



THE UNIVERSITY OF NORTH CAROLINA SYSTEM

UNIVERSITY OF NORTH CAROLINA
RESEARCH AND SPONSORED PROGRAMS

REPORT TO THE PRESIDENT
Fiscal Year 2021

May 2022

University of North Carolina System
Chapel Hill, North Carolina

Executive Summary

The annual Report to the President provides a snapshot of sponsored program activity across the University of North Carolina System. For fiscal year 2021 (FY2021), the total award dollars held steady in the face of COVID 19 Pandemic disruptions at the federal and state level. Commercialization activity increased, with a significant increase in licensing income due to one-time stock sales at the University of North Carolina at Chapel Hill.

Introduction

The University of North Carolina System is a public, multi-campus university dedicated to the service of North Carolina and its people. It encompasses the 17 diverse constituent institutions and other educational, research, and public service organizations. Each share in the overall mission of the University. That mission is to discover, create, transmit, and apply knowledge to address the needs of individuals and society. This mission is accomplished through instruction, which communicates the knowledge and values and imparts the skills necessary for individuals to lead responsible, productive, and personally satisfying lives; through research, scholarship, and creative activities, which advance knowledge and enhance the educational process; and through public service, which contributes to the solution of societal problems and enriches the quality of life in the state. In the fulfillment of this mission, the University shall seek an efficient use of available resources to ensure the highest quality in its service to the citizens of the state.

While instruction is the primary responsibility of each of the constituent institutions, research, coupled with economic development, is essential to the UNC System's work on behalf of North Carolina. Research and public service enhance teaching and learning, but their relative importance varies, depending on the constituent institutions' overall missions. In addition to developing new discoveries and innovations, UNC System engagement in research and its related activities supports student success by providing a platform for training graduate students; attracts external funding; contributes to North Carolina's business climate and reputation; and enhances recruitment and retention of talented faculty and students.

Fiscal Year 2021 Sponsored Program Funding for UNC

UNC System institutions generated a total of \$2,121,271,564 in sponsored programs funding in FY2021 from all sources. Federal agency funding accounts for 70% of the award portfolio. When adjusted for COVID federal institutional support awards and other inter-institutional awards distributed among UNC System institutions totaling \$346,873,810, the adjusted total for FY2021 was \$1,774,397,753. Table 1 contains more detailed sponsored program funding data for each UNC System institution in FY2021.

Table 1. FY2021 Sponsored Program Activity¹⁻²⁻³

	Total Proposals Dollars	Total Awards Dollars (includes ARRA and Inter-institutional awards)	Inter-institutional Award Dollars (-)	COVID Award Dollars (-)	Awards Dollars that are both Inter-institutional and COVID (+)	Adjusted Award Dollars (minus inter-institutional and COVID Awards)
Doctoral Institutions						
ECU	\$296,834,177	\$75,282,825	\$2,515,196	\$1,946,105	\$0	\$70,821,524
NCA&T	\$272,380,615	\$78,221,961	\$2,568,258	\$1,476,348	\$639,456	\$74,816,811
NCSU	\$1,639,643,426	\$383,030,007	\$7,377,868	\$0	\$0	\$375,652,139
UNCCH	\$4,638,591,792	\$1,073,632,927	\$3,905,782	\$39,576,540	\$199,197	\$1,030,349,802
UNCC	\$377,621,682	\$48,927,565	\$3,809,970	\$1,469,536	\$1,113,351	\$44,761,410
UNCG	\$172,559,815	\$48,379,073	\$2,226,063	\$1,594,841	\$689,184	\$45,247,353
UNCW	\$86,828,669	\$60,688,252	\$1,575,622	\$47,451,101	\$402,618	\$12,064,147
Master's Institutions						
ASU	\$79,058,189	\$103,766,720	\$1,069,998	\$67,437,794	\$494,090	\$35,753,018
ECSU	\$27,138,128	\$24,959,049	\$681,413	\$15,952,953	\$108,415	\$8,433,098
FSU	\$25,932,346	\$60,595,380	\$955,874	\$47,258,818	\$330,514	\$12,711,202
NCCU	\$167,582,365	\$29,410,177	\$595,677	\$4,897,512	\$88,800	\$24,005,788
UNCP	\$35,779,199	\$43,478,273	\$1,027,466	\$35,679,114	\$565,640	\$7,337,333
WCU	\$26,846,698	\$7,203,428	\$908,133	\$493,845	\$273,934	\$6,075,384
WSSU	\$95,800,606	\$53,397,907	\$2,033,496	\$43,362,707	\$1,088,200	\$9,089,904
Baccalaureate Institutions						
UNCA	\$7,798,362	\$6,044,786	\$866,929	\$638,012	\$25,000	\$4,564,845
Special Focus Institutions						
UNCSA	\$191,500	\$141,500		\$24,500		\$117,000
NCSSM	\$1,715,000	\$2,180,000				\$2,180,000
System Office						
UNCSO	\$17,947,416	\$21,931,733		\$11,514,738		\$10,416,995
Totals	\$7,970,249,985	\$2,121,271,564	\$32,117,744	\$320,774,464	\$6,018,399	\$1,774,397,753

¹UNC fiscal year runs July 1 through June 30.

