

2020-2021 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.
- 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, so our actual rate is ~\$0.24.
- These funds become the UKRF budget and are used to support research across campus.

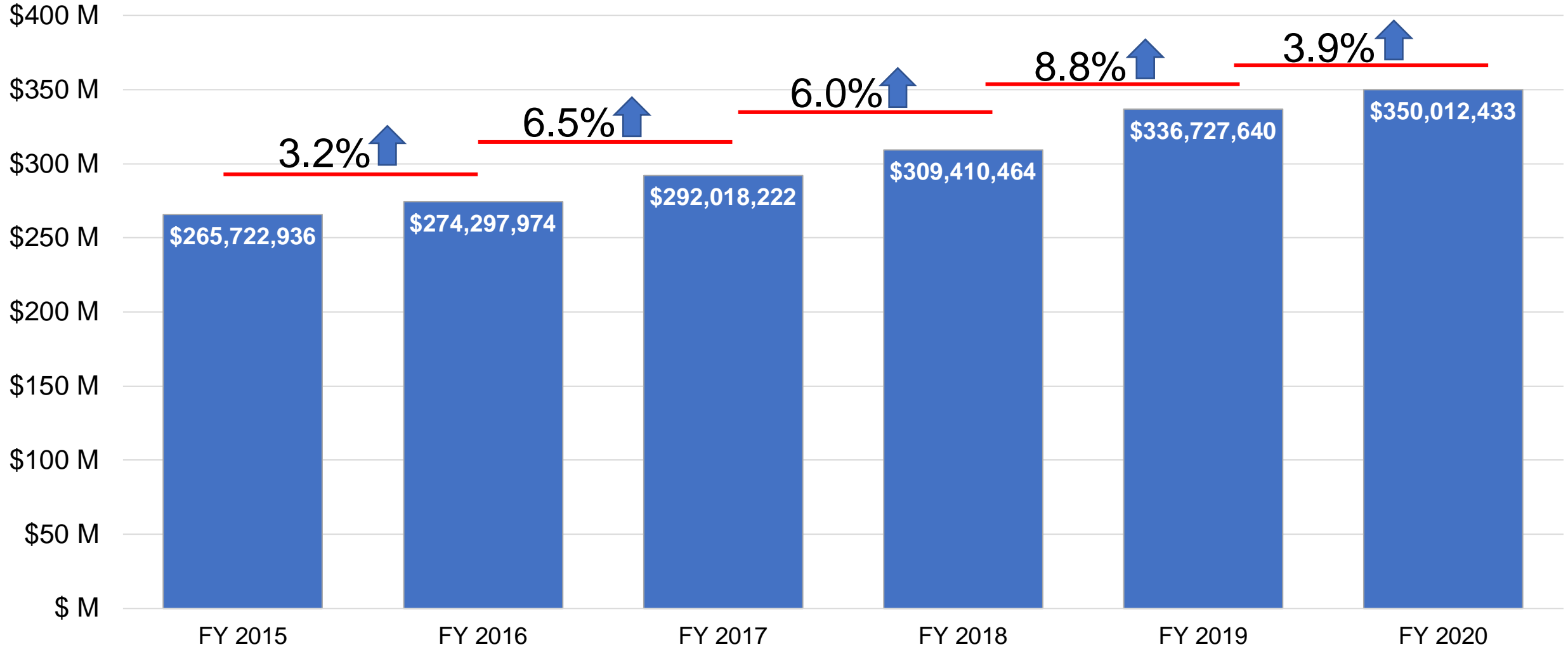
Research Strategic Plan (coming out of the pandemic and beyond)

- Strategic Initiative 1: Improve the quality of the research infrastructure.
- Strategic Initiative 2: Foster an inclusive culture of research success to retain and develop outstanding faculty, staff and students.
- Strategic Initiative 3: Invest strategically in UK's existing strengths and areas of growth in selected focus areas that benefit and enrich the lives of those in the Commonwealth.
- Strategic Initiative 4: Strengthen engagement with communities and translate outcomes of research and creative works for the benefit of the citizens of the Commonwealth.

Strategic Initiative 1: Improve the quality of the research infrastructure. Why?

- The infrastructure must:
 - Keep apace with the growth of research.
 - Have modern systems that streamline work of faculty, staff and students while maintaining compliance with funding agencies and guidelines.
 - Communicate effectively the impact of our research and creative work.
 - Be organized in a manner that facilitates success and is flexible to adapt to emerging areas of research and opportunity, changes in the federal landscape, etc.
- Research growth at UK.....

UK R&D Grant Expenditures: Strategic Plan Goal = 1.9% increase/year. Prior to 2015, R&D expenditures had declined by -13% (FY13/14) and -4% (FY14/15)

