

2022-2023 Research Report to UKRF Board of Directors

Lisa A Cassis, PhD

**Professor, Department of Pharmacology
and Nutritional Sciences**

Vice President for Research

The UKRF Budget

- Facilities and administrative (F&A) costs from external grants and contracts support the UKRF budget.
- These are costs that the university has incurred because of the research within a given grant or contract which took place at UK.
- We follow federal guidelines to negotiate these costs every 3 years with the federal government. We have submitted (February 2023) our request for the next F&A rate for UK.
- Our current F&A rate is 53%, meaning for each \$1 that comes to the institution for specific research within a grant the institution receives an additional \$0.53. Not all expenditures on grants and contracts accrue F&A, our actual rate last year was approximately \$0.19/\$1 in direct costs.

Update on Research Progress Across UK

**These are the accomplishments of our leaders (Provost,
Deans, Associate Deans for Research, Chairs) and the
Faculty, Staff and Students Doing and Supporting Research**

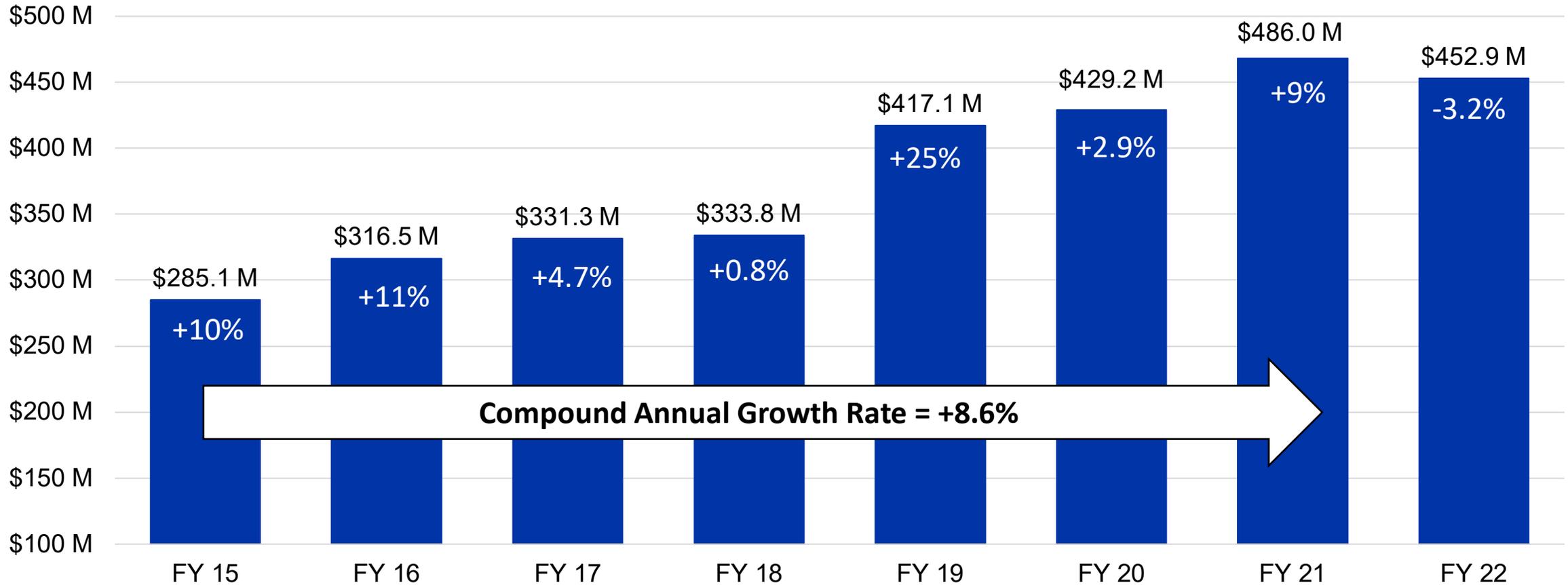
Awarded Grants and Contracts

FY22/23

Continued Research Growth in Grant and Contract Awards

UK Awarded Grants and Contracts

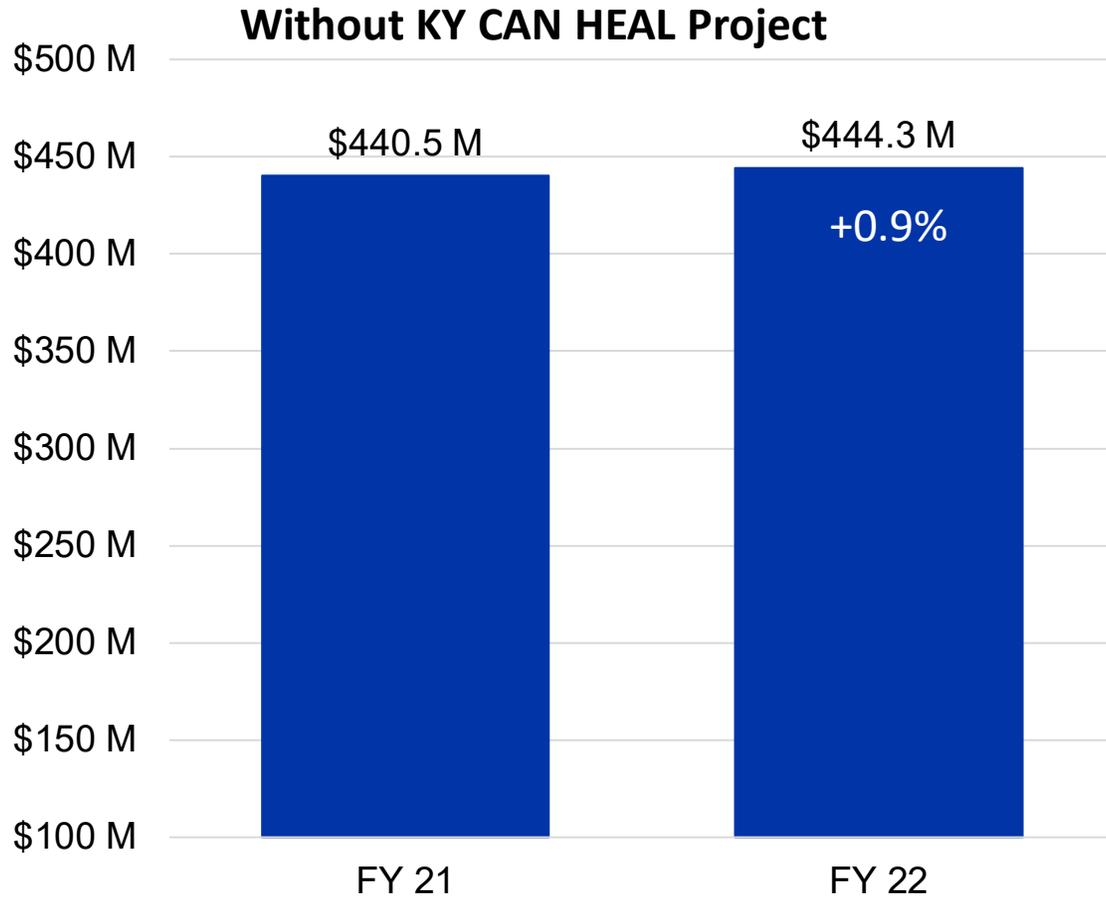
59% Growth
FY 15 – FY 22



Source: University of Kentucky, Office of Sponsored Projects Administration Database

Awarded Grants and Contracts: Impact of NIH HEALing Communities Study

(as of June 30 of each year)



Federal Funding
-2.5%

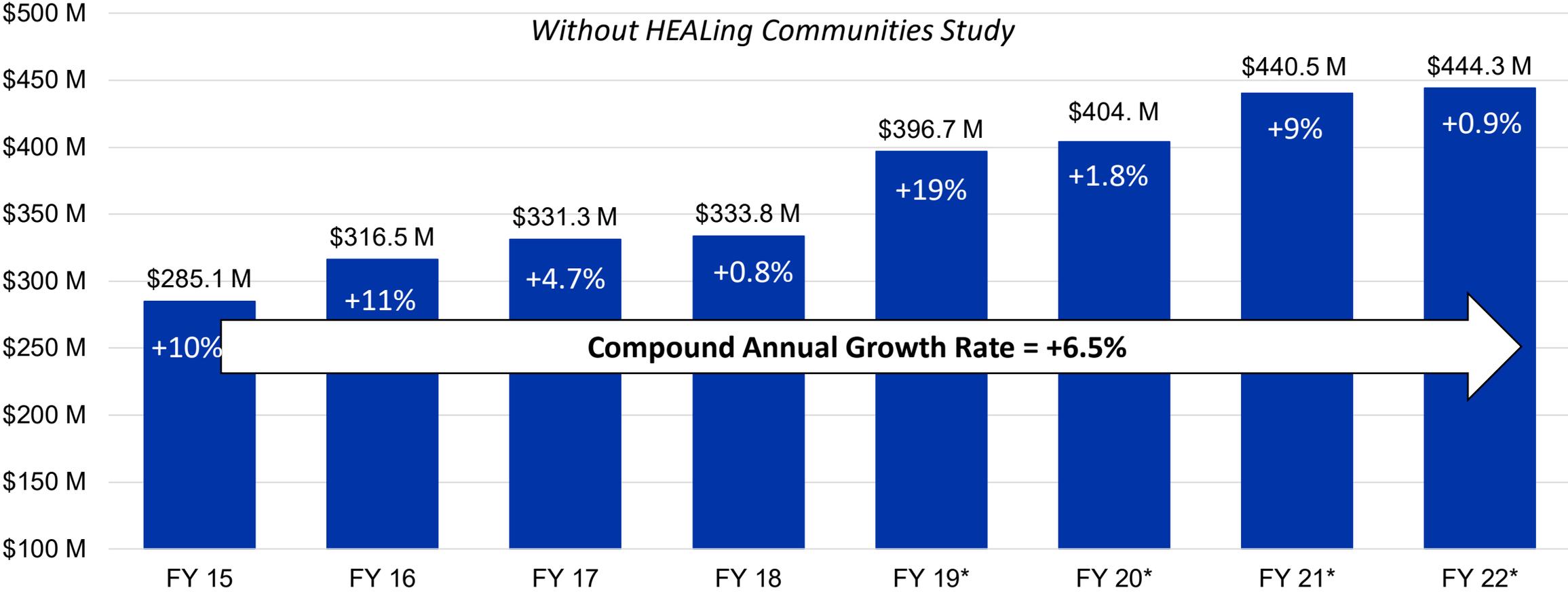
Large One-Time Federal Awards in FY21

- NIH HEALing Communities Study
- NIH C06 Grant – HKRB Fit-out
- Large NSF EPSCoR Track 1
- NextGen MatPro Tech
- Alzheimer’s Disease Core Center
- Various Federal Projects that ended

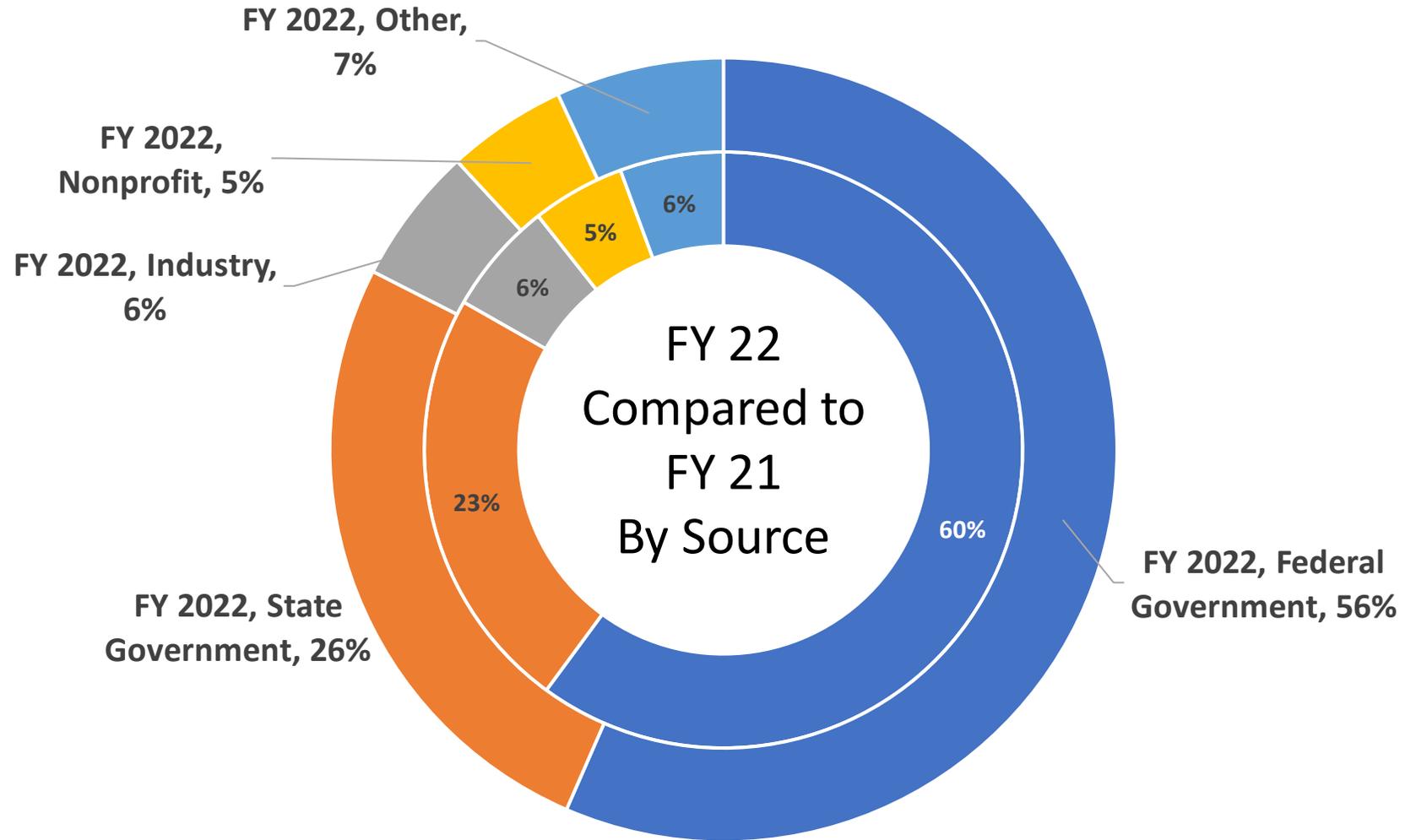
Source: University of Kentucky, Office of Sponsored Projects Administration Database