² Not all current fiscal year proposal submissions are funded in the same fiscal year. This can result in an institution reporting proposal dollars which exceed award dollars. Additionally, FY Total Proposed Dollars data include some non-competing renewal proposals (primarily associated with NIH funding).

³ When reporting research dollars, inter-institutional awards, or federal formula funding for institutional support (COVID relief) are excluded (funding for research and development on COVID is included).

Trends in Sponsored Program Activity (Funding, Proposal Submission, Awards)

From FY2019 to FY2021, UNC System sponsored programs activity remained strong. Despite pandemic impacts on research activity, Table 2 shows only a .04% average year-to-year change in sponsored program awards. Sustained growth in acquiring federal funding allows UNC System institutions to make targeted use of facilities and administrative (F&A) receipts to help cover the costs of supporting the research enterprise. UNC System institutions utilize F&A receipts to maintain and upgrade research infrastructure; to invest in new research through matching funds to provide seed grants and “start-up” packages for new faculty; to support library holdings; to provide cost share funding needed to attract new research projects and jobs to the state; and to ensure compliance with federal and other regulations.

Table 2. FY2019-2021 Sponsored Program Activity

	2019	2020	2021	2019-2021 \$ Change	2019-2021 % Change	Avg Yr to Yr Change
Doctoral Institutions						
UNC-CH	\$935,982,920.00	\$1,043,908,719.00	\$1,030,349,802.00	\$94,366,882.00	10.08%	5%
NCSU	\$367,838,772.00	\$389,368,247.00	\$375,652,139.00	\$7,813,367.00	2.12%	1%
ECU	\$68,762,693.00	\$55,086,620.00	\$70,821,524.00	\$2,058,831.00	2.99%	4%
NC A&T	\$61,846,119.00	\$59,123,037.00	\$74,816,811.00	\$12,970,692.00	20.97%	11%
UNCC	\$47,786,766.00	\$48,673,755.00	\$44,761,410.00	-\$3,025,356.00	-6.33%	-3%
UNCG	\$38,907,522.00	\$41,581,641.00	\$45,247,353.00	\$6,339,831.00	16.29%	8%
UNCW	\$11,011,918.00	\$18,553,734.00	\$12,064,147.00	\$1,052,229.00	9.56%	17%
Master's Institutions						
ASU	\$14,020,077.00	\$28,058,812.00	\$35,753,018.00	\$21,732,941.00	155.01%	64%
FSU	\$16,854,435.00	\$24,326,067.00	\$12,711,202.00	-\$4,143,233.00	-24.58%	-2%
NCCU	\$33,071,801.00	\$34,269,524.00	\$24,005,788.00	-\$9,066,013.00	-27.41%	-13%
UNCP	\$5,478,266.00	\$10,858,264.00	\$7,337,333.00	\$1,859,067.00	33.94%	33%
WCU	\$5,069,474.00	\$5,690,728.00	\$6,075,384.00	\$1,005,910.00	19.84%	10%
WSSU	\$13,624,169.00	\$26,987,992.00	\$9,089,904.00	-\$4,534,265.00	-33.28%	-16%
ECSU	\$8,470,303.00	\$15,030,836.00	\$8,433,098.00	-\$37,205.00	-0.44%	17%
Baccalaureate Institutions						
UNCA	\$4,312,605.00	\$1,862,345.00	\$4,564,845.00	\$252,240.00	5.85%	1%
Special Focus Institutions						
NCSSM	\$5,638,860.00	\$64,559.00	\$2,180,000.00	-\$3,458,860.00	-61.34%	17%
UNCSA	\$262,000.00	\$60,180.00	\$117,000.00	-\$145,000.00	-55.34%	9%
System Office						
UNC SO	\$12,499,987.00	\$10,246,174.00	\$10,416,995.00	-\$2,082,992.00	-16.66%	-8%
UNC Total	\$1,651,438,687.00	\$1,813,751,234.00	\$1,774,397,753.00	\$122,959,066.00	7.45%	0.04

Proposal Submissions and Quality

In FY2021, UNC System investigators requested \$7.9B in submitted proposals. Despite the disruptive impact of the COVID 19 pandemic, UNC System investigators submitted 12,659 proposals in FY2021, resulting in a negligible decrease (1.5%) from 12,856 proposals in FY2020. While the number of proposals was essentially flat, the dollars requested increased 5%, with a trend toward larger, more inter-disciplinary and multi-institutional submissions. Joint submissions resulted in 504 awards between UNC System schools, 303 awards with other North Carolina education institutions, 1,671 awards with national collaborators, and 45 awards with global partners. The UNC System offers a rich environment for collaboration resulting in high quality proposals.