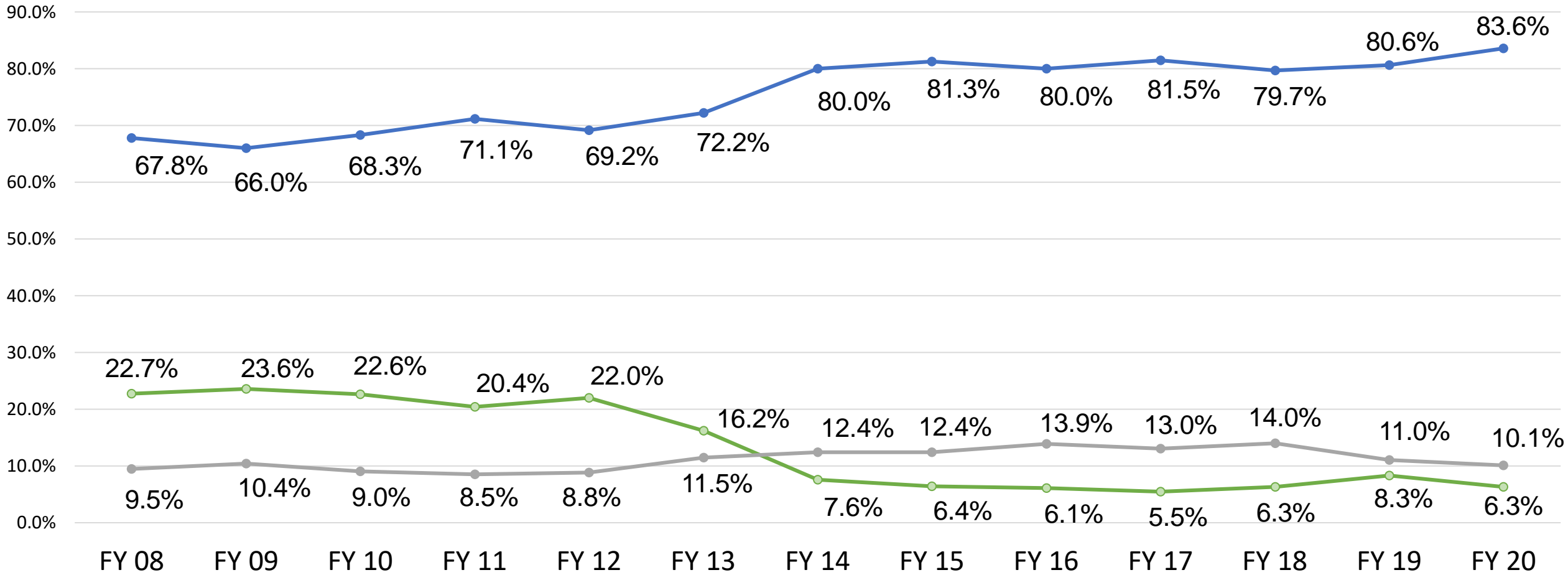


Source: University of Kentucky OSPA database, 06/30/2020

UK Researchers Compete for Federal Peer-Reviewed Funding

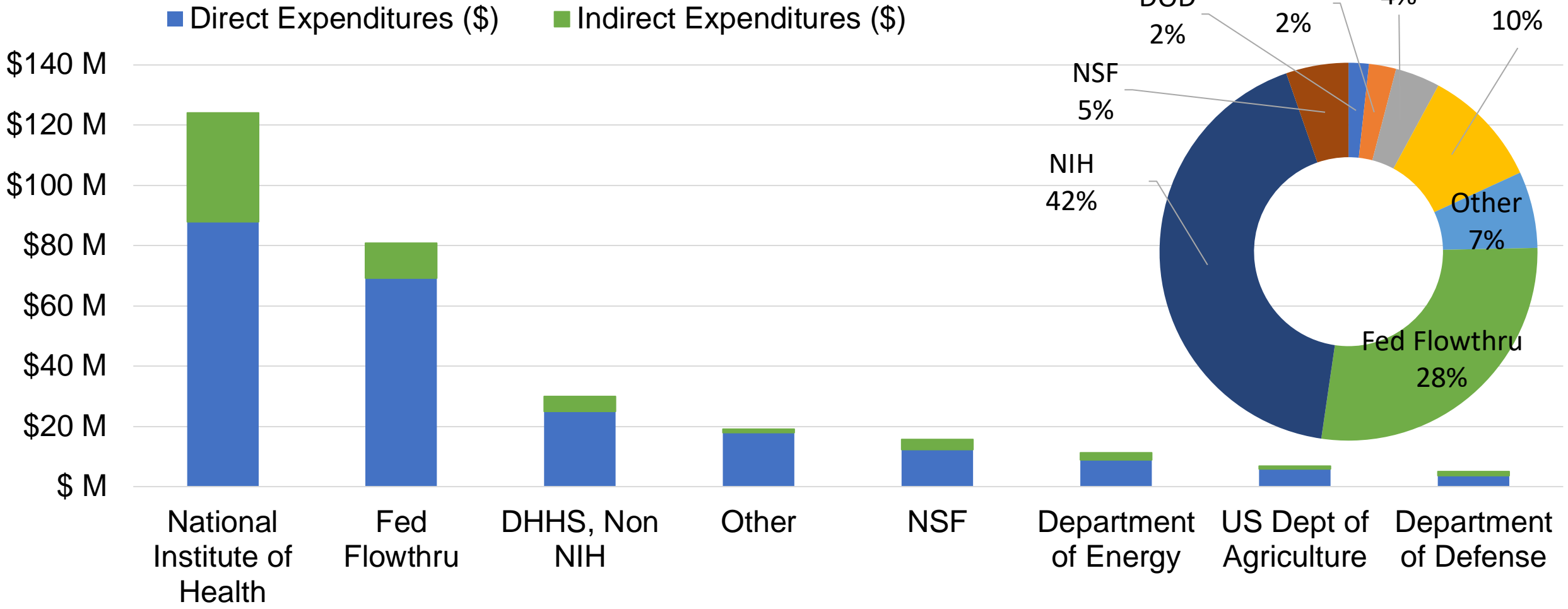
R&D Expenditures by Source of Funds

Federal State Other



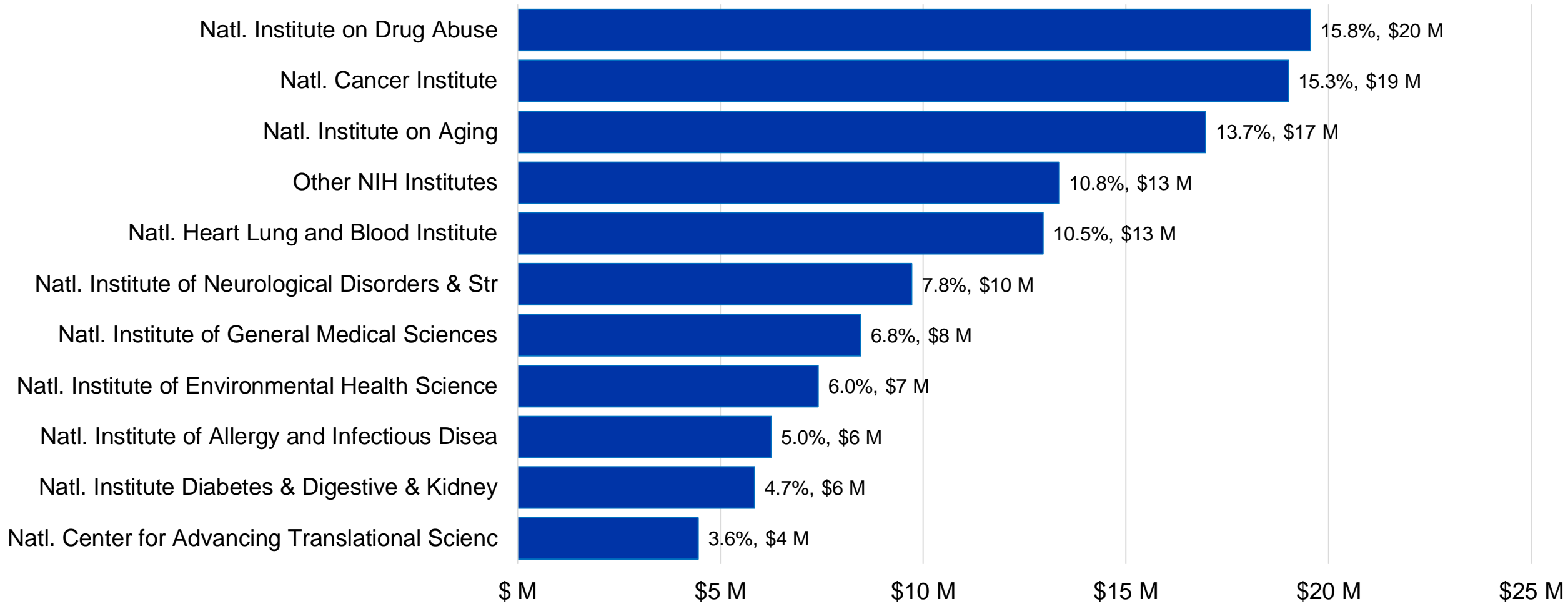
Source: University of Kentucky, OSPA database.

Federal funding, such as funding from the National Institutes of Health (NIH) provides the largest source of F&A to the UKRF Budget (FY 2020)



Source: University of Kentucky, OSPA database.

R&D Expenditures by NIH Institute Fiscal Year 2020



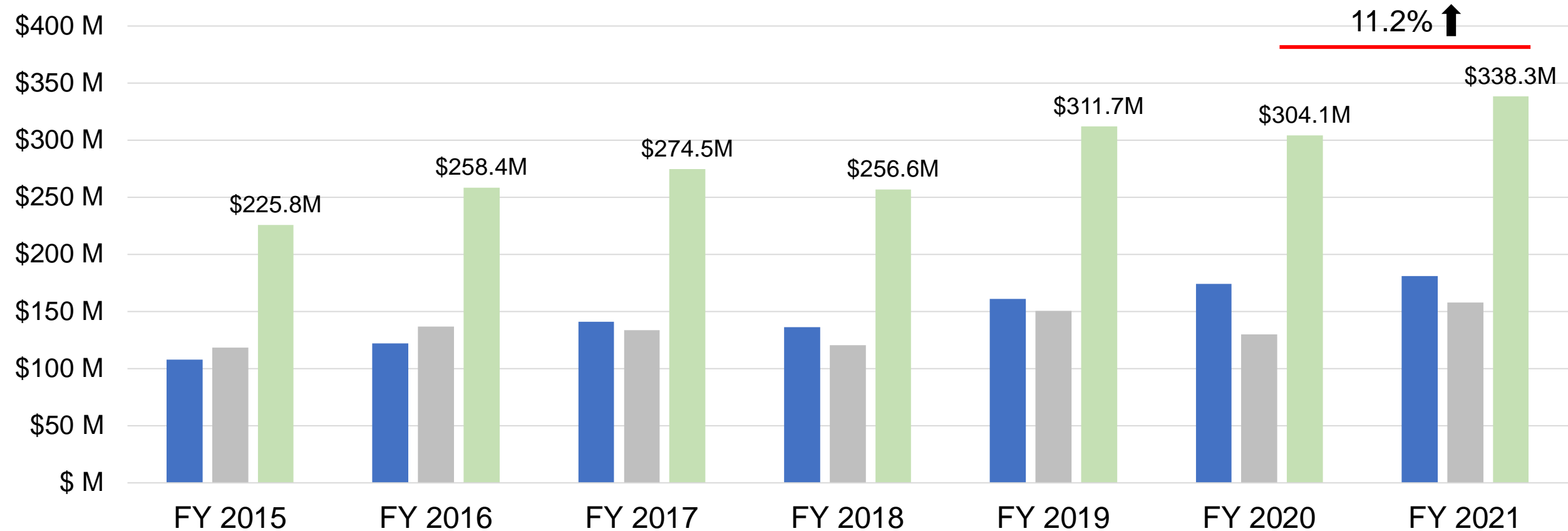
Source: University of Kentucky, OSPA Database