Research Growth in Grant and Contract Awards: Impact of NIH HEALing Communities Study

UK Awarded Grants and Contracts



Awarded Grants and Contracts by Source



Source: University of Kentucky, Office of Sponsored Projects Administration Database

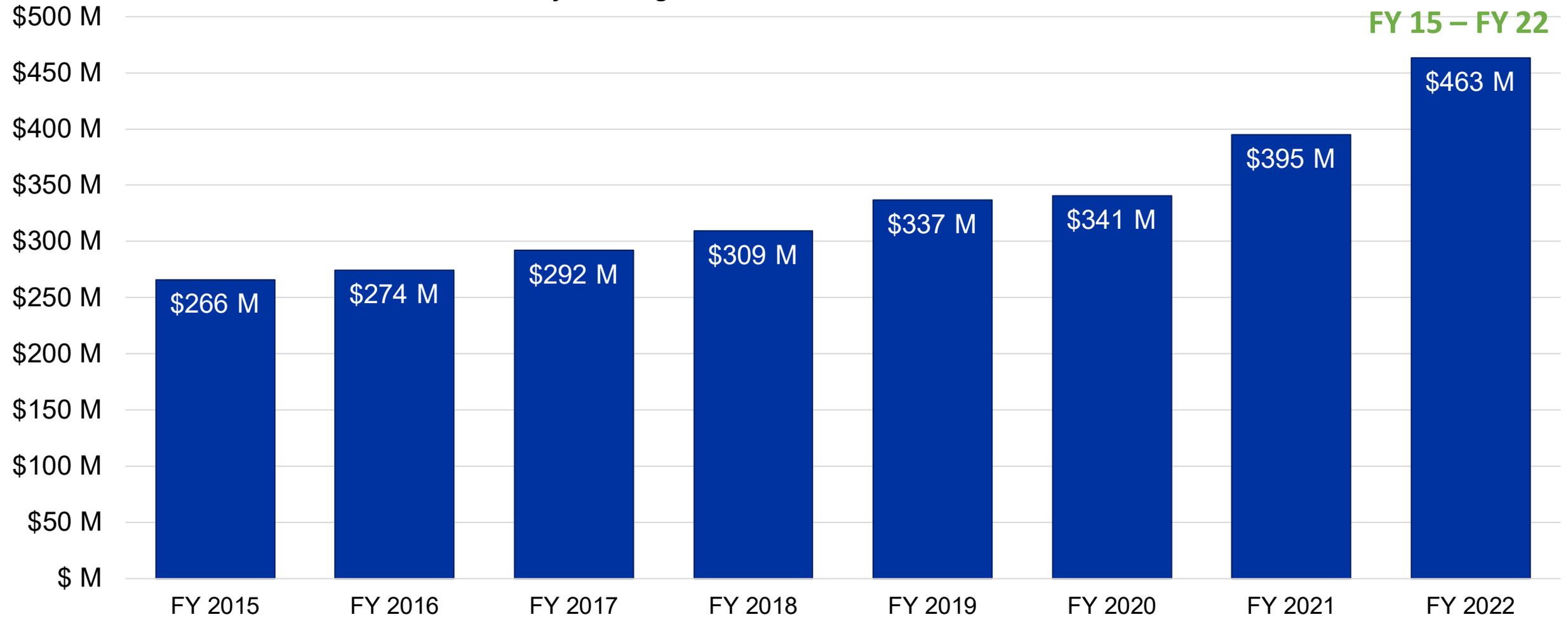
UK R&D Expenditures

FY22/23

Continued Research Growth in R&D Expenditures

Excludes CARES Act COVID-19 Relief Funding

**74% Growth
FY 15 – FY 22**

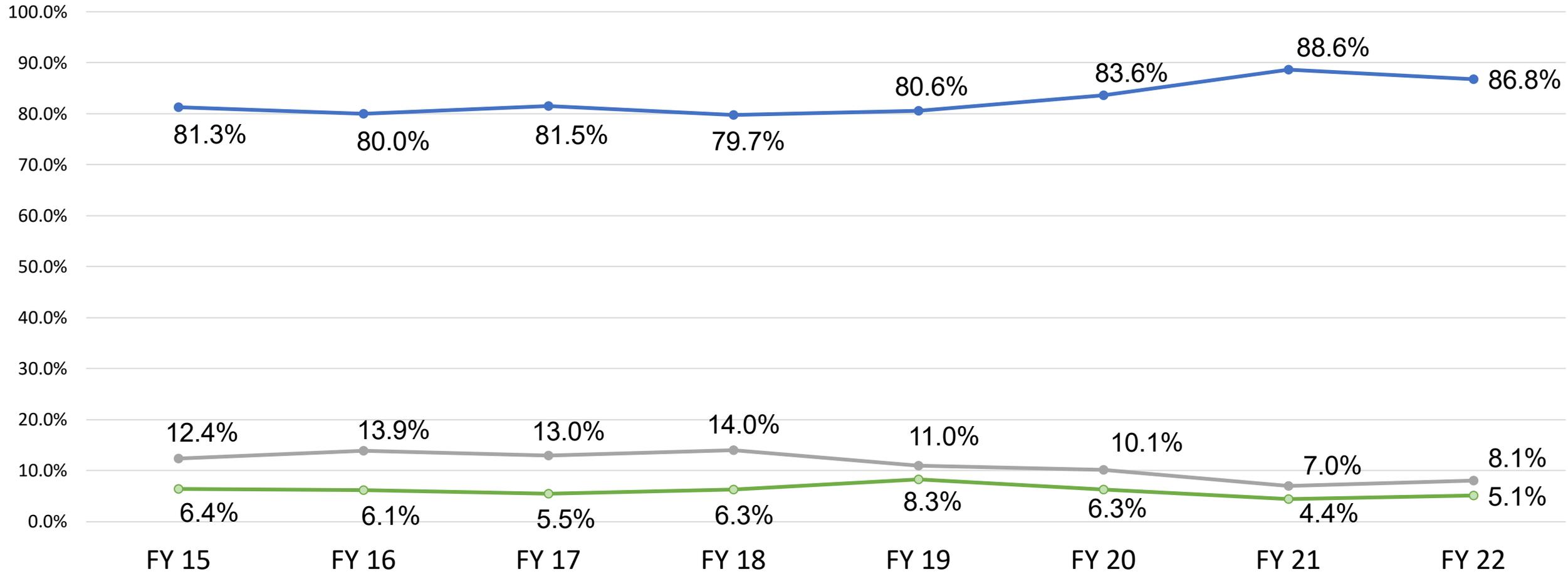


Source: University of Kentucky OSPA database, 06/30/2022

UK Researchers Compete for Federal Peer-Reviewed Funding

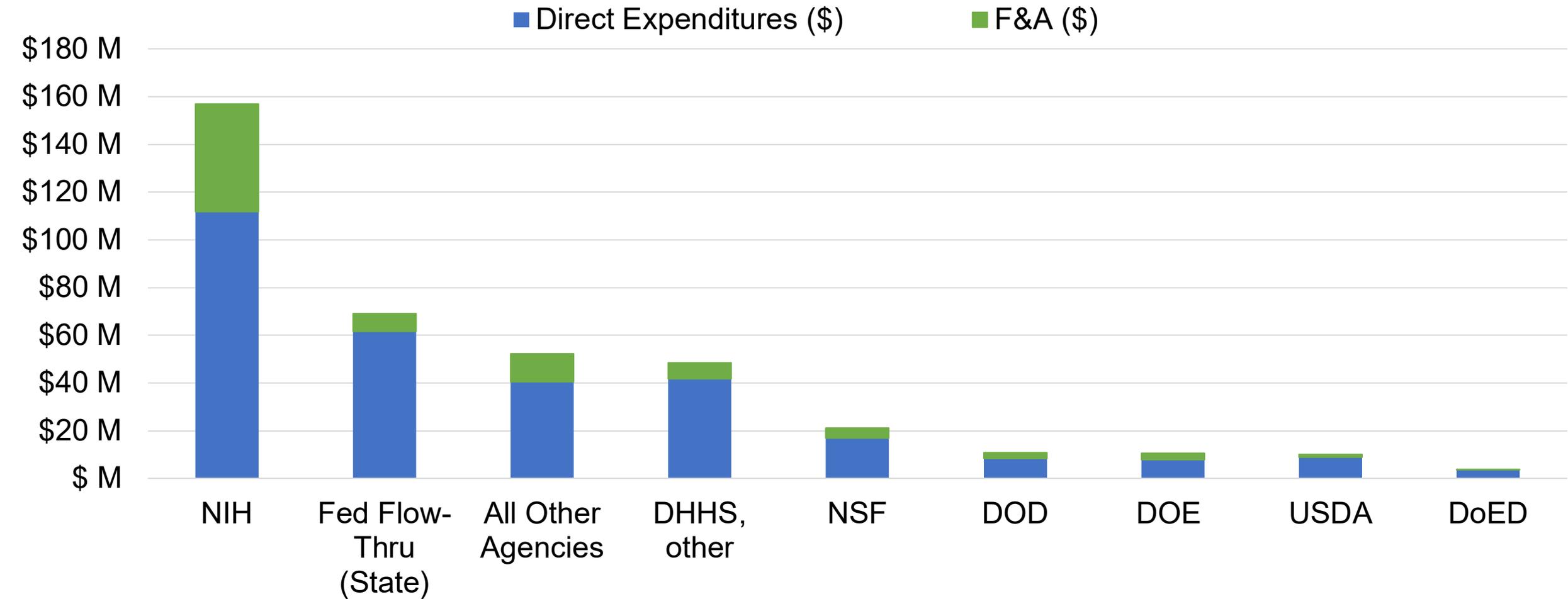
R&D Expenditures by Source of Funds

— Federal — State — Other



Source: University of Kentucky, OSPA database.

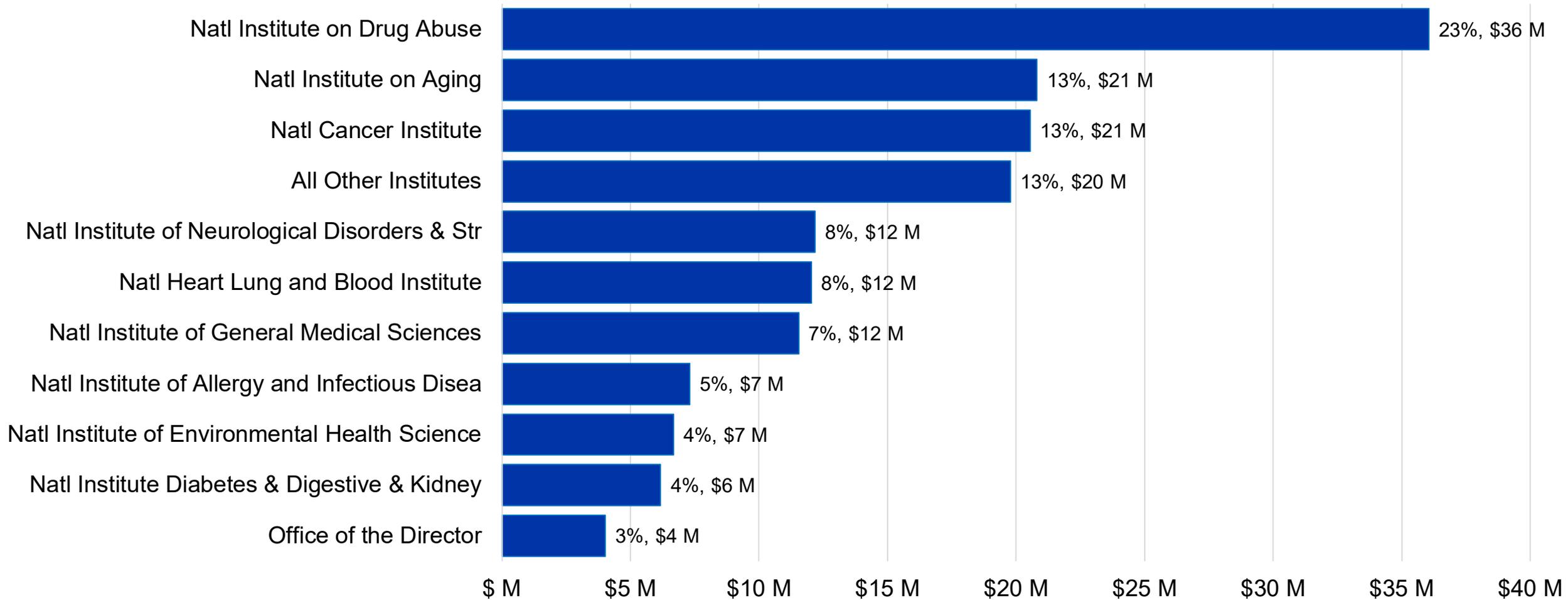
National Institutes of Health (NIH) is the largest source of federal R&D expenditures by UK researchers (FY22)



Source: University of Kentucky, OSPA database.

