For each research program, there is a DNTP staff team that monitors the relevant portion of our current portfolio, establishes program-specific strategic objectives, and develops meaningful projects to achieve those objectives. The outputs of these strategic planning efforts are a progressive series of templated documents labeled *Program Introduction*, *Program Concept*, and *Program Plan*. Each document builds upon the previous and is continually revised and expanded by incorporating finer level of detail and addressing additional program planning elements. These documents are designed for use in internal decision-making and to facilitate external engagement with the NTP Board of Scientific Counselors (BSC). Program Introductions for all ten individual programs are provided to the BSC now to facilitate a fundamental understanding of them individually and collectively, while they are actively being developed by DNTP staff. Program Concept documents include further details on objectives and approach(es), and brief information on research activities and outputs (milestones and metrics). Program Concepts will be provided as background to the BSC for in-depth discussion at a series of subsequent meetings.

DNTP Research Principles

The NIEHS DNTP Program has a commitment to support the missions of the NIEHS, the National Institutes of Health (NIH), and the U.S. Department of Health and Human Services (HHS). DNTP is also one of three partners in the HHS interagency National Toxicology Program (NTP).

Accordingly, the DNTP mission is to improve public health through the development of data and knowledge that are translatable, predictive and timely. This fundamental mission has been relatively unchanged throughout the evolution of our organization. We have recently refined four overarching goals to articulate how we intend to accomplish this mission, which are to: 1) collaborate with public stakeholders and global partners to identify and address public health issues, 2) generate and communicate trusted scientific information to support decision-making on environmental hazards of public interest, 3) lead the transformation of toxicology through the development and application of innovative tools and strategies; and 4) educate and train the next generation of translational scientists to be innovative leaders in the field.

We execute toward these goals through a combination of internal research, external collaboration, and support of interagency partnerships. DNTP research priorities are guided by the following set of ten fundamental principles:

- DNTP will evaluate substances and issues of public health concern that require complex strategies and prolonged focus for which we have unique scientific capability and responsibility.
- DNTP will continue to accept requests to study specific topics and will work with stakeholders and global partners to devise and implement appropriate research strategies.
- DNTP will preferentially conduct research where there are identified stakeholders, discrete knowledge gaps, and a visible path to achieving actionable outcomes.
- DNTP will preferentially conduct research that enables us to apply the full spectrum of our capabilities in support of our aspiration to evolve toxicology to a more predictive and translational discipline.
- The use of accepted guideline-compliant studies in animal models continues to represent an impactful and resource-intensive capability that will be applied for clearly defined and high value regulatory needs. These studies will be supplemented by higher throughput alternative approaches intended to build knowledge toward a future less dependent on the use of animals.
- DNTP will integrate existing knowledge in clearly defined and systematic ways to support clear decision-making by our government, regulatory, scientific, and public stakeholders.
- DNTP will develop, evaluate, and work with partners to facilitate the adoption of novel tools and approaches that increase our ability to generate information that is more human-relevant, more predictive, and less animal dependent.
- DNTP will avoid conducting or supporting studies of substances where the responsibility or authority to do so lies with other federal agencies or commercial entities that have the requisite capabilities and resources.

- DNTP will focus its efforts on applied and translational human health research. We recognize that basic biomedical research is fundamental to evolving our approaches to be more predictive, however, such research is the primary responsibility of the broader NIEHS and NIH enterprise.
- In planning our research activities, we will consider the value that DNTP can offer relative to other organizations, avoid redundant efforts whenever possible, and seek to leverage existing and new partnerships.

We recognize that the needs and opportunities for research that aligns to these principles is far greater than that which we can support. A decision to add a research focus to the DNTP portfolio will be made following a rigorous assessment of stakeholder needs, our ability to deliver timely and actionable outcomes, our scientific and technical capabilities, and our available resources, accounting for other portfolio priorities. Commitments will be actively managed to support timely delivery of data, knowledge, and decision tools of value to the broader public health community.