Grant Awards thus far in 2020/21

Extramural funding continues to increase at UK

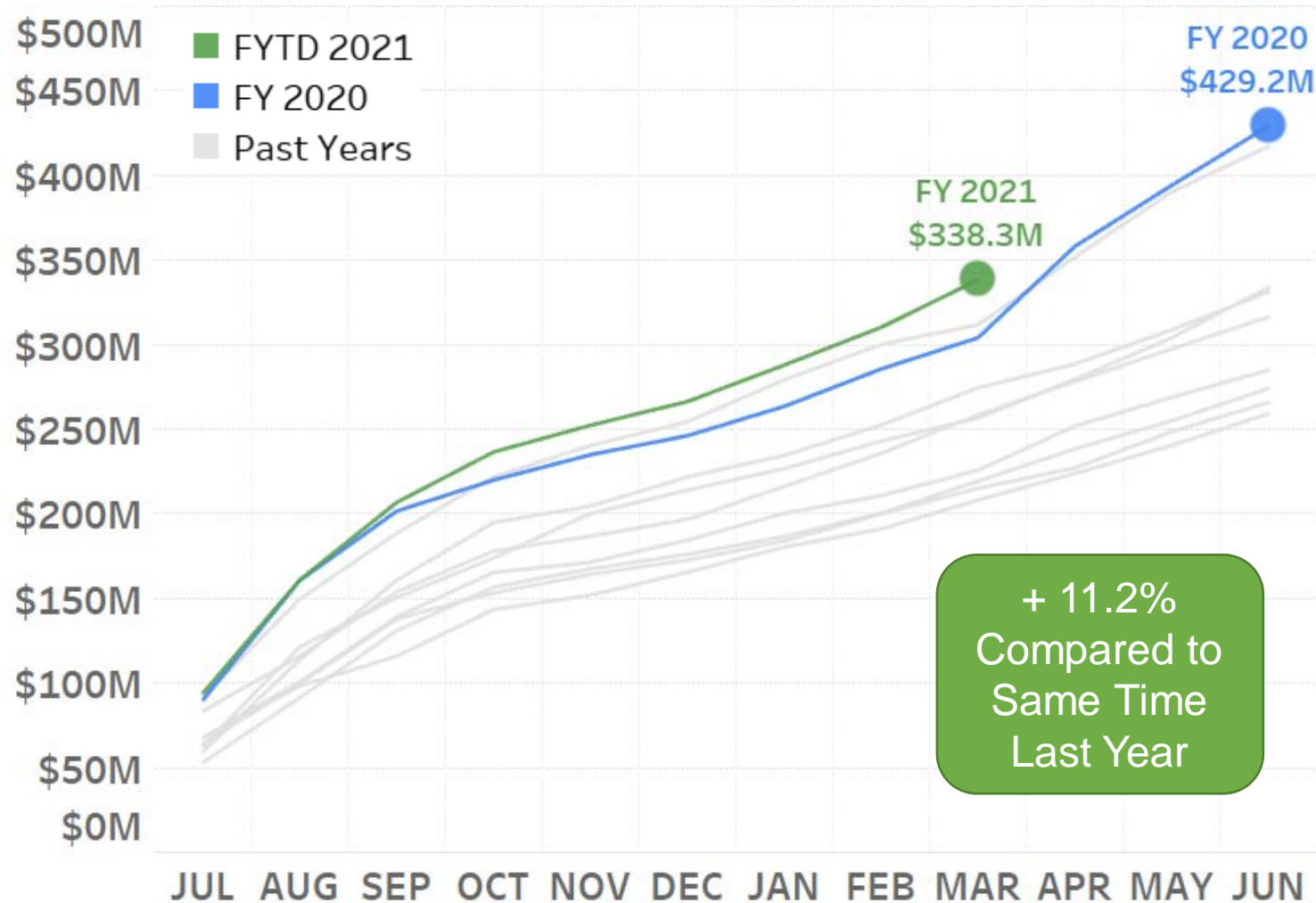
July – March 28th of Each Year

■ Federal ■ Non-Federal ■ Total



Source: University of Kentucky, OSPA database.