R&D Expenditures by NIH Institute

Fiscal Year 2022



Source: University of Kentucky, OSPA Database

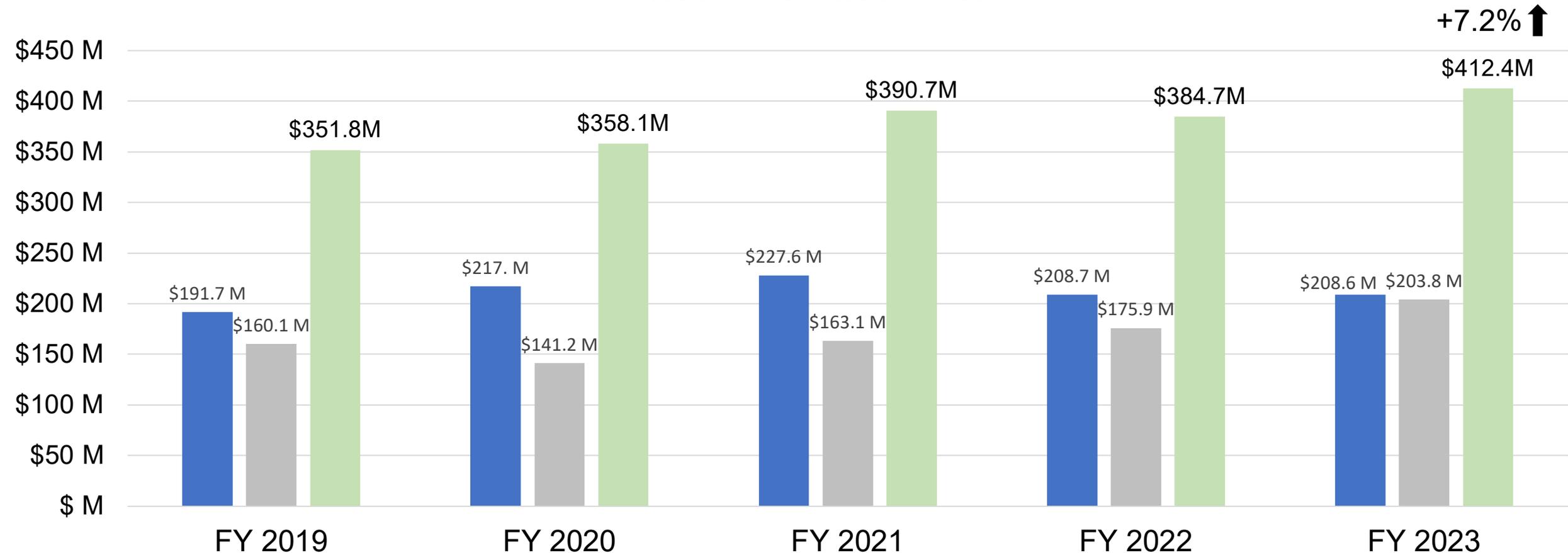
Grant Award Progress Year-to-Date

FY22/23

Grant Awards thus far in FY23

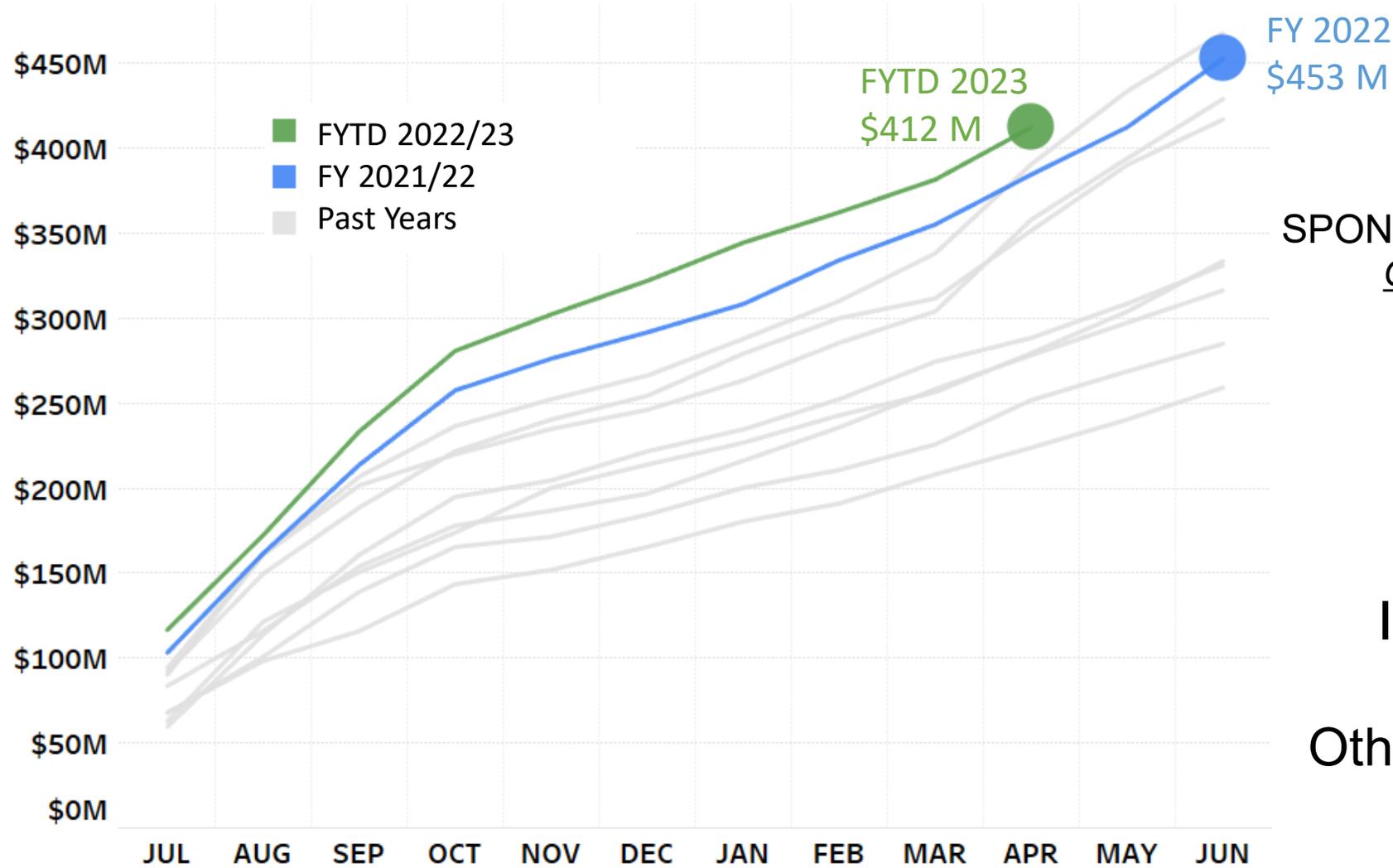
July 1 – April 30 of Each Year

■ Federal ■ Non-Federal ■ Total



Source: University of Kentucky, OSPA database.

Grant Awards thus far in FY 23



SPONSORED AWARD DOLLARS BY TYPE *Compared to the same time last year*

Federal Awards -0.1%

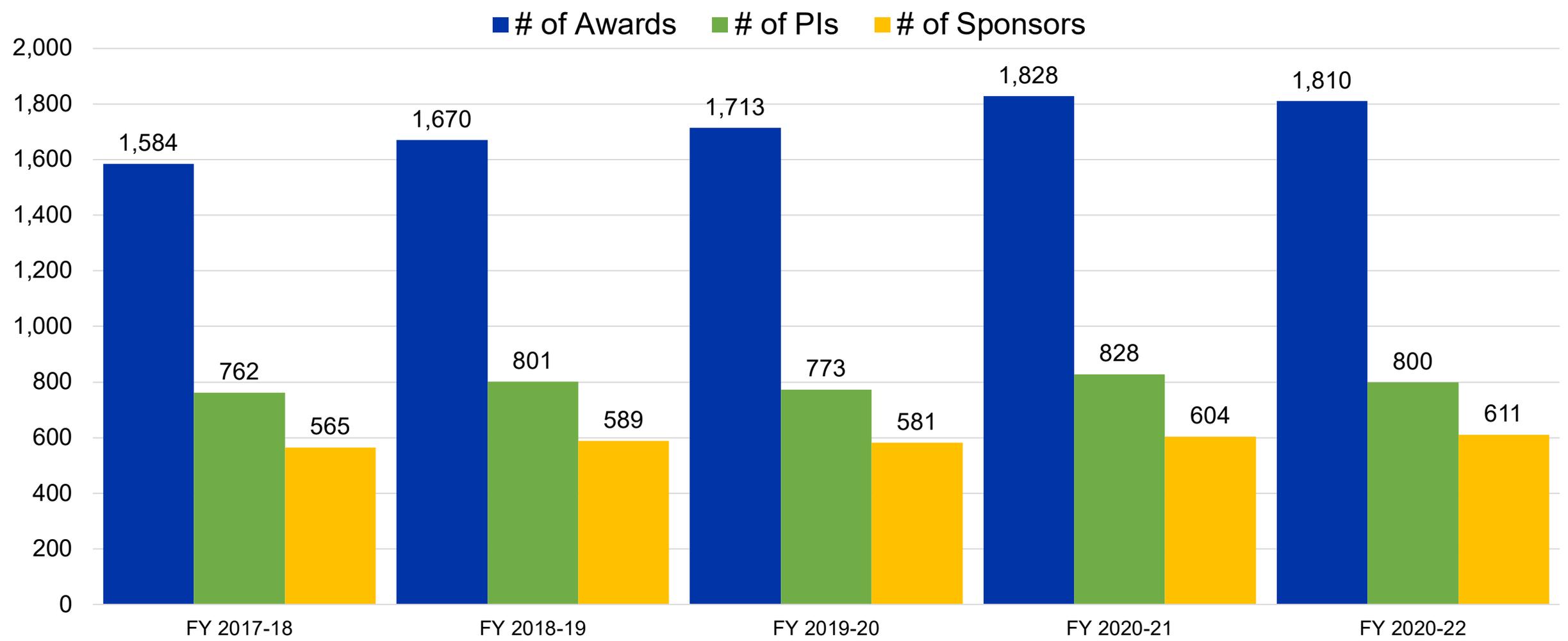
State Awards +16.0%

Industry Awards +21.7%

Other Award Sponsors +12.6%

Source: University of Kentucky, OSPA Database, 4/30/2023

Grant Award Project Numbers Exceed Growth in Number of PIs, Sponsor Diversity Increases



Source: University of Kentucky, OSPA Database

UK PURPOSE, Research and the UKRF Budget

Following our Strategic Plan

**Putting Students First: Graduate Student Support (\$6.1M)
Office of Undergraduate Research (\$577K)**

UK PURPOSE: Support of graduate student training

RA Tuition Differentials by College

Student's College	FY 2023
Ag, Food and Environment	\$1,388,778
Arts and Sciences	\$836,436
Business & Economics	\$16,485
Communication and Information	\$53,041
Education	\$264,090
Engineering	\$1,453,063
Graduate School	\$208,781
Health Sciences	\$46,277
Medicine	\$1,266,341
Nursing	\$65,455
Pharmacy	\$218,974
Public Health	\$113,980
Social Work	\$40,626
Totals	\$5,972,326

- Research Assistant's (RAs) are an important part of our research workforce, and the future of research within our disciplines. Most RAs are supported from external grants and contracts with the Principal Investigators or co-investigators as their mentors.
- The university's policy is that grants that support a RA must cover the Universal Tuition Rate, which is the in-state tuition. The out-of-state tuition is covered by a Tuition Scholarship.
- In FY23, OVPR created an account in UKRF to which the Graduate School would charge the out-of-state tuition costs for RAs.
- This fiscal year, the UKRF budget for the out-of-state Tuition Scholarships of ~\$6M was based on the last five years of RA non-resident tuition paid by the university and is re-evaluated annually.
- In addition, UKRF provides funding to colleges in support of graduate students and training grants: \$538,400
- UKRF also supports a diversity postdoctoral program: \$300,000
- UKRF provides TA support: \$451,000
- The FY23/24 UKRF budget request for graduate school-related activities is \$6.8M, plus an additional \$538,400 for training grant support, totaling \$7.3M, which is 10.5% of the proposed \$70M budget

