



Highlights of [GAO-08-402](#), a report to congressional requesters

Why GAO Did This Study

The National Nanotechnology Initiative (NNI), administered by the Office of Science and Technology Policy (OSTP), is a multiagency effort intended to coordinate the nanotechnology-related activities of 25 federal agencies that fund nanoscale research or have a stake in the results. Nanotechnology is the ability to control matter at the scale of a nanometer—one billionth of a meter. A key research area funded by some federal agencies relates to potential environmental, health, and safety (EHS) risks that may result from exposure to nanoscale materials. Because of concerns about federal efforts to fund and prioritize EHS research, GAO was asked to determine (1) the extent to which selected agencies conducted such research in fiscal year 2006; (2) the reasonableness of the agencies' and the NNI's processes to identify and prioritize such federal research; and (3) the effectiveness of the agencies' and the NNI's process to coordinate this research. GAO reviewed quantitative and qualitative data from five federal agencies that provided 96 percent of fiscal year 2006 funding for EHS research.

What GAO Recommends

GAO is recommending that OSTP provide better guidance to agencies regarding how to report research that is primarily focused on EHS risks. In commenting on a draft of this report, OSTP generally agreed with the findings and will review the manner in which agencies respond to current guidance.

To view the full product, including the scope and methodology, click on [GAO-08-402](#). For more information, contact Anu Mittal at (202) 512-3841 or mittala@gao.gov.

NANOTECHNOLOGY

Better Guidance Is Needed to Ensure Accurate Reporting of Federal Research Focused on Environmental, Health, and Safety Risks

What GAO Found

The NNI reported that in fiscal year 2006, federal agencies devoted \$37.7 million—or 3 percent of the \$1.3 billion total nanotechnology research funding—to research that was primarily focused on the EHS risks of nanotechnology. However, about 20 percent of this total cannot actually be attributed to this purpose; GAO found that 22 of the 119 projects identified as EHS-related by five federal agencies in fiscal year 2006 were not focused on determining the extent to which nanotechnology poses an EHS risk. Instead, the focus of many of these projects was to explore how nanotechnology could be used to remediate environmental damage or to detect a variety of hazards. GAO determined that this mischaracterization is rooted in the current reporting structure which does not allow these types of projects to be easily categorized and the lack of guidance for agencies on how to apportion funding across multiple topics. In addition to the EHS funding totals reported by the NNI, federal agencies conduct other research that is not captured in the totals. This research was not captured by the NNI because either the research was funded by an agency not generally considered to be a research agency or because the primary purpose of the research was not to study EHS risks.

Federal agencies and the NNI are currently in the process of identifying and prioritizing EHS risk research needs; the process they are using appears reasonable overall. For example, identification and prioritization of EHS research needs is being done by the agencies and the NNI. The NNI also is engaged in an iterative prioritization effort through its Nanotechnology Environmental and Health Implications (NEHI) working group. NEHI has identified five specific research priorities for five general research categories, but it has not yet completed the final steps of this process, which will identify EHS research gaps, determine specific research needed to fill those gaps, and outline a long-term, overarching EHS research strategy. GAO found that the focus of most EHS research projects underway in fiscal year 2006 was generally consistent with agency priorities and NEHI research categories and that the projects focused on the priority needs within each category to varying degrees. The anticipated EHS research strategy is expected to provide a framework to help ensure that the highest priority needs are met.

Agency and NNI processes to coordinate activities related to potential EHS risks of nanotechnology have been generally effective. The NEHI working group has convened frequent meetings that have helped agencies identify opportunities to collaborate on EHS risk issues, such as joint sponsorship of research and workshops to advance knowledge and facilitate information-sharing among the agencies. In addition, NEHI has incorporated several practices that are key to enhancing and sustaining interagency collaboration, such as leveraging resources. Finally, agency officials GAO spoke with expressed satisfaction with the coordination and collaboration on EHS risk research that has occurred through NEHI. They cited several factors they believe contribute to the group's effectiveness, including the stability of the working group membership and the expertise and dedication of its members.