Increased grant awards thus far in FY20/21



SPONSORED AWARD DOLLARS BY TYPE *Compared to the Same Time Last Year*

Federal Awards + 3.9%

State Awards + 27.4%

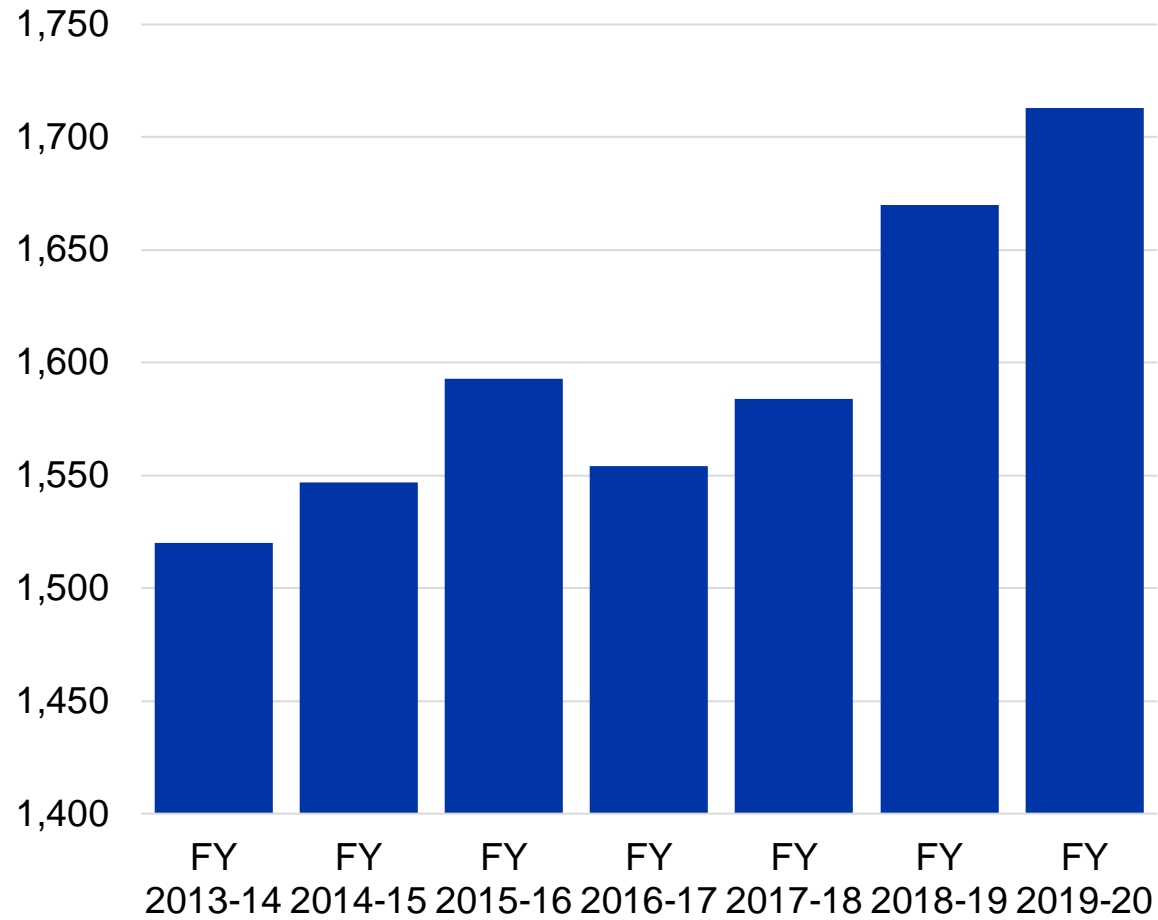
Industry Awards + 66.7%

Other Award Sponsors + 1.3%

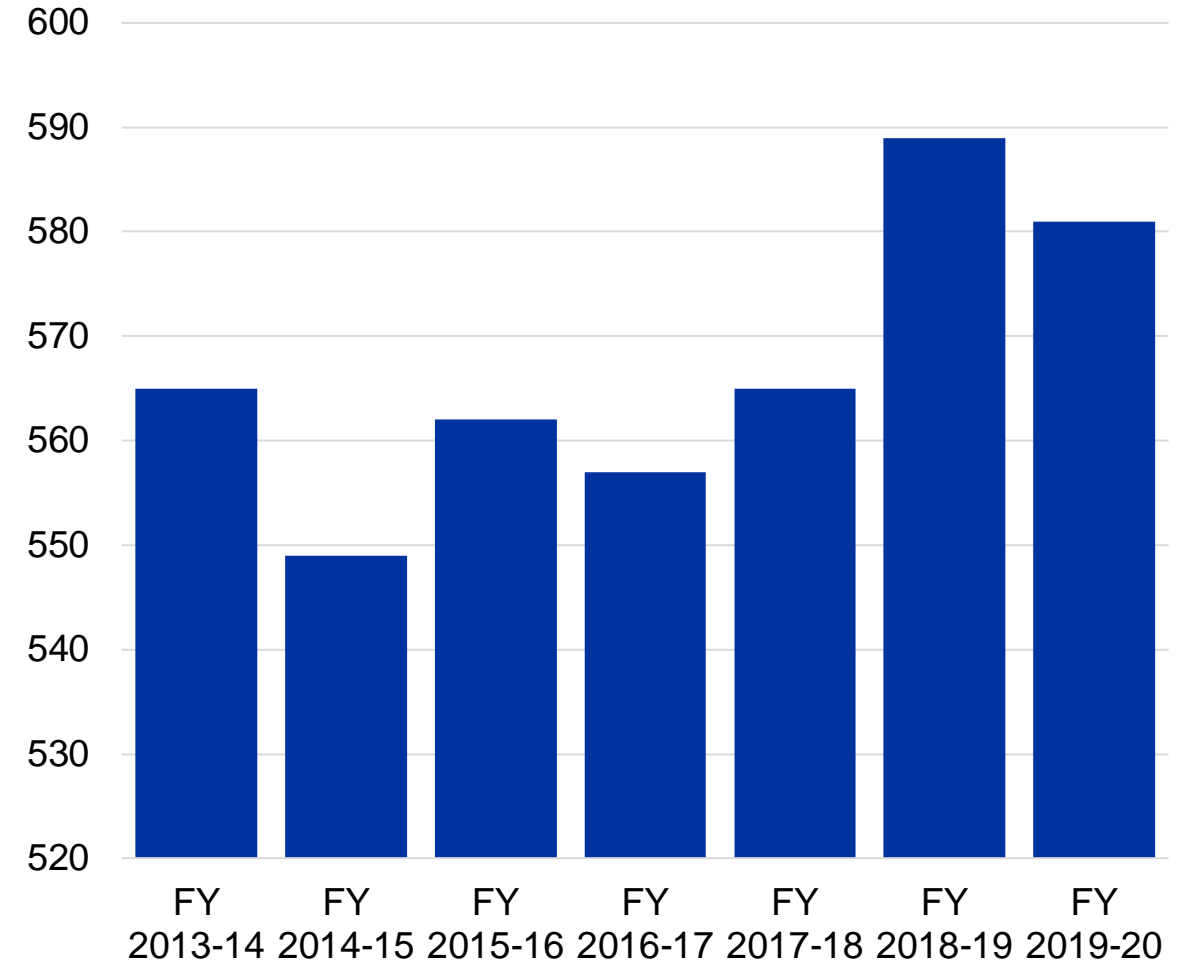
Source: University of Kentucky, OSPA Database, 3/28/2021

Increased Number of Grant Projects and Diversity of Sponsors

Number of Projects



Number of Sponsors



Source: University of Kentucky, OSPA Database

Top Grants and Contracts, 2021 to date

Project Title	Sponsor	PI	Amount
SNAP-Ed 2020-2021	State, KY Dept Community Based Services	Jennifer Hunter	\$8,000,000
Kentucky Overdose Data to Action	Federal, CDC	Terry Bunn	\$7,657,148
Child Care Network Services	State, KY Dept Community Based Services	Mary Howard	\$7,079,685
Substance Abuse and Domestic Violence	State, KY Dept Community Based Services	Carl Leukfeld	\$6,942,042
HKRB	Federal, NIH	Lisa Cassis	\$5,429,775
COVID-19 Ensemble Vaccine Trial	Industry, Janssen Vaccines	Richard Greenberg	\$4,866,511
NSF EPSCoR RII Track 1	Federal, NSF	Rodney Andrews	\$3,996,361
Development of a long-acting enzyme therapy for cocaine abuse	Federal, NIH	Chang-Guo Zhan	\$3,521,165
Tobacco Settlement: Cancer research	State, KY CPE	Mark Evers	\$3,438,050
Support for Community Living	State, KY Cabinet for Health, Family Services	Kathy Sheppard-Jones	\$3,267,000
Cancer Center Support Grant	Federal, NIH	Mark Evers	\$3,142,429

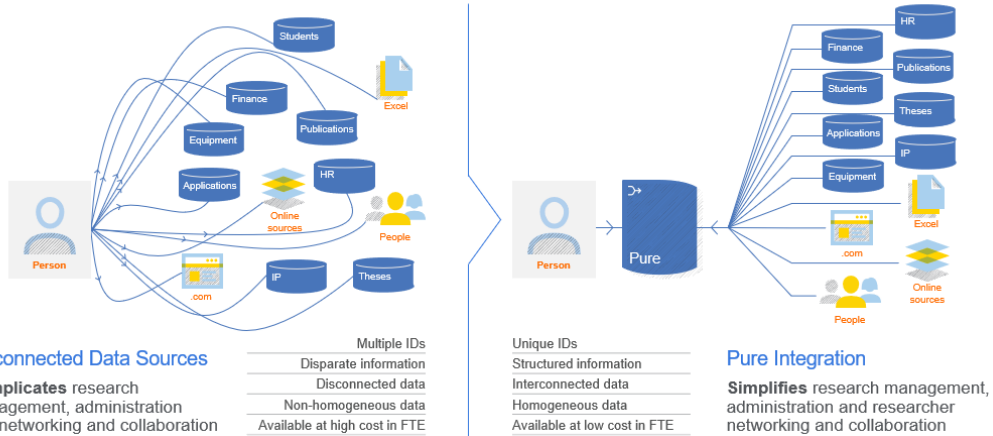
Strategic Initiative 1: Improve the quality of the research infrastructure. How?

- Increase staff within units that are essential for grants administration (I.A.7, I.B.1-2)
- Reorganization of the structure of the Office of the Vice President for Research.
- New software systems to effectively communicate our research and creative work and that streamline operations (II.A.2, II.A.15)
- Completion of the Healthy Kentucky Research Building (I.E.2, II.C.9a)
- Seed support for emerging areas of research (II.C.3)
- Modernization of research facilities in targeted areas (Sanders Brown Center on Aging and Alzheimer's Disease Center) (II.C.9b)
- Modernization of research facilities that make our researchers competitive for federal funding opportunities (Biosafety Level 3 Facility for COVID-19 research)

Scholars@UK by Elsevier

Online Information Management System

Integrating Disconnected Data Sources



What is Scholars @ UK?

The University of Kentucky has committed the past 150 plus years to pursue interdisciplinary research and creative efforts that address challenges and disparities faced by our citizens and enrich their lives. Scholars @ UK is a searchable database of research expertise from all colleges, departments, and disciplines on campus. You can explore unit research output (publications, creative work, etc.), sponsored grants and contracts, and individual scholar profiles. The database contains a rich set of metrics including citation counts, altmetrics, network analysis, and collaboration information. If you have questions about this database please contact: vpranalytics@uky.edu

Collaborations and top research areas from the last five years



Research output



Chronic PERK induction promotes Alzheimer-like neuropathology in Down syndrome: Insights for therapeutic intervention

Lanzillotta, C., Zuliani, I., Tramutola, A., Barone, E., Blarmino, C., Folgiero, V., Caforio, M., Valentini, D., Villani, A., Locatelli, F., Butterfield, D. A., Head, E., Perluigi, M., Abisambra, J. F. & Di Domenico, F., Jan 2021, In: Progress in Neurobiology. 196, 101892.