Fiscal Year 2021 Sponsors

Federal funds represent the majority of the UNC System's research portfolio, as outlined in Table 2.

Table 2. FY2021 Federal Government Sponsored Awards⁴

United States Federal Government Agency Awards	Award Amount	Percent of Total Federal Awards
National Institutes of Health (NIH)	605,445,924	42%
US Department of Education (ED)	411,116,753	28%
National Science Foundation (NSF)	135,597,823	9%
US Department of Agriculture (USDA)	69,722,301	5%
Department of Health and Human Services (HHS)	67,182,117	5%
Department of Defense (DOD)	43,207,954	3%
Department of Energy (DOE)	31,702,565	2%
Agency for International Development (USAID)	20,798,585	1%
Confidential	14,200,004	1%
Department of Commerce (DOC)	12,485,656	<1%
National Aeronautics and Space Administration (NASA)	8,665,571	<1%
US Department of the Interior (DOI)	6,612,115	<1%
US Department of Labor (DOL)	6,137,823	<1%
US Small Business Administration (SBA)	4,647,666	<1%
United States Environmental Protection Agency (EPA)	4,683,619	<1%
Department of Homeland Security (DHS)	4,224,988	<1%
US Department of Transportation (DOT)	4,270,452	<1%
US Department of Justice (DOJ)	2,679,754	<1%
All Other Federal Agencies	2,432,245	<1%
Department of Veterans Affairs (VA)	1,057,544	<1%
US Department of State (DOS)	912,569	<1%
National Foundation for the Arts and Humanities (NFAH)	636,663	<1%
Department of Housing and Urban Development (HUD)	639,930	<1%
Corporation for National and Community Service (CNCS)	306,435	<1%
Total Awards from Federal Government	\$ 1,459,367,056	100.00%

⁴Unadjusted for institutional awards to capture full scope of inter-institutional collaboration.

The distribution of non-federal sponsored programs funding is outlined in Table 3. Educational and research institutions, North Carolina State Government, and business and industry provided most non-federal dollars to UNC System researchers. In the last three years, the amount of non-federal government awards has increased nearly 27%, from \$534,498,000 in FY18 to \$67,319,029 in FY21 showing institutions are seeking more diverse funding opportunities.

Table 3. FY2021 Non-Federal Government Sponsored Awards

Non-Federal Government Awards by Sponsor Type	Dollar Award Amount	Percent of Total Awards
Educational and Research Institutions	195,462,456	29%
State Government (NC)	165,069,672	24%
Business and Industry	129,880,157	19%
Foundation	84,930,066	13%
Nonprofit Organization	75,328,599	11%
Association	15,331,971	2%
Local Government	7,455,115	1%
State Government (non-NC)	3,428,814	1%
Federal (non-US)	1,104,961	<1%
Other Sponsors	327,219	<1%
Total Awards	\$ 678,319,029	100%

Fiscal Year 2021 Commercial Activity

UNC System institutions possess a wide array of existing and emerging strengths in research and related commercial activities. Institutional investments supporting these activities include strategic faculty hiring, sponsored awards, and entrepreneurship programs. In addition, institutions seek to maximize research and commercial activity with existing resources. A research productivity goal in the UNC System strategic plan *Higher Expectations* is to increase research and licensing income by \$275M by FY2022. Significant growth in licensing income helps to make that target achievable.

The commercial activity in this report uses the six metrics tracked by the Association of University Technology Managers (AUTM), through its Annual Licensing Survey. While a subset of UNC System doctoral institutions participates in the annual AUTM survey, all institutions reported on the six metrics.

Table 4 summarizes FY2021 UNC System commercial activity (invention disclosures, U.S. patents issued, licenses or options executed, new start-up companies, and license income). In FY2021, there were a total of 483 invention disclosures, 141 patents issued, 288 licenses or options executed, 46 start-ups created, and \$35,733,128 in license income generated.

Data from FY2017 through FY2021 showed commercialization activity was consistently strong with an average of 140 patents issued and 32 startups established annually. Over the five-year timeframe, license/options income increased significantly. Notably, in FY2021, license income at UNC-CH included one-time non-recurring revenue from stock sales. Five UNC-CH startups had successful company exits, including the acquisition of AskBio by Bayer and the listing of 908 Devices on the Nasdaq. Two-thirds of UNC-CH tech transfer revenue for this period was the result of these one-time events.

Table 4. Commercialization in FY2021

	Invention Disclosures	US Patents Issued	Licenses or Options Executed	Start-ups	License Income
Doctoral Institutions					
ECU	32	10	9	3	\$70,538
NCA&T	0	0	0	0	0
NCSU	269	53	194	20	\$5,966,777
UNCCH	149	58	64	12	\$29,500,000
UNCC	16	13	8	3	\$100,044
UNCG	9	1	8	6	\$12,639
UNCW	6	0	5	0	\$83,085
Master's Institutions					
FSU	2	6	0	0	0
NCCU	0	0	0	2	0