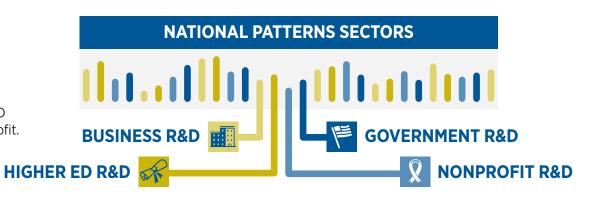National Patterns of R&D Resources

U.S. Research and Development: Indicators of Growth and Innovation

Access to current data on the performance and funding of U.S. research and development is vital to help inform economic and evidence-based policy decisions. R&D statistics provide a measure of how the United States compares globally in R&D efforts, and these data can also serve as important indicators of innovation, which can drive economic growth.

About National Patterns

National Patterns of R&D Resources (National Patterns) is a publication series produced by the National Center for Science and Engineering Statistics (NCSES) that quantifies the trends in total U.S. R&D performance and the connections between R&D funding and performance across all sectors of the U.S. R&D enterprise: business, higher education, government, and nonprofit. Data are compiled from separate surveys covering each sector.

NATIONAL PATTERNS SECTORS

BUSINESS R&D

HIGHER ED R&D

GOVERNMENT R&D

NONPROFIT R&D

Why is National Patterns important?

National Patterns data assist public and private entities with decision-making, research, and comparisons. These groups include individuals and organizations involved in policy decisions, congressional committees, scientific associations (such as the American Association for the Advancement of Science), and international groups (such as the Organisation for Economic Co-operation and Development [OECD]). National Patterns data can help these groups and others understand U.S. R&D trends and the effectiveness of certain policies, as well as progress toward economic goals.

Data from National Patterns can answer questions like

What is the relative funding for the different types of R&D?

Which sector of the economy performs the largest amount of R&D?

How much does the United States spend on R&D overall?

What are the sources of R&D funding in the United States?

How much basic research is performed by each sector?

How much basic research is funded by each sector?

Where can I find National Patterns data?

The National Patterns series is currently comprised of two main components: **InfoBriefs** and **Data Tables**. Released at separate times throughout the publication cycle, these two products present R&D performance insights through formats such as data tables and interactive graphs.

National Patterns compiles information such as

Total U.S. annual R&D expenditures from 1953 to present detailed by

- Performing sector (business, federal government, state government, higher education, and nonprofit)
- Funding sector (business, federal government, state government, higher education, and nonprofit)

Measures of R&D intensity (ratio of R&D expenditures to gross domestic product) from 1953 to present

Expenditures for each type of R&D (by performing and funding sectors)

- Basic research
- Applied research
- Experimental development

Total R&D expenditures for each state (by performing and funding sectors)

National Patterns compiles data from NCSES surveys on U.S. R&D performers and funders

Federal and state government

Survey of Federal Funds for Research and Development

FFRDC Research and Development Survey

Survey of State Government Research and Development

Businesses

Business Enterprise Research and Development Survey

Annual Business Survey

Higher education institutions

Higher Education Research and Development Survey

Nonprofit organizations

Nonprofit Research Activities Survey