- Research output: Contribution to journal > Article > peer-review
- Neuropathology
 - Down Syndrome
 - Neurodegenerative Diseases
 - Alzheimer Disease
 - Antioxidants



Fidelity of the PINK1 knockout rat to oxidative stress and other characteristics of Parkinson disease

Ren, X. & Butterfield, D. A., Feb 1 2021, In: Free Radical Biology and Medicine. 163, p. 88-101 14 p.

- Research output: Contribution to journal > Review article > peer-review
- PTEN-Induced Putative Kinase
 - Oxidative Stress
 - Rats
 - Parkinson Disease
 - Oxidative Stress





Research Administration

Office of Sponsored Projects Administration
Kim Carter
Assoc. VPR and Executive Director

Office of Research Integrity
Helene Lake- Bullock
Asst. VPR and Executive Director

Attending Veterinarian
Mark Suckow
Assoc. VPR

Fiscal Affairs
Judy Duncan
Asst. VPR and Director

Federal Relations
Eric King
Executive Director

Eli Capilouto
President

Lisa Cassis

Vice President for Research

University of Kentucky Research Foundation

Chief of Staff and Research Analytics

Baron Wolf
Asst. VPR
Director, Research Analytics
Chief of Staff

Mary Lowell, Exec. Admin. Assistant
Stacy Gaylor, Sr. Data Specialist
Stephanie Thompson, Decision Support

Multidisciplinary Research Space Oversight

Baron Wolf
Asst. VPR

Facilitates Management
Research Space Taskforce
Research Financial Services

Research Development and Communications
Rodney Andrews, Senior Assoc. VPR

Research Innovation and Economic Impact Ian McClure Assoc. VPR	Research Communications Martha Peterson Assoc. VPR	Research Information Services Rodney Andrews Senior Assoc. VPR
Office of Technology Commercialization Taunya Phillips Director	Alicia Gregory Director	Billy Clark Director
	Proposal Development Office Rodney Andrews Senior Assoc. VPR	Undergraduate Research Martha Peterson Assoc. VPR
	Kathy Grzech Executive Director	Chad Risko Faculty Director

Special Programs and Operations
Linda Dwoskin, Senior Assoc. VPR

Research Support Cores Alan Daugherty Assoc. VPR	Research Leadership Academy Linda Dwoskin Senior Assoc. VPR	Centers and Institutes Allan Butterfield Assoc. VPR
Division of Laboratory Animal Resources Bernie Doering Director	Nancy Schoenberg Assoc. VPR Lunch and Learn Series IPEP, RSP, IGNITE	Research Priority Area Initiative Lisa Cassis VPR
Diversity and Inclusion Danelle Stevens-Watkins Asst. VPR UNITE RPA	Internal Programs Sylvie Garneau-Tsodikova Asst. VPR Research Professors, Conference Grants, Creative Arts Program	Allan Butterfield Assoc. VPR

Our Commitment to the Commonwealth: The Healthy Kentucky Research Building (HKRB)

Floor	Completion date	Occupants
1 NIH C06 Construction Grant (\$8M)	2022	<u>Wet</u> : Cardiovascular, Alzheimer's Biomedical Engineering (imaging focus of all groups)
2	2019	<u>Wet</u> : Diabetes/obesity <u>Dry</u> : Substance Use Disorder (SUD) Priority Area (including space for HEALing Communities Study)
3	2019	<u>Wet</u> : Cancer <u>Dry</u> : Bioinformatics, Center for Innovation in Population Health, Rural and Underserved Health Research Center
4	2021	<u>Wet</u> : Cancer <u>Dry</u> : Health Equity Cluster, Cancer Prevention and Control
5	2021	<u>Wet</u> : Cancer
6	2022	<u>Wet</u> : Medicinal Chemistry, unassigned

Phase IV Construction (6th Floor & Conference Center)

- University of Kentucky
Research Foundation Budget
Revision (II.C.9)

Thus far in HKRB:

- 33 principal investigators,
representing 36% new UK
recruits
- 310 occupants, including staff
and trainees

Extramural Funding of HKRB Occupants

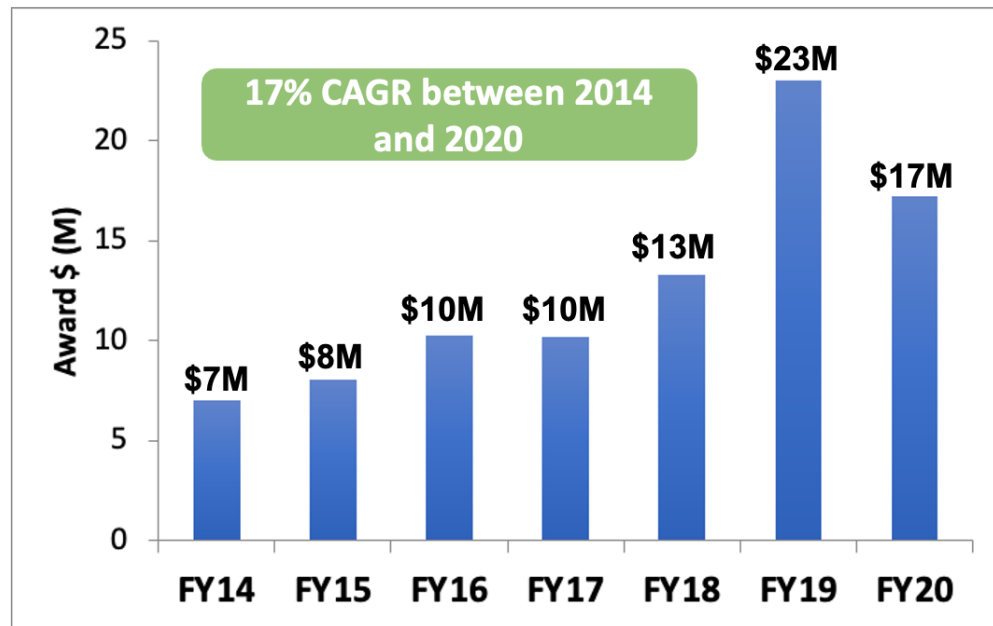
FY 2017-18	FY 2018-19	FY 2019-20
\$25.2 M	\$57.0 M	\$59.1 M

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

Impact of Investment in Sanders-Brown Center on Aging

2nd NIH C06 grant application and UKRF support (II.C.9): *Kentucky Alzheimer's Disease Research Center Modernization Project* will:

Grants & Contracts Awarded to SBCoA



Source: UK OSPA database
Grants where SBCoA is the responsible unit

For FY20, this funding was to only 10 faculty!

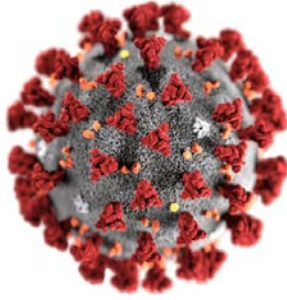
- ❖ Renovate ADRC core facilities (Neuropathology, Biomarker, Data Management and Statistics)
- ❖ Meet urgent challenges and health disparities posed by Alzheimer's and related dementias
- ❖ Address UK research strategic priorities for neuroscience research expansion
- ❖ Benefit multiple colleges/centers/departments
- ❖ Facilitate training of the next generation of aging and dementia researchers

42
CLINICAL TRIALS
in prevention and treatment of Alzheimer's disease and related dementias between 2015 and 2020

BETWEEN 2015 & 2020
15,567 SAMPLES
to **50** LABORATORIES
at University of Kentucky.

