

A Vision and Roadmap for Education Statistics

Opportunities for Statistical Agencies and Data Holders

The Foundations for Evidence-Based Policymaking Act of 2018 (the Evidence Act), combined with technological and societal changes in the context, production, and collection of statistical data, have created new challenges and opportunities for statistical organizations and other data holders in the coming years. This issue brief describes how the National Academies of Sciences, Engineering, and Medicine recommends the National Center for Education Statistics (NCES) meet its mission in the 21st century, highlighting issues that may apply to other statistical organizations and data holders.

At the request of the Institute for Education Sciences (IES), within which NCES is located, the National Academies convened an interdisciplinary panel of experts to collect and synthesize information from many parties, and then develop consensus recommendations on how NCES should move into the future. The panel created a roadmap for how, even without an increase in funding, NCES could establish itself as a leader in the education data ecosystem, evidence building, and data governance, and also expand its role as a data-access facilitator. The roadmap is designed to help NCES to be in full control of how it meets its mission—operating strategically, anticipating environmental changes, and readily adapting to deliver high-value products and services. Finally, the report addresses how to be deeply engaged with

stakeholders, strengthen data capacity at state and local education agencies, and act as a strong partner within the Department of Education (ED), while maintaining the independence that is advised for federal statistical agencies (Recommendations 2-2, 2-3).

A key foundational step for NCES to direct its future is to engage in a strategic planning effort to guide decision making and operations. Disciplined planning and implementation will help NCES focus on high-value products and services so that it can achieve maximum effectiveness and mission impact with limited resources (Recommendations 2-1, 3-1). Clarifying tradeoffs and greater goals will also better enable NCES to act nimbly in an evolving environment by better understanding how new issues interrelate with long-range priorities.

WHY DEVELOP A VISION AND ROADMAP?

NCES is the premier statistical agency within the ED, responsible for collecting, analyzing, and disseminating statistics at all levels of education. In addition, NCES supports the ED in a variety of ways: strengthening the privacy of education data; enhancing the quality and consistency of education data at local, state, and federal levels; and supporting the states as they develop their own longitudinal data systems.

Like many statistical agencies, NCES faces competing demands: the increasing availability of and demand for new types of statistics, such as those based on administrative data or big data more generally; the desire for programs and policies to be evidence-based as stated in the Evidence Act; increasing reluctance by many to participate in surveys; stagnating appropriations and a shrinking infrastructure; and a somewhat ambiguous role within the federal government, simultaneously designed to be independent and impartial while also embedded within a larger organizational environment in which agencies are interdependent and cooperation is vital.

Living within the context of a rapidly changing society also places demands on statistical agencies. For NCES, this context includes more diverse student bodies, more students enrolled in postsecondary and adult education, and a greatly expanded role of technology in learning. Thus, aside from providing more general recommendations, the report includes an analysis of how NCES's treatment of these specific topics might be improved to better inform programs and policies (Recommendation 2-4, Chapter 3).

Another challenge and opportunity is the explosion of new kinds of data, including the linking of administrative data and the growth of big data. New insights can be gained from the use of alternative data sources, including commercial data, social media and network data, and internet documents, webpages, and videos that can be harvested or scraped (Recommendations 2-5, 4-2, 4-4).

HOW CAN STATISTICAL AGENCIES AND DATA HOLDERS PROVIDE LEADERSHIP IN RESEARCH AND EVIDENCE BUILDING?

The Evidence Act establishes statistical agency heads as each Cabinet department's chief statistical official, to work closely with the department's chief data officer and chief evaluation officer to advance the development and use of scientifically rigorous evidence. The report recommends NCES build strong partnerships with key departmental offices for evidence building, contributing its unique value as a producer of high-quality information fit to inform policy and decision making and its role as a data-access facilitator (Recommendation 2-3).

For broader mission impact, the panel recommended ways NCES can leverage its existing tools to activate external resources as a force multiplier. Using its Statewide Longitudinal Data Systems Grant Program, NCES can provide leadership to states and school districts, helping to create and standardize education data systems, support states and organizations with data access linkage, and provide guidance on best practices for establishing and configuring data infrastructure. NCES might also fund a data and statistics liaison at each state, who would help coordinate between state personnel and NCES (Recommendation 4-4).

Agency products should be designed to provide stakeholders with useful, actionable, and timely data (Recommendation 4-6). Timeliness might be advanced by reviewing and revising quality assurance processes.

Another tool is to expand and modernize NCES's data-licensing program to support evidence building, perhaps also using grants to help direct research into some of the greatest needs (Recommendation 4-5).

HOW CAN STATISTICAL AGENCIES AND DATA HOLDERS BE MORE DEEPLY ENGAGED WITH THEIR STAKEHOLDERS?

Effective collaborations will be critical in maximizing the availability and usefulness of data, developing new products and processes, and employing tools such as data science. In this regard, partnerships within the ED and with other data-holding federal agencies and organizations will be important (Recommendations 4-2, 2-3).

Engaging external researchers and data users is not only a service to those researchers but also benefits the agency by introducing innovative ideas to NCES, creating an environment within NCES that is learning-oriented and creative, promoting diversity among researchers, and pursuing continuing improvement in data quality, fitness, and relevance for emerging issues. NCES might consider establishing a joint statistical research program, matching internal staff with highly qualified external researchers, statisticians, and data scientists. Collaborating with IES and making use of its grant programs, NCES might promote important areas

in which knowledge needs to be advanced. Developing a community of users with feedback mechanisms would also be a useful tool, especially for creating data products that are useful, actionable, and timely (Recommendations 4-1, 4-3, 4-5, 4-6).

HOW CAN STATISTICAL AGENCIES INCREASE THE EFFECTIVENESS OF THEIR STAFF, EVEN WHEN CONSTRAINED BY LIMITED RESOURCES?

Aligning the organizational structure, staff, contractors, and other resources to strategic goals is critical for meeting the mission with limited resources. Finding ways to promote blending, teamwork, and cross-fertilization will promote growth in staff capabilities and support a culture of innovation, while providing a more integrated and comprehensive approach to key educational topics (Conclusion 5-1). Innovation and continuous learning can also be encouraged by programs to improve processes, methods, and cost effectiveness; and professional development, including activities such as presenting at professional conferences and engaging with research fellows. Another useful tool can be to create a small innovation unit to assist with components design, study, and implementation of new approaches (Recommendations 2-1, 5-1, 4-5).

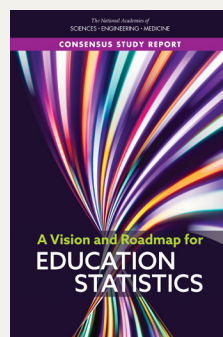
Additionally, staff effectiveness might be increased by using contractors to build internal capacity through collaboration between staff and contractors (Recommendation 5-1). Otherwise, NCES's dependence on contractors, combined with NCES's decreasing staff

size, creates a danger of losing institutional knowledge, with reduced capacity for management and innovation.

By embedding diversity, equity, inclusion, and accessibility in all areas of the organization and throughout the data life cycle, NCES can better enable its staff to adapt and serve contemporary communities (Recommendation 2-4).

CONCLUSION

With the passage of the Evidence Act, this is a key opportunity for NCES and all statistical agencies to expand their leadership in promoting data access, supporting standardization, using new data sources for new insights, collaborating for data sharing and linkage, and adapting its data collections to fit the changing social context. Even in an era of limited resources, there is much that can be done to increase mission impact.



To read the full report, please visit <https://www.nationalacademies.org/our-work/a-vision-and-roadmap-for-education-statistics-in-2030-and-beyond>

FOR MORE INFORMATION

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