UK PURPOSE: Support of Undergraduate Research

Office of Undergraduate Research (OUR): Chad Risko, Faculty Director

This last year, OUR:

- Supported **311** in 2022-23 academic year undergraduate fellowships for research and travel support
 - 65 First-generation students awarded
 - 118 Honors students awarded
 - 19 Parker Scholars awarded
 - 172 Faculty participated
 - 16 Colleges participated
- Held 7 information sessions, 10 workshops, 30 tabling events, 13 drop-in peer advising, 19 student org presentations
- Managed the annual Undergrad Research Showcase: 335 presentations by 500 students
- Organized 59 presentations by undergrad researchers at national undergrad research conferences
- Led 18 Undergraduate Student Ambassadors who gave 869 service hours, 101 outreach events
- Managed Fellowships: 2 Beckman Scholars, 20 Commonwealth Undergrad Research Experience (CURE) Fellows, 5 UK Sustainability Fellows
- Launched ForagerOne Software system for students to seek out mentors

UK PURPOSE, Research and the UKRF Budget

Following our Strategic Plan

Taking Care of our People: New programs and updates

Project GATeWAY (\$848K)

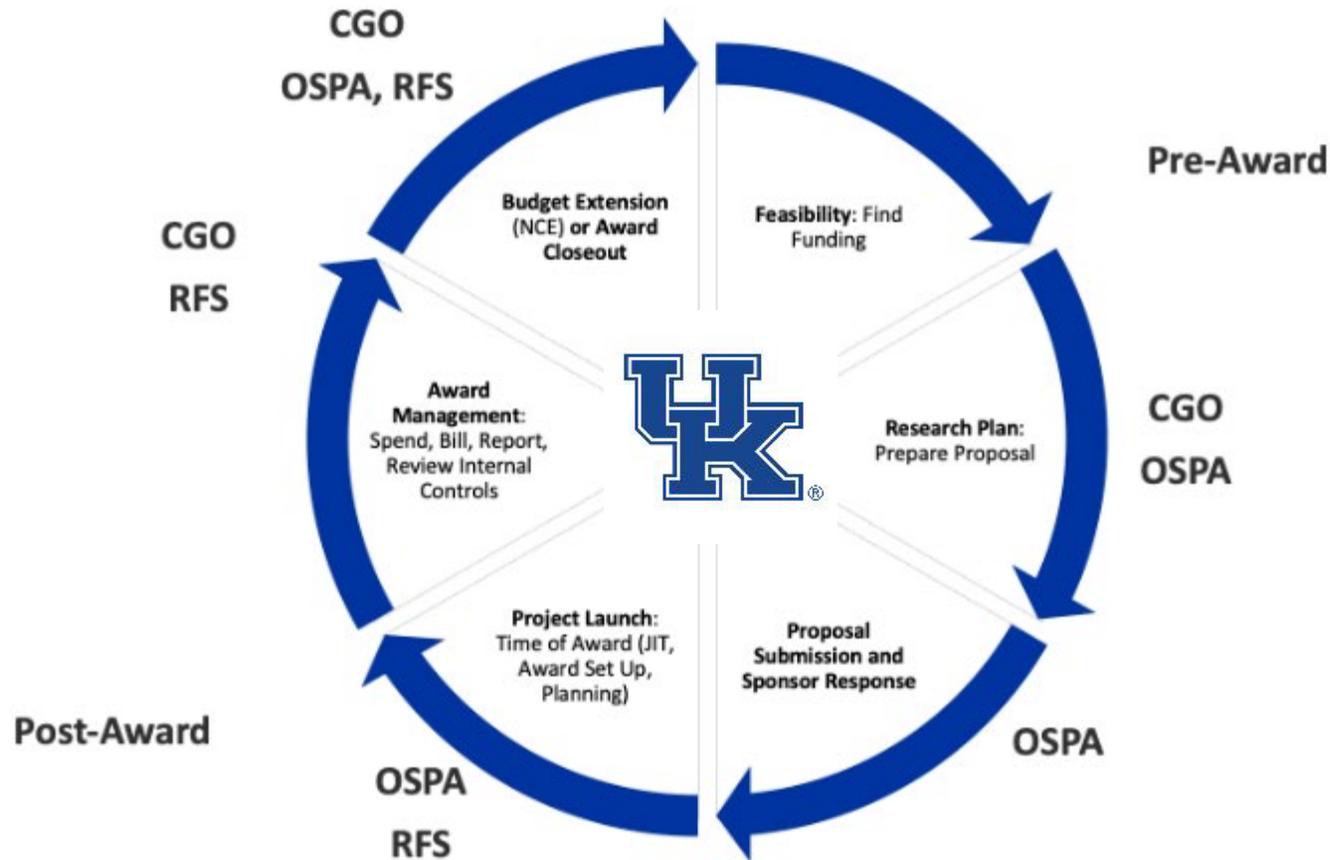
Research Leadership Academy (\$1M)

Project GATeWAY

Grants Administration Transformation as the WAY forward

The Case for Change: A Grant Life Cycle

The current structure and processes require seamless and constant coordination across offices and campus.



COORDINATION ACROSS CAMPUS

The UK sponsored programs lifecycle spans both pre- and post-award processes and includes research administration support from central [Office of Sponsored Projects Administration (OSPA) and Research Financial Services (RFS)], and College Grant Officers (CGOs).

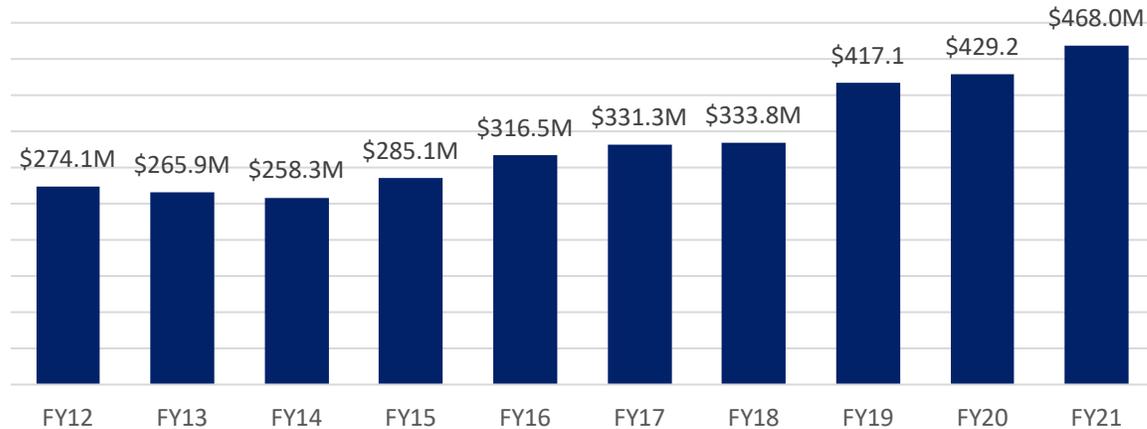
Throughout the life cycle of a grant, the process must be efficient, effective, compliant and seamless.

The Case for Change: Growth in Grants and Contracts

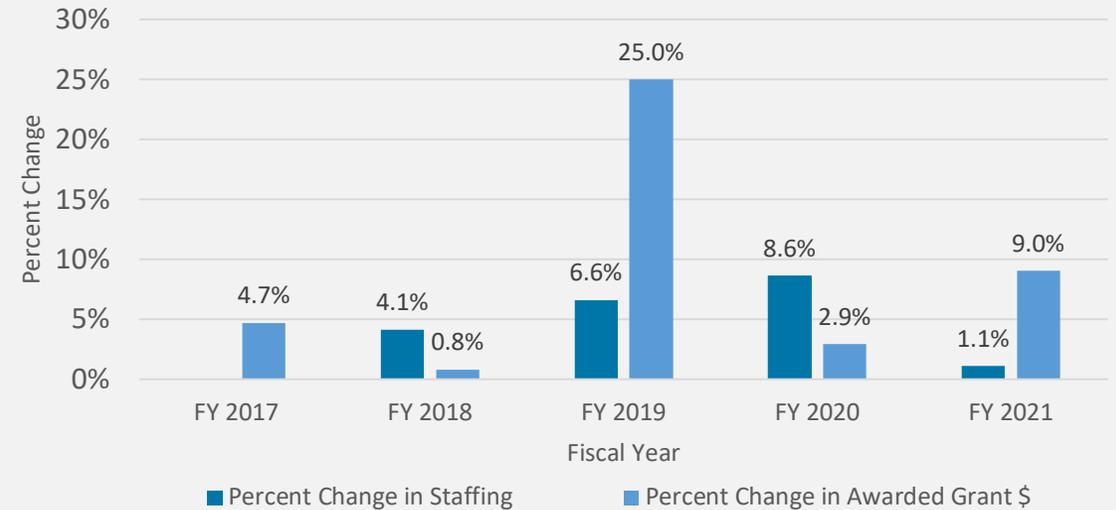
Over the last decade, UK has nearly doubled its sponsored research which continues to grow; however, staff growth has not kept pace with growth in grants and contracts.

UNEVEN GROWTH

Total Awards (\$M) FY12 – FY21



Staff Growth vs Awarded Money Growth



1,828

Awards

828

Principal Investigators

20

Sponsors

Recipient of the “trifecta of National Institutes of Health Funding”

As the institution continues to grow its research portfolio, so must the number of staff who touch every part of a grant lifecycle.

Phase 1: Assessment Scope and Background

Given recent growth in sponsored research over the last decade, UK asked Deloitte to conduct a comprehensive assessment of its research administration functions to improve operations and service to faculty.

Deloitte's assessment included the following in-scope areas for research administration operations and functions at UK:



The goal of this assessment is to provide recommendations that enable to UK to:

- 1** Drive efficiencies and return on investment
- 2** Improve administrative operations
- 3** Improve overall service delivery
- 4** Foster trust and relationships with faculty

Phase 2: UK Project GATeWAY: Grants Administration Transformation as the Way Forward

Continued success in growing sponsored research at UK requires investment in three priority areas and will enable alignment with UK's overall strategic objectives.

UK PROJECT GATeWAY OPPORTUNITIES



Opportunity 1: Structure

Develop an organizational structure with new job architectures, business processes, appropriate staffing and compensation levels which support growth while providing pathways for career advancement.



Opportunity 2: Services

Create a collaborative shared service model for local grants administration, using successful grants administration structures developed in large colleges as a road map. Includes development of a funding strategy for Collaboratives.



Opportunity 3: Technology

Prepare and implement a research technology and systems roadmap for research administration. Explore Robotic Process Automation (RPA) Opportunities.

UNIVERSITY OF KENTUCKY'S STRATEGIC OBJECTIVES

Putting Students First

Taking Care of our People

Inspiring Ingenuity

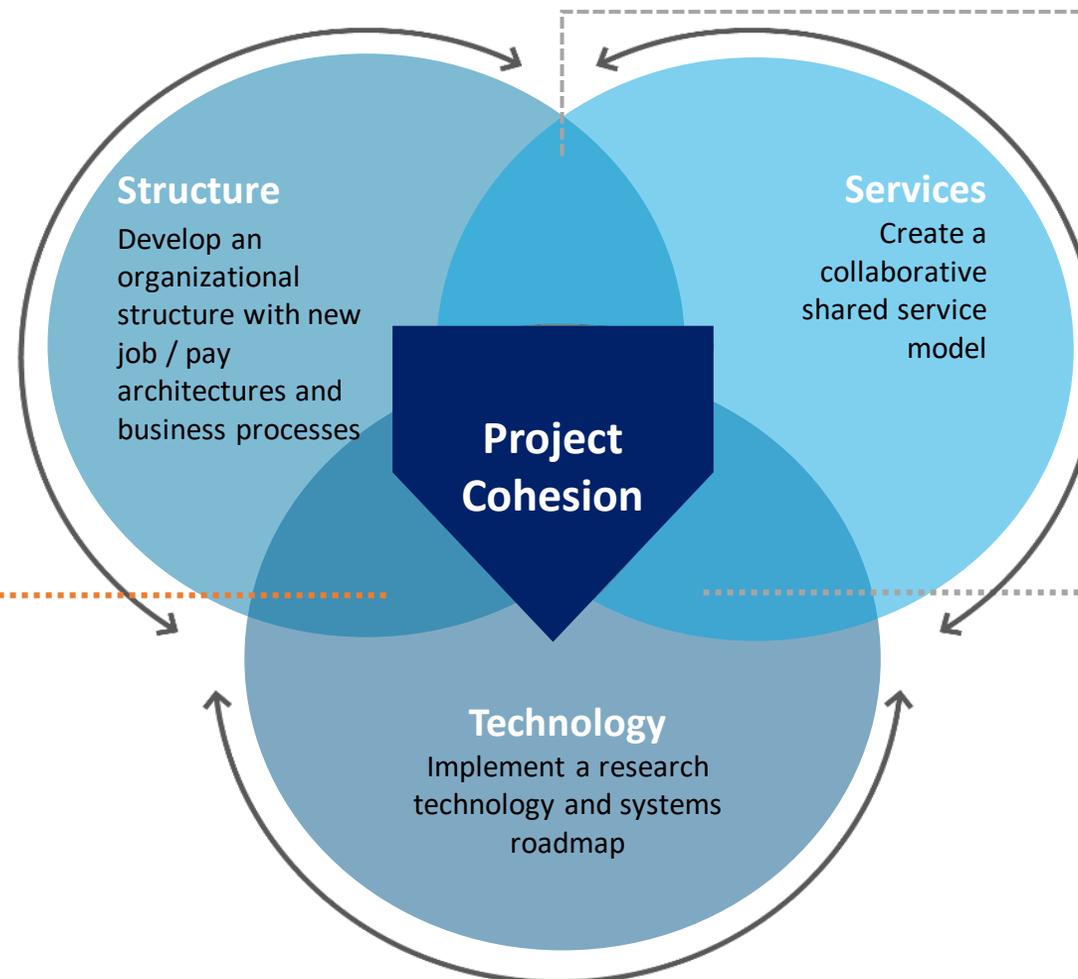
Ensuring Greater Trust, Transparency and Accountability

Bringing Together Many People; One Community

Project Cohesion

The three opportunities – Structure, Services, and Technology – are interconnected and will be worked on simultaneously. A broad group of stakeholders will support making key decisions required to move activities forward.