CURE Alliance Teams – Fighting the COVID-19 Pandemic

Seed Support for COVID-19 related studies



Dr. Becky Dutch
College of Medicine

**Core 1
Health**

28 applications
10 funded
\$197,338 committed

Dr. Brad Berron
College of Engineering

**Core 2
Materials & Methods**

23 applications
10 funded
\$173,033 committed

Dr. Julie Cerel
College of Social Work

**Core 3
Social Sciences**

25 applications
12 funded
\$95,996 committed

Thirteen colleges submitted 76 applications, and 11 colleges (32 applications) have received funding

COVID-19 Vaccine Trials: UK involvement



Number 1 site in the world for enrollment

ENSEMBLE 1

- Janssen Protocol 3001
- 6 countries
- 100+ sites
- UK Lead with 2 sub sites in Kentucky
 - Norton – Louisville
 - Baptist – Lexington
- Total enrollment, 890 subjects
 - UK, 430
 - Baptist, 243
 - Norton, 215

ENSEMBLE 2

- Janssen Protocol 3009
- 200 Subjects
- Protocol high points
 - Ad26.COVID-S single shot
 - Ad26.COVID-S single shot + booster
- 89 Subjects enrolled at UK in ~5 weeks
- Sites averaged 200 in 5 mos.

Adolescent

- Janssen Protocol 2001
- Phase II
- 25 Subjects
- Protocol high point
 - Ad26.COVID-S single shot
 - Ad26.COVID-S single shot + booster
 - 12-17 Years of age

Prevent COVID U

- Moderna Protocol 3006
- COVID Prevention Network (CoVPN)
- Will vaccines prevent asymptomatic infection and transmission?
- 18 – 26 Years of Age
- 100 Subjects
 - 50 early
 - 50 delayed

Pediatrics

- Moderna
- COVID Prevention Network (CoVPN)
- Trial details pending
- 2 mos – 12 Years of Age

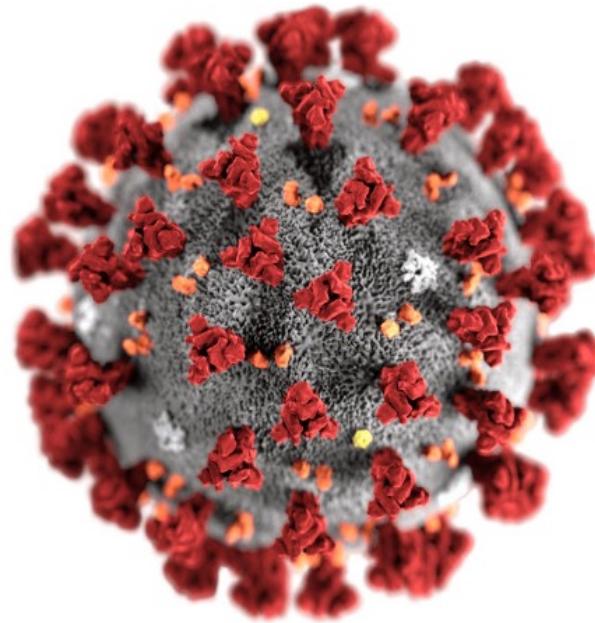
Is our approach making a difference? COVID-19 Awarded Extramural Projects

UK has been awarded more than **\$18.5 M** in COVID-19-related sponsored projects

- 43 sponsored grants and contracts
- FY 20 = \$8.8 M
- FYTD 21 = \$9.7 M

Topics include:

- Antiviral materials
- Viral and anti-body testing
- Hospital improvement
- Clinical trials
- Student success
- Food systems
- Business development
- Many other areas



The need:

- A modern Biosafety Level 3 (BSL3) facility so UK researchers can safely handle the SARS-CoV-2 virus and other infectious diseases and compete for research funding that addresses both acute and long-COVID-19

Research Strategic Plan (coming out of the pandemic and beyond)

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Strategic Initiative 2: Foster an inclusive culture of research success to retain and develop outstanding faculty, staff and students. **Why?**

- Research Culture:
 - Is key to recruitment, retention and research success.
 - Should be inclusive in many ways.
 - Should extend from undergraduate research through the continuum to faculty research success and research leadership.
 - Should be grounded in the responsible conduct of research.
 - Should highlight and celebrate research success of faculty, students and staff.

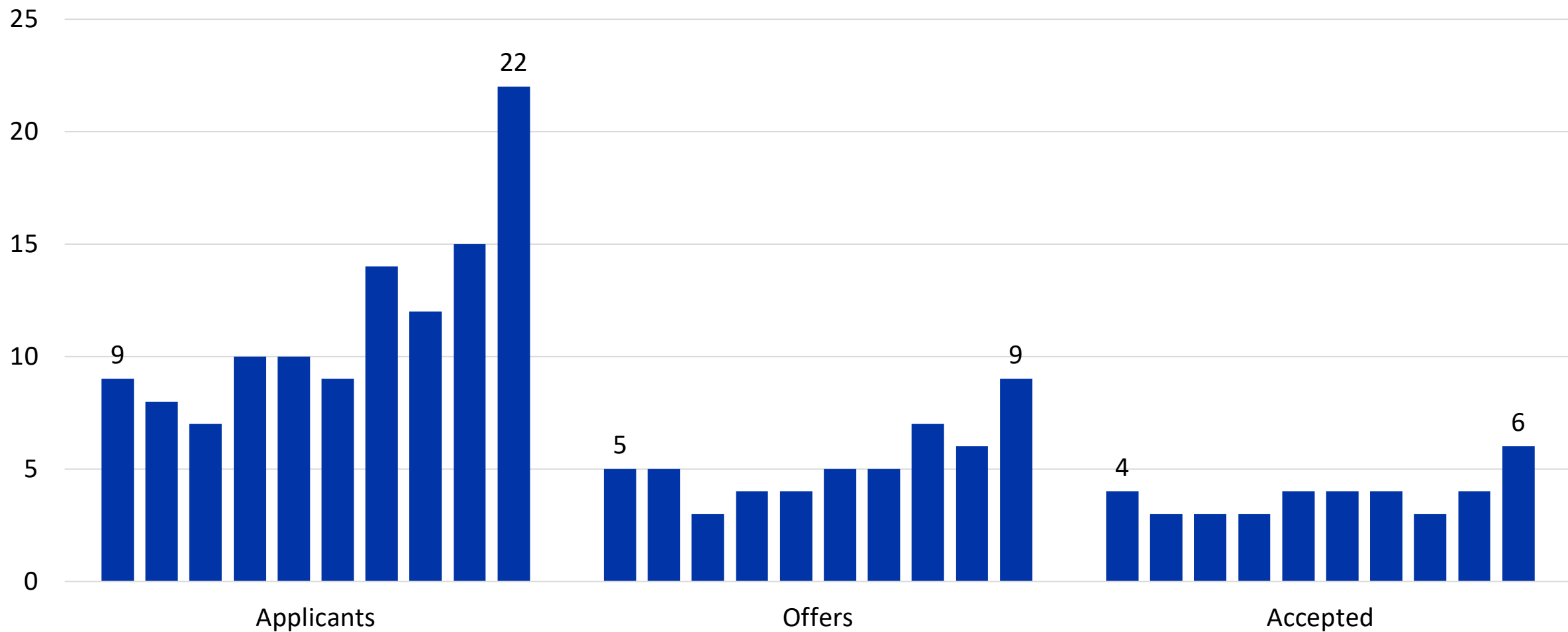
Strategic Investment: Development of an Inclusive Postdoctoral Enrichment Program (IPEP) for URM Postdocs

- **Program components:**

- Personal navigation through the University System
- Enrichment sessions:
 - Weekly lunch and learn sessions
 - Quarterly breakout sessions tailored to fellow's specific needs
- Social & educational offerings via the Office of Institutional Diversity, Society for Postdoctoral Scholars, & Office of Faculty Advancement
- Career development panel with mentor(s), department chair, Associate Dean for Research, relevant faculty
- Networking opportunities with national leaders through speaker invitations
- Enhanced mentor training

Supporting Diversity: URM Research Postdoctoral Programs

Postdoctoral Fellowships 2011-2020



Supporting Diversity: URM Research Postdoctoral Programs

LYMAN T JOHNSON POSTDOCTORAL FELLOWS

Dr. Abigail Folberg, working with UK Psychology

August 2019 – Current

“You Can’t Tell Other People What to Believe”: The role of tolerance of sexism in legitimizing gender inequality

Dr. Shemeka Thorpe, working with UK Education

July 2020 – Present

Reducing sexual health disparities among Black women through research, community education, and program development.

