

Identifying Cost Savings Associated with NIEHS-Funded Research

Linda S. Birnbaum^{1,2}

¹National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health (NIH), Department of Health and Human Services (DHHS), Research Triangle Park, North Carolina, USA

²National Toxicology Program (NTP), NIEHS, NIH, DHHS, Washington DC, USA

<https://doi.org/10.1289/EHP3841>

The National Institute of Environmental Health Sciences (NIEHS) has made great strides in identifying the benefits of reducing environmental contaminants and understanding how the environment affects health and disease. In a commentary this month in *Environmental Health Perspectives*, staff with the NIEHS Superfund Basic Research and Training Program (SRP) build on these efforts in a series of case studies that document measurable economic and societal benefits resulting from research funded by the SRP (Suk et al. 2018).

The commentary concentrates on one aspect of the SRP: developing methods to reduce the amount and toxicity of hazardous substances. This is just one aspect of the broad SRP mandate, which brings together researchers from the biomedical, environmental science, and engineering fields to create multiproject centers. These centers study the health effects of environmental contaminants as well as ways to detect and clean up contaminants in the environment.

The case-study analysis supports Goal 10 of the NIEHS 2012–2017 Strategic Plan (NIEHS/NIH 2012), which includes a general aim to measure economic benefits and the comparative effectiveness of NIEHS investments. This goal includes a better understanding of the economic costs of exposures as well as the benefits of interventions to prevent exposures resulting in disease. This commentary focuses on one aspect of those economic costs—the benefits of using new technologies based on SRP-funded research—compared with conventional methods.

The SRP's own strategic plan, which is well aligned with the NIEHS plan (NIEHS 2015), emphasizes the SRP's commitment to promoting prevention and intervention activities in order to reduce the amount and toxicity of hazardous substances (NIEHS 2015). Through SRP centers, grantees leverage resources, maximize productivity, and accelerate scientific advancement.

The case studies document significant cost savings achieved by SRP-funded research (more than \$100 million). The analysis also points out other societal benefits of the SRP's work, including creation of small businesses, reuse of water and land, forging of university–industry partnerships, creation of new “green” technologies, and translation of discoveries to fields outside of environmental health.

The analysis details the difficulty in applying technologies in the marketplace and in tracking how research moves from initial use in the field to additional applications. The approach the SRP uses to provide information may inspire future researchers to increase data collection during development and application of technologies, which would improve future benefit analyses.

Investments by the NIEHS and the environmental sciences and health community have had a significant public health impact over the years. Documenting the economic and societal benefits of these investments provides insight into how some basic NIEHS-funded research provides a foundation that can be translated to the real world. Identifying and nurturing these cutting-edge projects helps us to recognize the long-term benefits of innovation and investments in research.

References

- NIEHS (National Institute of Environmental Health Sciences). 2015. “Strategies to Attain SRP Objectives and Goals: 2015–2020.” https://www.niehs.nih.gov/research/supported/centers/srp/assets/docs/srp_strategies_to_attain_objectives_and_goals_2015_508.pdf [accessed 17 January 2018].
- NIEHS/NIH (National Institute of Environmental Health Sciences/National Institutes of Health). 2012. “Advancing Science, Improving Health: A Plan for Environmental Health Research.” NIH Publication 12-7935. https://www.niehs.nih.gov/about/strategicplan/strategicplan2012_508.pdf [accessed 17 January 2018].
- Suk WA, Heacock ML, Trottier BA, Amolegbe SM, Avakian MD, Henry HF, et al. 2018. Assessing the economic and societal benefits of SRP-funded research. *Environ Health Perspect* 126(6):065002. <https://doi.org/10.1289/ehp3534>.

Address correspondence to L.S. Birnbaum, National Institute of Environmental Health Sciences, National Institutes of Health, Department of Health and Human Services, Research Triangle Park, North Carolina 27709 USA. Telephone: (919) 541-3201. Email: birnbaum@niehs.nih.gov

The authors declare they have no actual or potential competing financial interests.