The Project Sponsors and Steering Committee are tasked with identifying and championing the key changes to enable the connections between Structure, Services and Technology.



STRUCTURE AND SERVICES

Organizational Design

Identify roles, responsibilities and staffing levels for both central offices and the new Collaboratives organization

Governance Framework

Develop new governance structures, processes, and tool to guide the new support organization, including Collaboratives

STRUCTURE AND TECHNOLOGY

Technology Blueprint

Identify core technology capabilities of new structure, including fit / gap analysis and specifications

Robotic Process Automation

Highlight opportunities to use intelligent automation in future state processes

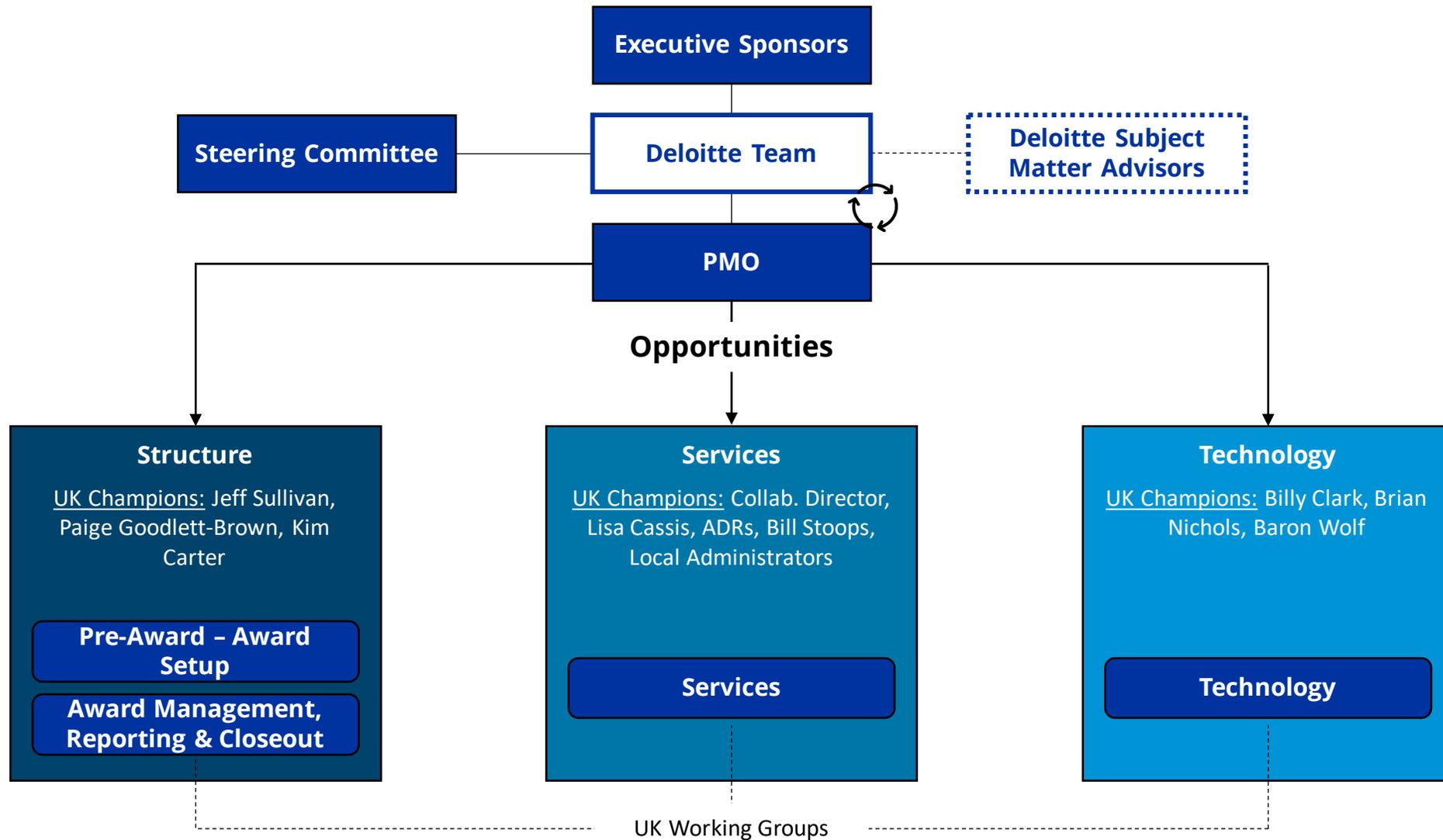
SERVICES AND TECHNOLOGY

Collaboratives Technology Blueprint

Identify core technology requirements for Collaboratives, including workload and service level agreement tracking mechanisms

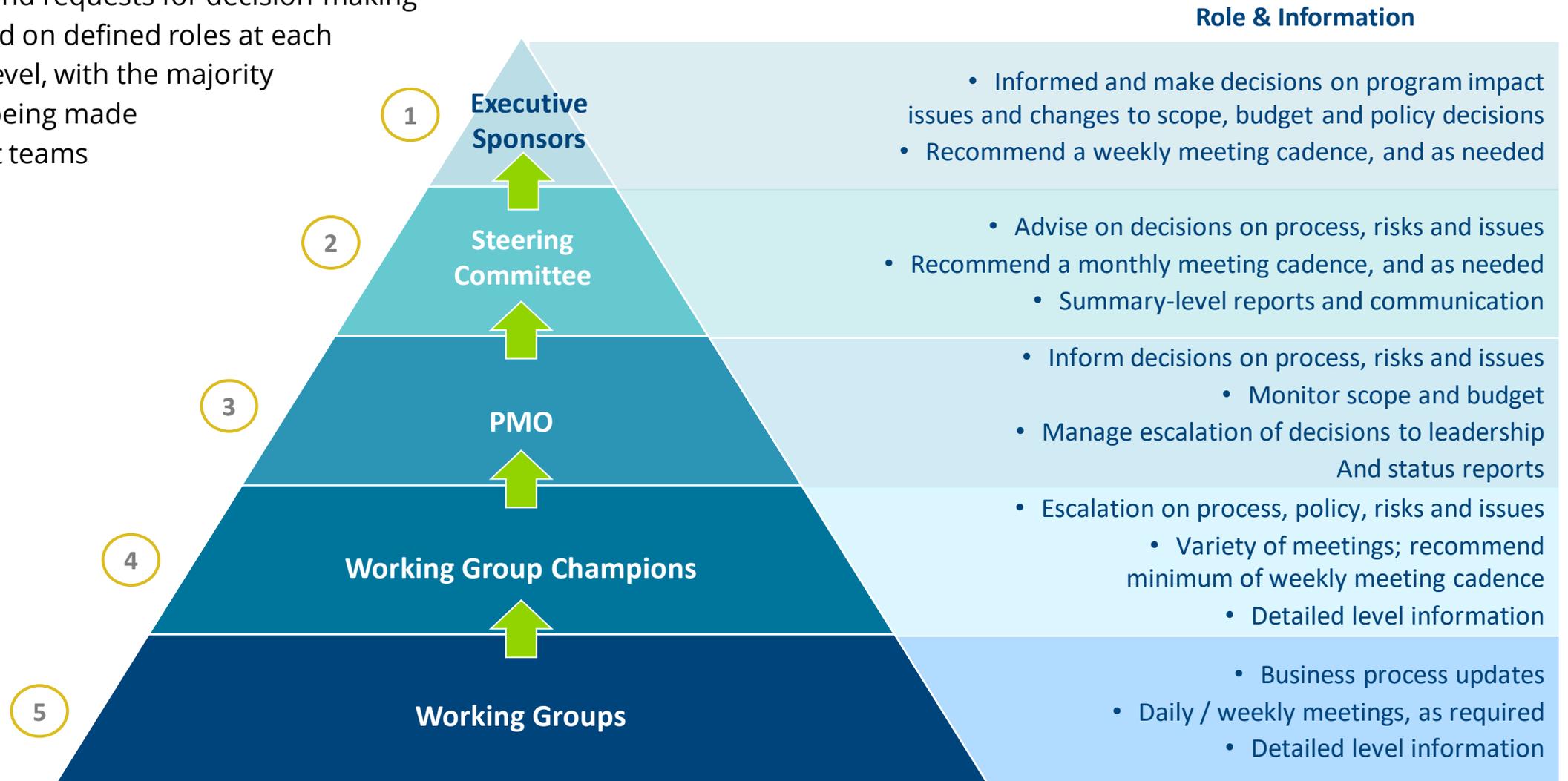
Governance Structure

Establishment of strong project governance is critical to drive toward a future state that aligns with the research culture and mission of UK.

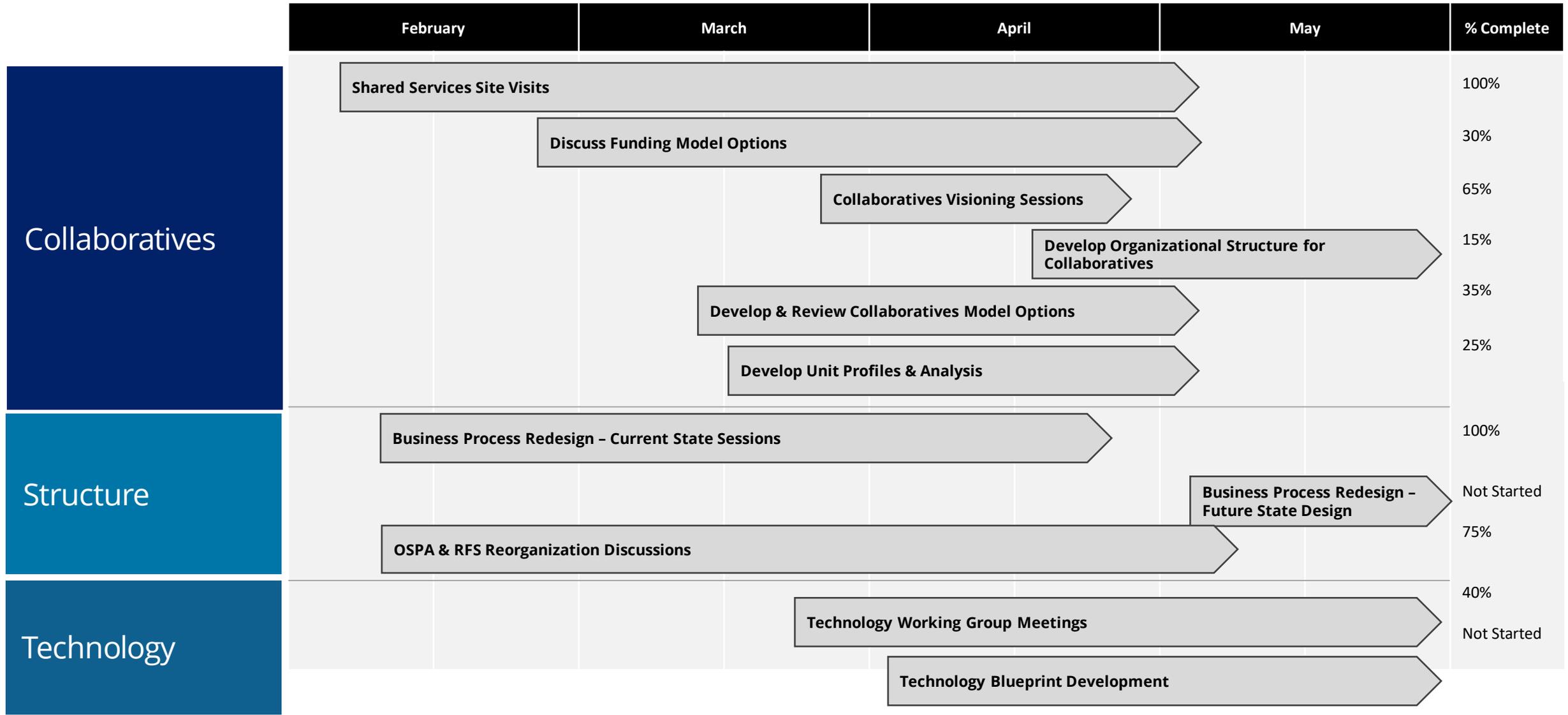


Governance Structure

Information and requests for decision-making escalate based on defined roles at each governance level, with the majority of decisions being made within project teams



Design Phase 2 Overview | High-Level Timeline



UK Project GATEWAY Updates

- Over the past several months, UK Project GATEWAY has made significant progress across all three opportunities.