Dr. Brandon Wilson, working with UK History

August 2020 – Present

The role of public prisons as the fundamental infrastructure in the domestic slave trade

Dr. Juana Zamora-Reyes, working with Molecular and Cellular Biochemistry

September 2020 – Present

Low Cholesterol Effects on the Fusion Mechanism of Hendra Virus

NEW 2021 IN-COMING POST DOCS

Brittany Miller-Roenigk, working with Educational, Counseling, and School Psychology

Kelle Dhein, working with UK Philosophy

Phyllis Johnson, working with UK Anthropology

Allison Young, working with UK Entomology

Aurora Santiago-Ortiz, working with UK Information Sciences

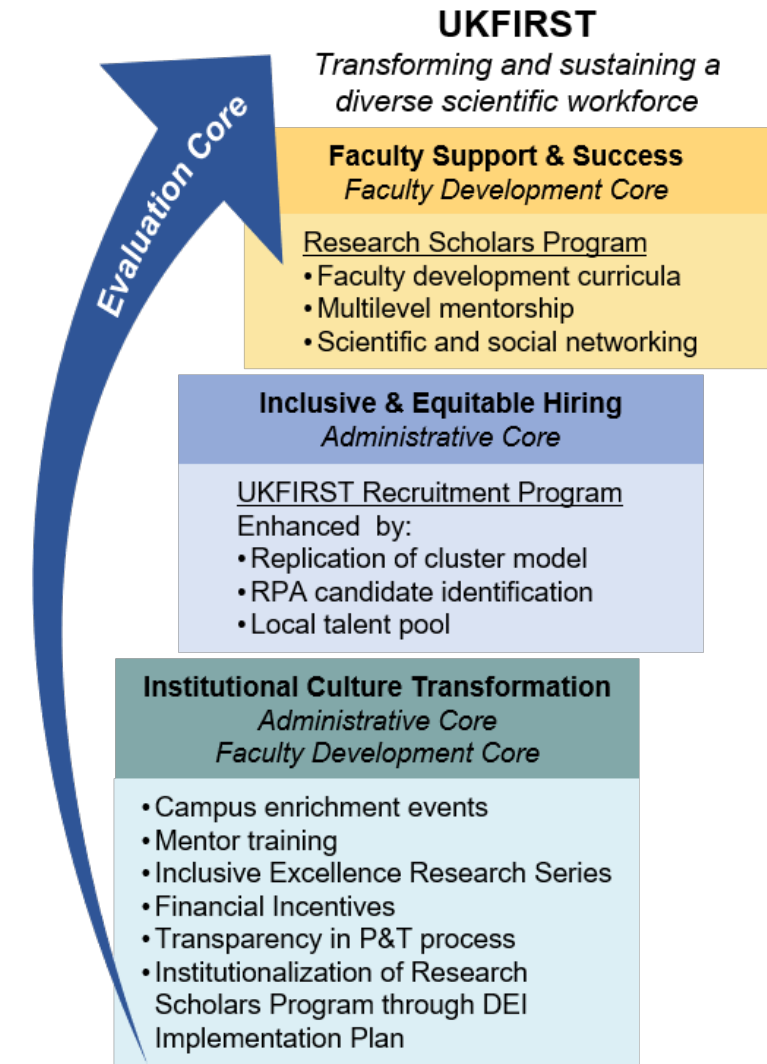
Leanna Luney, working with Educational Policy Studies and Evaluation

UKFIRST:* Building Inclusive Excellence through Sustained and Transformative Culture Change and Evidence-Based Practices (NIH FIRST Grant Application, U54CA267734)

*FIRST (Faculty Institutional Recruitment for Sustainable Transformation)

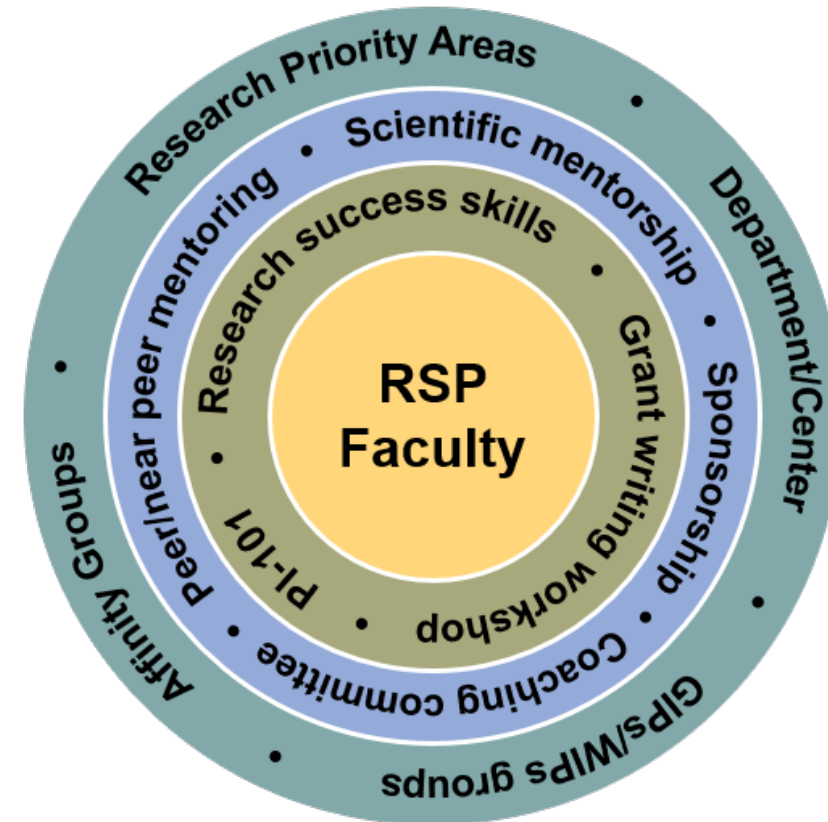
Highlights:

- Recruit ten new biomedical and behavioral junior researchers with demonstrated commitments to diversity and inclusive excellence over three years. These faculty will have a research focus that aligns with cancer, neuroscience, or substance use RPAs and all RPAs in the future.
- Regular title series appointment within a health care college department.
- Ensure faculty success by implementing & assessing Research Scholars Program (faculty development programming & multilevel mentorship).
- Drive culture change to be translated to the broader institution.
- \$13,728,301, pending review.



Research Scholars Program (RSP)

- Objective: To provide preliminary evidence for faculty research success, including group and Individualized enrichment and multilevel mentorship.
- Development: Theory & evidence-based, deployed UK data; input through 16-member Faculty Advisory Committee.
- Competition: Held in November; received 13 applications; accepted 6 for Cohort 1 and 7 for Cohort 2.



Support provided by Office of the Vice President for Research, Office for Faculty Advancement, Center for Health Equity Transformation, Center for Clinical and Translational Science, and the Colleges of Nursing; Public Health; Health Sciences; Medicine; Education; and Arts and Sciences

Cohort 1 RSP Faculty



Name	Department/College	Research Focus
Adebola Adegboyega	College of Nursing	Cervical cancer among African immigrant women and health disparities
Joseph Benitez	Health Management and Policy, College of Public Health	Health economics and empirical health policy analysis using applied econometrics techniques focused on Medicaid
Jean Fry	Athletic Training and Clinical Nutrition, College of Health Sciences	Rehabilitation following ACL tear and reconstruction surgery, rehabilitation nutrition, obesity, Type 2 diabetes, and precision medicine
Cetewayo Rashid	Pharmacology and Nutritional Sciences, College of Medicine	Environmental factors that contribute to the development of type 2 diabetes
Michael Samaan	Kinesiology and Health Promotion, College of Education	Use of biomechanics and musculoskeletal imaging to better understand the mechanisms and effects of lower extremity joint diseases
Lauren Whitehurst	Psychology, College of Arts and Sciences	Body/brain interactions during sleep to produce regulatory effects on cognition and health

Undergraduate Research (UGR): an important part of the continuum for the future of research in the US