Current Project Updates



STRUCTURE

- Facilitated 19 group current state business process redesign sessions
- Distributed survey to broader research community for input on business processes
- Validating process maps throughout May with Working Group Champions



COLLABORATIVES

- Facilitated three Collaboratives Visioning sessions
- Established Guiding Principles with the Working Group
- Discussed pros and cons of two operating models
- Discussing where positions and roles should be housed



TECHNOLOGY

- Developed full technology inventory and identified integrations
- Began determining technological needs with new organizational structure
- Considering technology enhancements

Deloitte University of Kentucky - Project GATEWAY
Current State Focus

Item Number	Title	Current State Focus	References
1	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
2	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
3	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
4	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
5	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
6	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
7	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
8	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
9	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
10	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
11	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
12	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
13	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
14	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
15	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
16	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
17	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
18	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
19	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
20	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
21	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
22	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
23	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
24	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
25	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
26	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
27	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
28	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
29	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
30	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
31	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
32	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
33	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
34	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
35	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
36	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
37	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
38	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
39	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
40	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
41	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
42	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
43	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
44	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
45	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
46	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
47	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
48	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
49	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	
50	Deloitte University of Kentucky - Project GATEWAY	Project GATEWAY	

Deloitte University of Kentucky - Project GATEWAY
Current State Technology Inventory

DESCRIPTION

- This college was founded as KYT committed to improving the quality of life for Kentuckians.
- The research, teaching, and extension programs are part of a national system that manages local, state, and global issues. The college explores key components of Kentucky's economic role in those areas with its programs.

OPERATING MODEL

- Research administration operations are supported by two (2) OSPAs (CSOs) and one (1) College.
- Business Managers are located centrally within the Dean's Office, with Office Associates in departments. These Business Managers support a portion of post-award research administration.
- Department heads manage the administrative staff within the department and report up.

STATISTICS

	FY22	5 Year Avg	FY23	5 Year Avg
# of Research Faculty*				
# of Active Post*				
# of Research Admin Staff				
# of Research Programs (Exp. 0)				
# of Sponsored Programs				

People

- Grow and foster balance and career progression for all groups administration staff
- Network built on respect, ability and integrity for all members of UK
- Ensure the highest work of faculty willing to taking care of our people

Process

- Provide high quality improved services that drive faculty and administration to provide a consistent level of service while playing compliant
- Streamline and standardize processes to provide a consistent level of service while playing compliant
- Ensure that staff know how and why they are things critical to the support of faculty

Technology

- Maximize use of existing and new technologies to explore single source of truth that results confidence in the data
- Ensure systems that are sustainable to high growth while ensuring user-friendly technologies
- Leverage technologies that increase administrative efficiencies and reporting capabilities

Executive Director: Local Research Administration

Associate Deans for Research

Deloitte University of Kentucky - Project GATEWAY
Current State Technology Inventory

General Information			
#	Name of System	System Description	Delivered or Current
1	2020 Calendar	Financial development meeting system development system	Delivered
2	210000	Financial development meeting system development system	Delivered
3	Research Inquiry	Research Inquiry for program development program development office	Delivered
4	and more	Research central approval form work and report office of sponsored projects	Delivered
5	Deloitte		Delivered
6	Deloitte		Delivered
7	OSPA Studies	System to capture proposal submission office of sponsored projects	Delivered
8	OSPA Studies	proposal development and approval office of sponsored projects	Delivered
9	Deloitte	proposal development and approval office of sponsored projects	Delivered
10	Deloitte	proposal development and approval office of sponsored projects	Delivered
11	Deloitte	proposal development and approval office of sponsored projects	Delivered
12	Deloitte	proposal development and approval office of sponsored projects	Delivered
13	Deloitte	proposal development and approval office of sponsored projects	Delivered
14	Deloitte	proposal development and approval office of sponsored projects	Delivered
15	Deloitte	proposal development and approval office of sponsored projects	Delivered
16	Deloitte	proposal development and approval office of sponsored projects	Delivered
17	Deloitte	proposal development and approval office of sponsored projects	Delivered
18	Deloitte	proposal development and approval office of sponsored projects	Delivered
19	Deloitte	proposal development and approval office of sponsored projects	Delivered
20	Deloitte	proposal development and approval office of sponsored projects	Delivered
21	Deloitte	proposal development and approval office of sponsored projects	Delivered
22	Deloitte	proposal development and approval office of sponsored projects	Delivered
23	Deloitte	proposal development and approval office of sponsored projects	Delivered
24	Deloitte	proposal development and approval office of sponsored projects	Delivered
25	Deloitte	proposal development and approval office of sponsored projects	Delivered
26	Deloitte	proposal development and approval office of sponsored projects	Delivered
27	Deloitte	proposal development and approval office of sponsored projects	Delivered
28	Deloitte	proposal development and approval office of sponsored projects	Delivered
29	Deloitte	proposal development and approval office of sponsored projects	Delivered
30	Deloitte	proposal development and approval office of sponsored projects	Delivered
31	Deloitte	proposal development and approval office of sponsored projects	Delivered
32	Deloitte	proposal development and approval office of sponsored projects	Delivered
33	Deloitte	proposal development and approval office of sponsored projects	Delivered
34	Deloitte	proposal development and approval office of sponsored projects	Delivered
35	Deloitte	proposal development and approval office of sponsored projects	Delivered
36	Deloitte	proposal development and approval office of sponsored projects	Delivered
37	Deloitte	proposal development and approval office of sponsored projects	Delivered
38	Deloitte	proposal development and approval office of sponsored projects	Delivered
39	Deloitte	proposal development and approval office of sponsored projects	Delivered
40	Deloitte	proposal development and approval office of sponsored projects	Delivered
41	Deloitte	proposal development and approval office of sponsored projects	Delivered
42	Deloitte	proposal development and approval office of sponsored projects	Delivered
43	Deloitte	proposal development and approval office of sponsored projects	Delivered
44	Deloitte	proposal development and approval office of sponsored projects	Delivered
45	Deloitte	proposal development and approval office of sponsored projects	Delivered
46	Deloitte	proposal development and approval office of sponsored projects	Delivered
47	Deloitte	proposal development and approval office of sponsored projects	Delivered
48	Deloitte	proposal development and approval office of sponsored projects	Delivered
49	Deloitte	proposal development and approval office of sponsored projects	Delivered
50	Deloitte	proposal development and approval office of sponsored projects	Delivered



Communications Strategy

The Project GATeWAY communication approach will focus on transparency and timely communication.

Communication Channels for Project GATeWAY



Emails

- Emails to stakeholders
- VPR Newsletter- Impact Kentucky



Website

- Project GATeWAY Website



Meetings

- VPR Standing Meetings
- Provost's Chairs Council
- Dean's Council
- Faculty Senate Meetings
- Administrators
- Office Hours

We want feedback on the effectiveness of our communication methods, content and channels.

FEEDBACK CONSIDERATIONS

How can Project GATeWAY:

1. More effectively communicate to the **broader UK community?**
2. Foster an environment that encourages **two-way communication?**
3. Ensure the right messaging is delivered at the **right time to the right audience?**

Research Leadership Academy

Updates

UK Research Leadership Academy: Why/What?

Taking Care of our People: Programs intended to further facilitate the advancement of our research culture by providing opportunities for our people.

- Align the research infrastructure with each college's research missions
- Develop and train future research leaders
- Provide strategic and focused support for complex programmatic grant proposals
- Support emerging themes in research

UK RESEARCH LEADERSHIP ACADEMY – RESEARCH LEADERSHIP DEVELOPMENT

Proposal	Project Title	College	Department	Training Objective
John Bauer	Strategic Planning for Research in Pediatrics and Perinatal Medicine	Medicine	Pediatrics	Intends to develop a nationally recognized Center of Perinatal and Pediatric Medicine
Molly Blasing	Transdisciplinary Research Initiatives for World Languages and STEM Fields	Arts and Sciences	Modern and Classical Languages, Literatures, and Cultures	Received pilot funding from the Energy RPA – Energy Across the Curriculum Influence of Climate, Energy and Sustainability Topics in World Language Curriculum
Ken Campbell	Improve infrastructure for and utilization of biobanks at the University of Kentucky	Medicine	Physiology	Intends to bring UK biobanks under one organizational infrastructure for greater efficiency and effectiveness
Rajeev Darolia	Expanding Research of Policy Consequence / State Policy Research & Data Showcase	Graduate School	Martin School of Public Administration	Appointed ADR for the Graduate School Appointed Senior Advisor for the US Department of Education
Lindsey Fay	A Three-Dimensional Approach for Developing a Research-based Culture for the College of Design	Design	Interiors	Appointed ADR for College of Design
Alison Gustafson	Food as Health Alliance to improve Food Security and Diet-Sensitive Health Outcomes	Agriculture, Food and Environment	Dietetics and Human Nutrition	Established new Food as Health Alliance within CAFÉ with support from several RPAs and Instacart White House endorsement of Alliance and Instacart partnership
Lovoria Williams	C-H-E-C-K Community Health Worker Institute	Nursing	N/A	Established CHECK – CCTS sponsored 2 CHWs
Xiaohua Zhang	Center for Big Data & Analysis (CBDA)	Public Health	Biostatistics	Established a Data Analysis and Research Core (DARD) for the Barnstable Brown Diabetes Center and Diabetes and Obesity RPA

UK RESEARCH LEADERSHIP ACADEMY – COMPLEX GRANTS

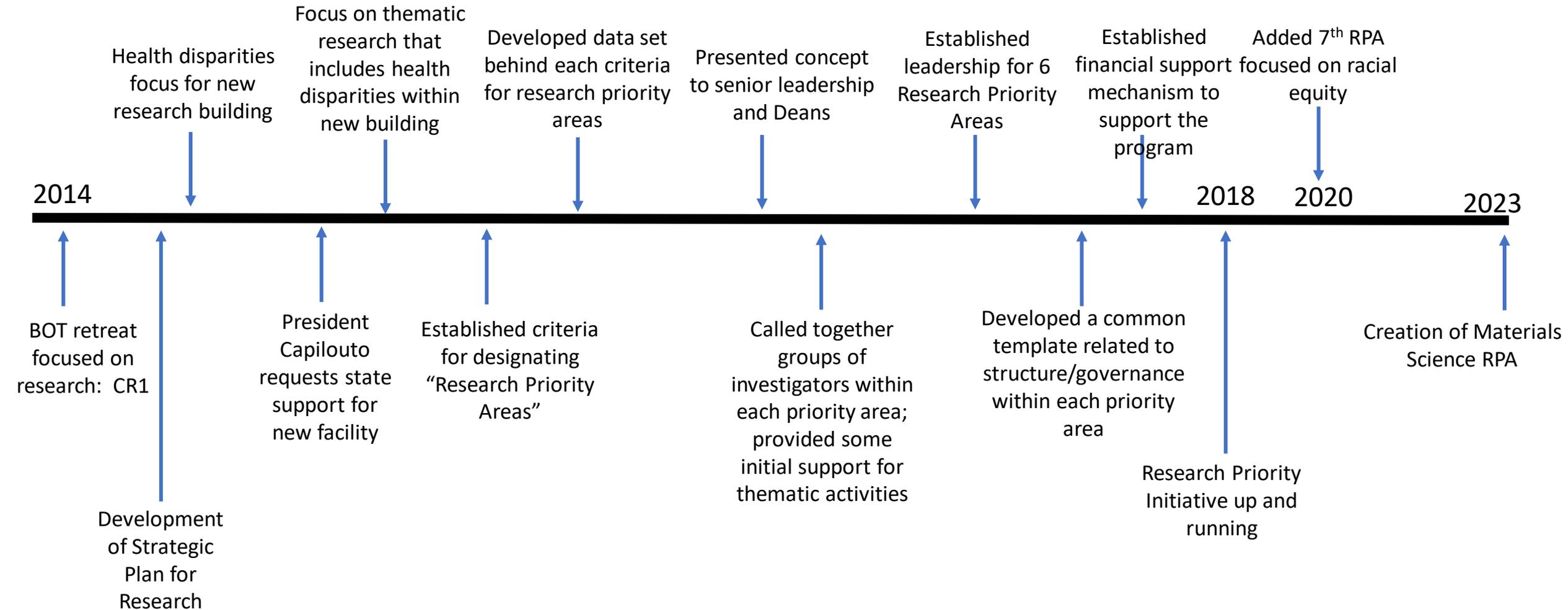
PI/Program Lead	College(s)	Program or Project Title	Total \$ Amount Requested	Extramural Grant Program Name	Funding Source
Seth Himelhoch	Medicine, Nursing, Public Health	Appalachian Tobacco Regulatory Science Team (AppalTRuST)	\$19,973,288	Tobacco Center of Regulatory Science (TCORS, U54)	FDA/NIH
Darwin Conwell Lisa Cassis Nancy Schoenberg Stephanie White	Medicine	UKFIRST ReSPecT: An Innovative Approach to Build and Sustain Transformative Institutional Cultural Change	\$13,728,300	Faculty Institutional Recruitment for Sustainable Transformation (U54)	NIH
Maria Cahill	Communication and Information	NSF Convergence Accelerator Track H: Enhancing Opportunities for Persons with Disabilities, Phase I	\$0	NSF Convergence Accelerator Program	NSF
Greg Erhardt	Engineering	T-SCORE: Transit-Sustainable, Competitive, Responsive and Equitable	\$2,000,000	University Transportation Centers	DOT
Ian McClure	UK Innovate	From a Carbon Centric to Circular Economy: Generating Advanced Manufacturing Excellence for Change (GAME Change) for the Southeastern Commerce Corridor, Phase I	\$1,000,000	Regional Innovation Engines	NSF
William Stoops	Medicine	Center for Research on Existing and Alternative Treatment Outcomes (CREATE)	~\$15,300,000	Research Center of Excellence Grant Program (P50)	NIDA
Danelle Stevens-Watkins	Education, Public Health, Medicine	The University of Kentucky Racial Equity Initiative Coordinating Center	\$3,618,348	NIDA Research Equity Initiative: Coordination Center to Support Racial Equity and Substance Use Disparities Research (U24)	NIH
Stephen Rankin	Engineering; Arts and Sciences; Agriculture, Food and Environment	Center for Lingnin Engineering, Analysis, and Research for Sustainable Technology (CLEAReST_	~\$26,000,000	Engineering Research Center	NSF
Yu Ming Zhang	Engineering	Center for Collaborative Interfaces (CI, Enabling and Augmenting the Underemployed in Future Manufacturing Ecosystems (CI-ERC)	~\$3,500,000	Engineering Research Center subaward	NSF
Scott Berry	Engineering	Advancing Environmental Surveillance for Pandemic Prediction in Remote and Resource Poor Settings	~\$15,000,000 to 25,000,000	Predictive Intelligence for Pandemic Prevention (PIPP), Phase II	NSF
Todd Hastings	Engineering, Arts and Sciences	Light-Matter Interactions in Artificial Spin Lattices	\$2,999,998	DOE EPSCoR Implementation Grant	DOE

UK PURPOSE and Research

Following our Strategic Plan

**Inspiring Ingenuity: Updates on Research Priority Area (RPA)
Program and new Materials Science RPA (\$5.4M)**

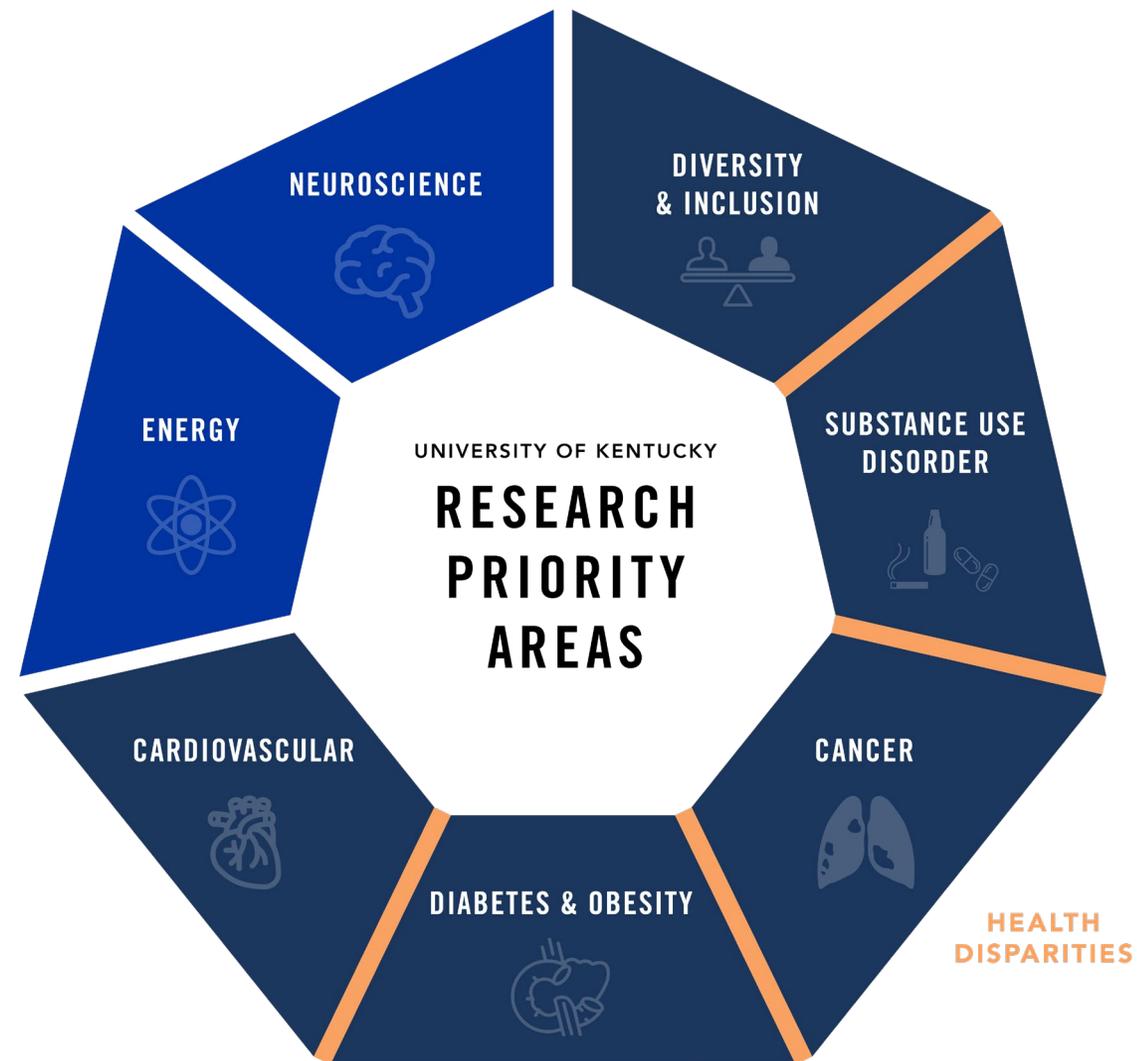
Timeline: Development of the Research Priority Areas (RPA) Initiative



Research Priority Areas (RPA)

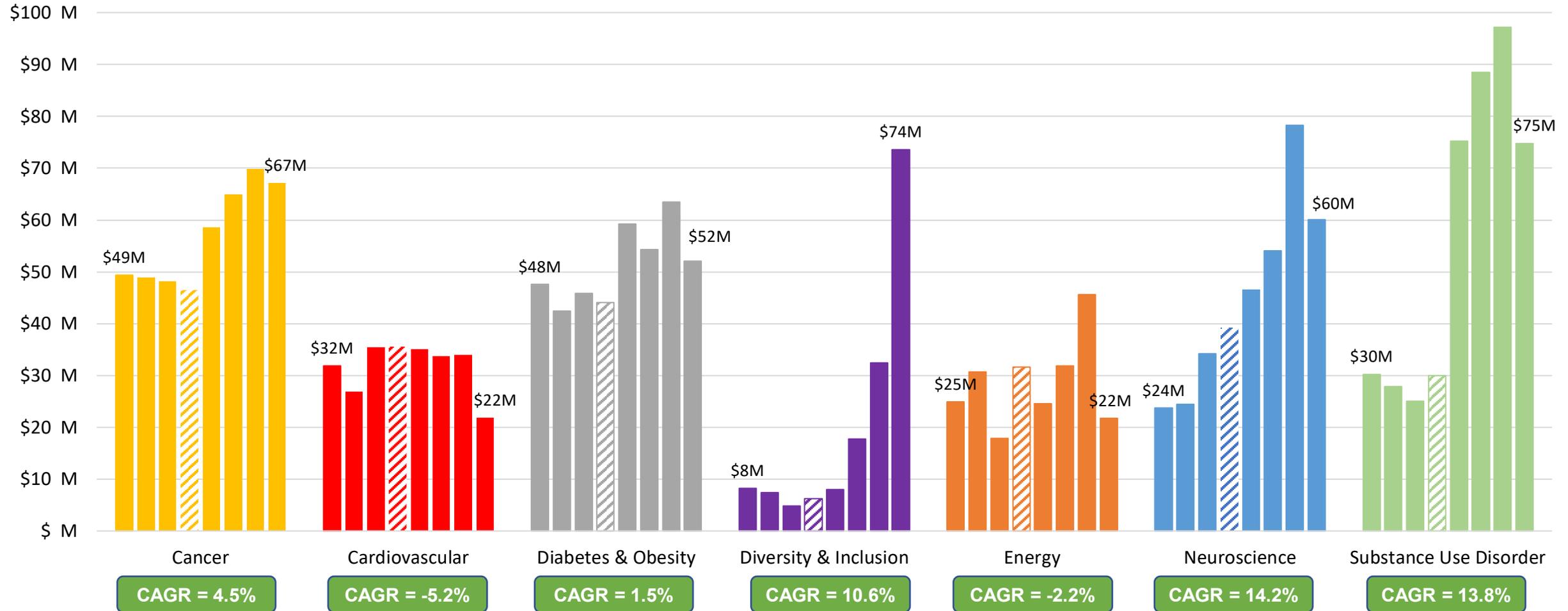
Criteria for becoming a RPA:

- **Local relevance** of the research, global impact
- **Existing faculty strength** and research leadership
- Disciplinary **research diversity**
- Potential interconnections of research with **educational opportunities**
- **Impact** of research on UK and the Commonwealth
- **Sustainability** of research



Start of RPA Initiative = 

University of Kentucky Awarded Grants and Contracts by Research Priority Area Fiscal Year 2015 through 2022



Note: Awarded projects for each thematic area are not mutually exclusive. Projects may be represented in one or more areas. Additionally, projects are based on keyword searches and may not include all related projects and may contain some projects that aren't specific to that area of research. CAGR = Compound annual growth rate. Source: UK OSPA Database, June 30, 2022

RPA Engagement & Impact

RPA Program Impact*

Fiscal Year 2022

- 27 Pilot/Seed projects (\$845K)
- 18 Start-up packages (\$1.3M)
- 18 Equipment purchases (\$1.4M)
- 4 Post-doc Support (\$180K)
- 33 Student Research Support (\$123K)
- Other support** (\$584K)

*Estimates based on submitted FY 2022 Annual RPA Reports

**Research Days, renovation of space, program support funds, retention, etc.

UK Research

SCHOLARS@UK

Search here to find University of Kentucky experts and innovation!

Advanced search

Click here to view profiles and research output related to Mental Health Awareness at the University of Kentucky

Research units 205

Researchers 2727

Grants & Contracts 30545

Research output 88289

Facilities & Equipment 10

More

Explore the research output and find experts related to each of our Research Priority Areas (RPA). Learn about this campus-wide strategic initiative here.

Cancer RPA Cardiovascular RPA Diabetes & Obesity RPA Energy RPA Neuroscience RPA Substance Use Disorder RPA UNITE RPA

What is Scholars@UK?

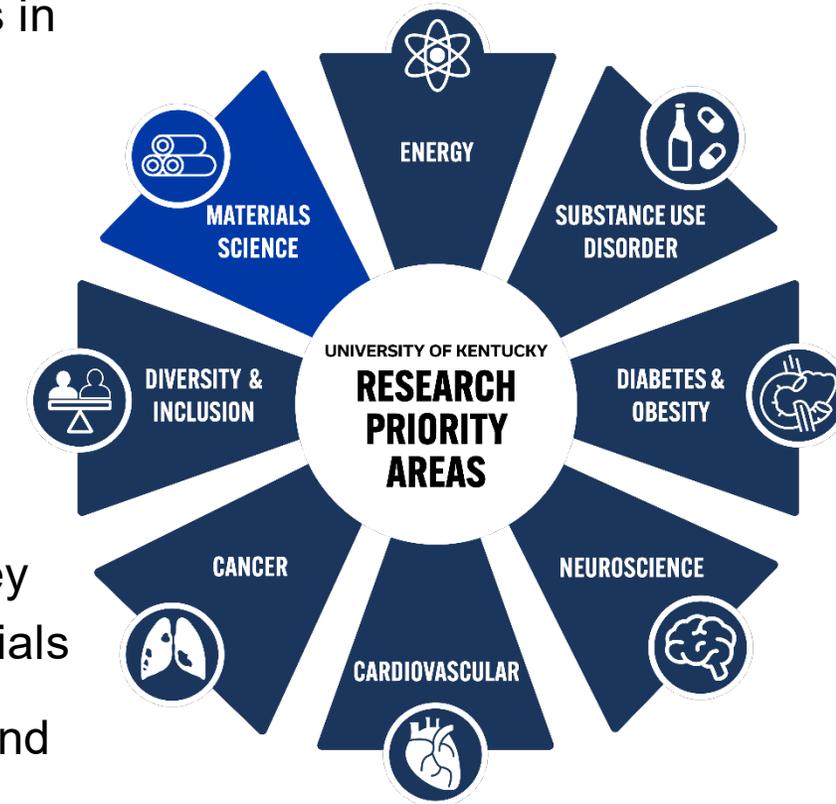
Welcome to Scholars@UK: University of Kentucky Research Profiles
For more than 150 years, the University of Kentucky has pursued interdisciplinary research and creative efforts to address challenges and disparities faced by the Commonwealth and beyond. Scholars@UK is a database of research expertise from colleges, departments, disciplines and centers & institutes at UK. Explore

RPA's Integrated within Scholars@UK

scholars.uky.edu

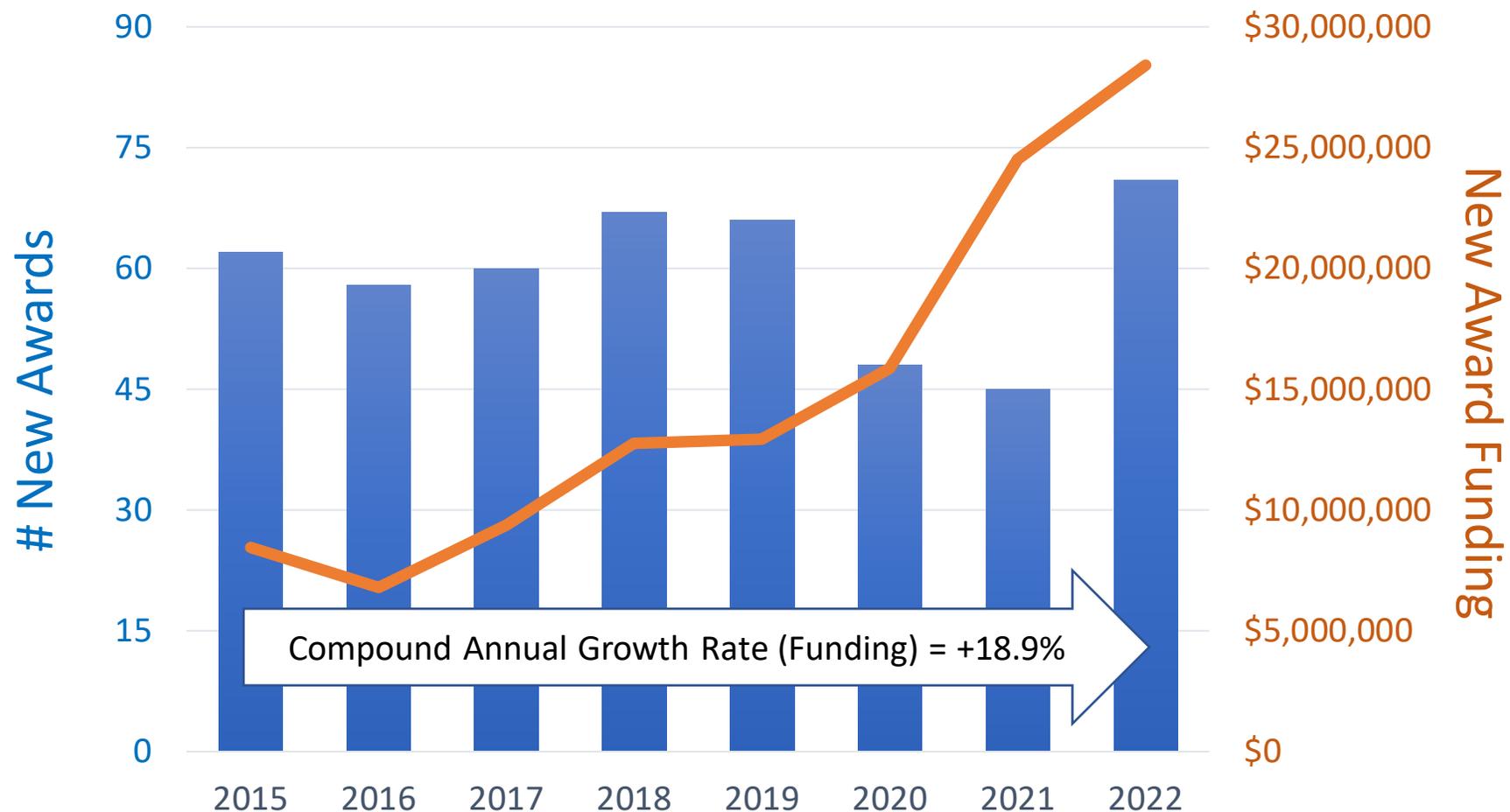
Justification to Establish a Materials Science RPA

- Materials research is highly interdisciplinary and facilitates advancements in science & technology
- Relation to the Commonwealth:
 - The Kentucky economy has a heavy focus on manufacturing sectors (automotive, aerospace) that rely on steel, aluminum, plastics
 - Research performed by students helps develop KY workforce
- UK has broad strengths in materials research (Engineering, Arts and Sciences, CAER, CAFÉ, Medicine, Dentistry) and has world leaders in key areas: recovery of rare earth elements; organic electronics; carbon materials
- Materials science is poised for further growth in federal funding (CHIPS and Science Act) and has significant potential for new sponsored research
- The development and application of new materials underpin vast segments of scientific & technological progress, significantly impacting the US economy and national competitiveness



Research Activity and Growth in External Grant Awards for Materials Science

Research Awards for Materials Science



Materials Science Activity:

>100 researchers from Engineering, Arts and Sciences, CAER, CAFÉ, Medicine, Dentistry

43 current materials projects, total award value of \$24.3M
(183 projects since 2017)

71 awards in FY22
= 4% of total awards to UK
(sponsored grants and projects)

Scholarly activity related to Materials Science (2017-2022):
979 authors
>15,000 citations
13.0 citations per publication

Materials Science RPA Leadership Team

Leadership Team (internal advisory board):

Includes a director and three to five researchers representing breadth of UK materials science

Team will meet regularly to review progress toward goals, manage funding mechanisms, plan UK-wide research days and meetings with RPA members

Director:

John Balk, PhD, PE

Professor, Materials Science and Engineering

Director, Electron Microscopy Center

Associate Dean for Research and Graduate Studies (Engineering)



**Matthew Weisenberger
(CAER)**

Associate Director, Carbon Materials group; carbon fibers and composite materials



Beth Guiton (Chemistry)

Nanoscale materials chemistry; *in situ* materials characterization (electron microscopy)



**Gregory Frolenkov
(Physiology)**

Mechanosensitivity in sensory cells of mammalian inner ear (hair cells); electron microscopy

Primary Goals of the Materials Science RPA for 23-24

- Provide leadership and support for materials research activity across UK
- Serve as the hub for fundamental and applied materials research
- Research Day
 - Host materials research symposium with invited oral presentations and posters
 - Include targeted outreach to relevant industry (work with Kentucky companies and develop opportunities for sponsored research)
- Funding mechanisms to support materials research
 - Seed/pilot projects
 - Contribution(s) to faculty startup
 - Small equipment program
 - Student support (e.g., partner with Office of Undergraduate Research)
- NSF MRSEC (Materials Research Science and Engineering Center) plans

Inspiring Ingenuity: Other Research Program Offerings

- **UK Innovate:** 4 built platforms, microcertification training, new GAME Change NSF Type-1 Engines grant, NIH KYNETIC/REACH grant program, renewal of NIGMS Innovation Hub
- **Igniting Research Collaborations:** cross-college transdisciplinary pilot seed support program, networking, grant write-up follow through
- **CURATE Committee:** innovative programs to support social science, fine arts, business/economics, education, design, communication research
- **Lunch and Learn Series:** sharing of information to promote research collaboration
- **Emerging Themes for Research:** networking and vetting of new research ideas, pulling institutional data and seeking funding opportunities, seed support partnership between VPR, Provost and EVPHA domains

UK PURPOSE, Research and the UKRF Budget

**Following our Strategic Plan
Trust, transparency and accountability**

Trust, transparency and accountability in Research

- Project GATeWAY
- Monthly meetings of the Research Advisory Group, Associate Deans for Research, OVPR leadership team
- Regular meetings of Research Staff Directors, Center and Institute Directors, Research Priority Area leaders
- Regular reporting within these meetings on staff unit productivity
- Responsible Conduct of Research Training (regular reports to all units on researchers completing training activities)
- Electronic Laboratory Data Notebook
- New site license to iThenticate anti-plagiarism software
- Launching of Scholars@UK inward and outward facing faculty and unit research profiles

UK PURPOSE, Research and the UKRF Budget

**Following our Strategic Plan
Many People, One Community**

Many People, One Community of Research

- UNITE program offerings that span from undergrads, graduate students, postdocs, faculty to the community
- Research Scholars Program
- Individual Postdoctoral Enrichment Program
- Research Leadership Career Development Program
- UKinSPIRE: new international research pilot/seed support
- Each RPA must have positive impact on the Commonwealth
- Support of large, programmatic grants that have broad impact = NIH CTSA, NCI designated cancer center, NIH HEALing Communities Study, NIH Alzheimer's Disease Center, NIH UK-CARES for environmental impact across the Commonwealth, NIH KYNETIC, NIGMS Innovator Hub

UKRF Budget

- For FY22/23, we budgeted \$68M of anticipated F&A income, representing a 14% increase from the previous year because of growth in extramural grants and contracts
- FY23/24 Proposed Budget: \$70M (a 3% increase, based on growth in realized F&A within the previous year)

Tab 5B , Page 1 within your packet Budget Summary

- Total Revenue:
\$157,569,900, representing a decrease of \$12,475,000 (from reductions in capital project investments, faculty research program spending, direct costs from CARES funding end)
- Transfers and Expenditures:
 - Transfers of \$29,265,200 to the institution
 - Expenditures of \$128,304,700
 - For a total Transfers and Expenditures of \$157,569,900

Tab 5B, Budget Page 2 within packet

II. Transfers to General Fund (major changes)

- A.2. Service assessment, +\$132,700
- A.7. Research Financial Services, +\$211,900, Project GATeWAY
- A.8. VP External Affairs, +\$48,000, new shared position in Research Communications
- A.8. Research Communications, +\$77,800, new position and position upgrades (Website management, support for grant public relations)
- B.1. Research Administration Personnel and Support, +\$590,200, Project GATeWAY new positions, position upgrades, annual salary increases
- B.2. Collaborative Grant Services, +\$261,900, new Exec. Director for Shared Service Collaboratives, new staff to supervise this activity, annual salary increases
- B.3. Office of Technology Commercialization, +\$27,000, annual salary increases
- D. Debt Service, +\$140,000, 7% of UKRF budget, reduction to BBSRB debt service and increase to HKRB internal loan

Tab 5B, Budget Page 2 within packet

II. Expenditures, A. Operating expenses

- A. Operating Expenses, Research Administration
 - A.2.b. Research Administration Software: +\$29,700, increased software license costs
 - A.7. Discretionary Accounts: +6,400, shared services staff allocation
 - A.2.11. Research Buildings Facilities Management: -\$85,900, transition building maintenance expenses to colleges
 - A.2.13, Proposal Development Office: +\$5,500, software cost increase
 - A.2.15, Research Financial Services: -\$286,900, completed F&A rate calculations with external consultants
 - A.17. Collaborative Shared Services, +\$95,000, operating costs for Shared Services Collaboratives for grants administration

Tab 5B, Budget Page 3 within packet II. Expenditures, B. Other activity

- II.B.1. Contingency reserve: +\$200,000, 10% of estimated budget
- II.B.2. Private gifts/endowments: +\$180,800, increase in anticipated gift/endowment expenditures
- II.B.4. Intellectual property royalty sharing program: +\$408,848, fund balance and new funds
- II.B.5. UK Innovate: -\$974,248, last year funding for new UK innovate platforms that have since been developed
- II.B.6. Clinical Support Office Fees, +\$80,000, fees generated by the CRSO which has relocated to OVPR

Tab 5B, Budget Page 3 within packet

II. Expenditures, C. Research Programs

- 1a. Formulaic start-up: +\$400,000 (20% of UKRF budget)
- 1b. Other Start-up commitments: -\$66,100, end of commitment to Dean of Education
- 2a-c. Formulaic incentive return programs to colleges/centers: +\$2,419,500 (~45% of overall budget)
- 3a. Faculty Research Support: -\$120,000, ending of previous commitments
- 3b. Research Leadership Academy: +\$400,000, support for Emerging Themes Seed Program, other offerings
- 5. Shared Use Facilities: -\$25,000, transfer of one staff to college where services are provided
- 6. University Wide Initiatives, +\$573,200, movement of CRSO to OVPR
- 7a-c. Strategic Investment Fund: +\$627,000 (7% of overall budget), RPA programs and new RPA
- 8a. Fund Balance Carryforward Estimate: -\$7,000,000 (fund balance across departments, colleges, centers)
- 9a-c, Capital Project Investments: -\$10,750,000, completion of previous commitments

Tab 5B, Budget Page 3 within packet, II.D, Student/Training Support

- D.3. Graduate School Program Support: -\$78,700, graduate school projected Research Assistant Tuition differential between in and out of state tuition