- UGR moved to OVPR in September, 2020
- Goals for UGR within OVPR:
 - Provide a transformative, high-impact research experience to every undergraduate who wishes to have one
 - Elevate UGR to the level expected of an R1 institution
 - Seek extramural funding mechanisms to support undergraduates in research
 - Use this as a platform to recruit undergraduates to UK and celebrate their research success
- Using an External Review (2019) of UGR (conducted by Student Academic Life), we evaluated:
 - Central versus college level activities
 - Need for a Faculty Director, central staff needs
 - Structure of program offerings
 - Distribution of funds to support UGR activities within units

Faculty Director of UGR: Chad Risko



Chad Risko, PhD
Associate Professor, Department of Chemistry
Center for Applied Energy Research

- Following an internal search (20 applicants, 4 interviewed candidates), welcome Chad Risko, Faculty Director who will:
 - Work with identified leaders in each college to coordinate central *versus* unit UGR activities and determine funding allocations
 - Represent UGR within and external to UK
 - Develop new program offerings and structures, in conjunction with units, for UGR activities across campus

Strategic Initiative 2: Foster an inclusive culture of research success to retain and develop outstanding faculty, staff and students. **How?**

- Support for:
 - Undergraduate research within each College (II.C.6).
 - Research Professors within each College (II.C.3).
 - New training requirements and systems (Electronic Laboratory Notebook, II.A.2) for the responsible conduct of research.
 - Creative Works through formulaic delivery of funds to seven colleges (Fine Arts, Design, Communication and Information, Law, Business and Economics, Arts and Sciences, Education) (II.C.3).
 - Multidisciplinary research (Igniting Research Collaborations)(II.C.3).
 - Faculty research leadership development, programmatic grant support, emerging areas of research within the Research Leadership Academy (II.C.3).
 - IPEP scholars, administrative support to Research Scholars Program, support for Faculty Diversity Start-up Pool (II.C.3).

Responsible Conduct of Research (RCR) Training

Total Required To Complete RCR		RCR Within Year					
		Complete		Not Complete		Refresher w/out Basic	
N	%	N	%	N	%	N	%
14,864	100.0%	7,496	50.4%	7,314	49.2%	54	0.4%

Source: vRCRCumulative (Reporting) updated: April 28, 2021

RCR Requirements

- All faculty, graduate students, employees on research protocols or paid on a sponsored grant or contract
- Some professional programs are exempt from requirement

Tracking

- Began tracking in early 2021
- Deans and Assoc. Deans for Research receive automated reports monthly on completion rates
- Exemption process exists and is reviewed by a panel of subject matter experts
- **Current Completion Rate = 50%**
- College of Nursing is leading with a completion rate = 89%

Responsible Conduct of Research

Honesty: conveying information truthfully and honoring commitments,

Accuracy: reporting findings precisely and taking care to avoid errors,

Efficiency: using resources wisely and avoiding waste, and

Objectivity: letting the facts speak for themselves and avoiding improper bias.

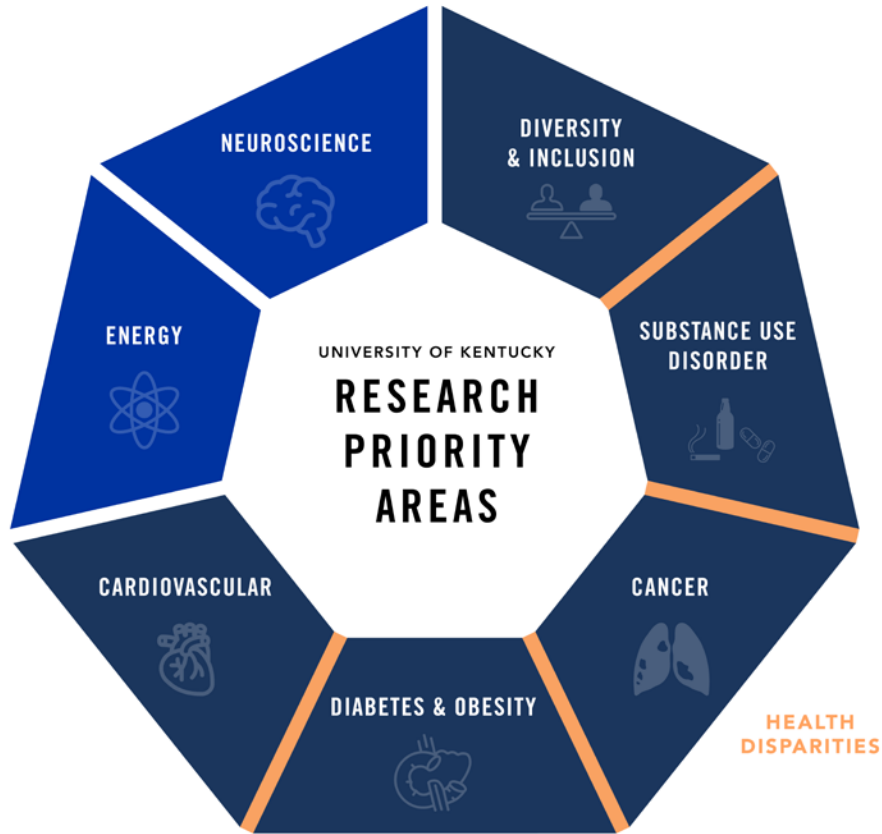
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Strategic Initiative 3: Invest strategically in UK's existing strengths and areas of growth in selected focus areas that benefit and enrich the lives of those in the Commonwealth. **Why?**

- We are the land-grant, flagship public University *for* Kentucky, our research and creative work should benefit our citizens.
- Strategic research that supports our academic medical center and health care enterprise and that addresses health disparities of our citizens.
- Strategic research that impacts the economy of Kentucky.
- Strategic support of research that fosters racial and social justice, health equity, and best practices to support an inclusive faculty body.

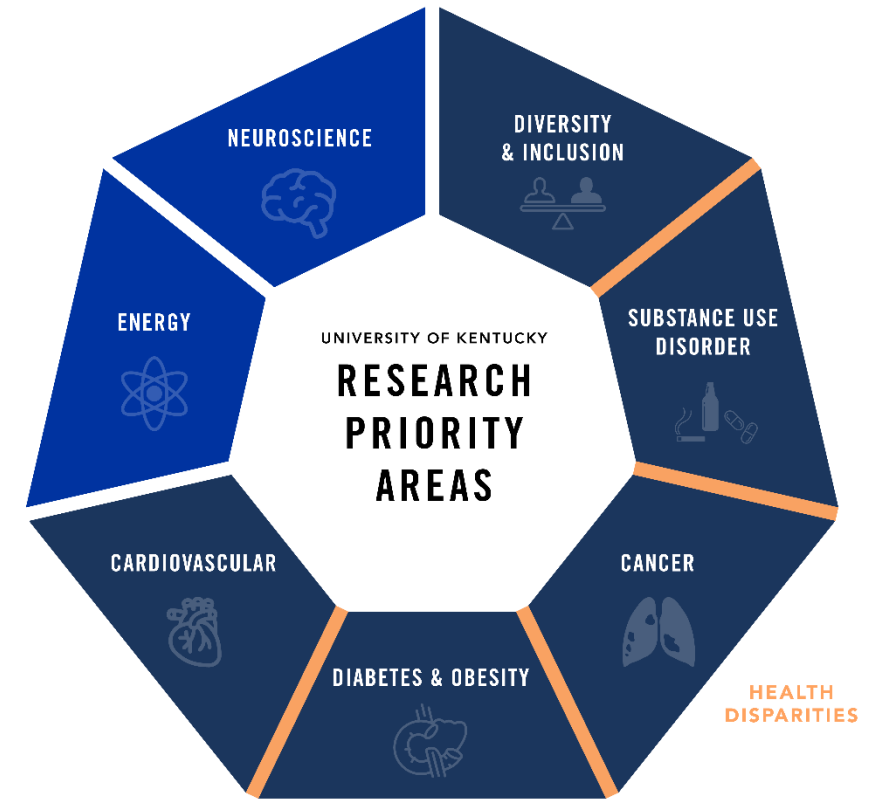
Research Priority Areas (RPAs): Strategic Research that Impacts Kentucky



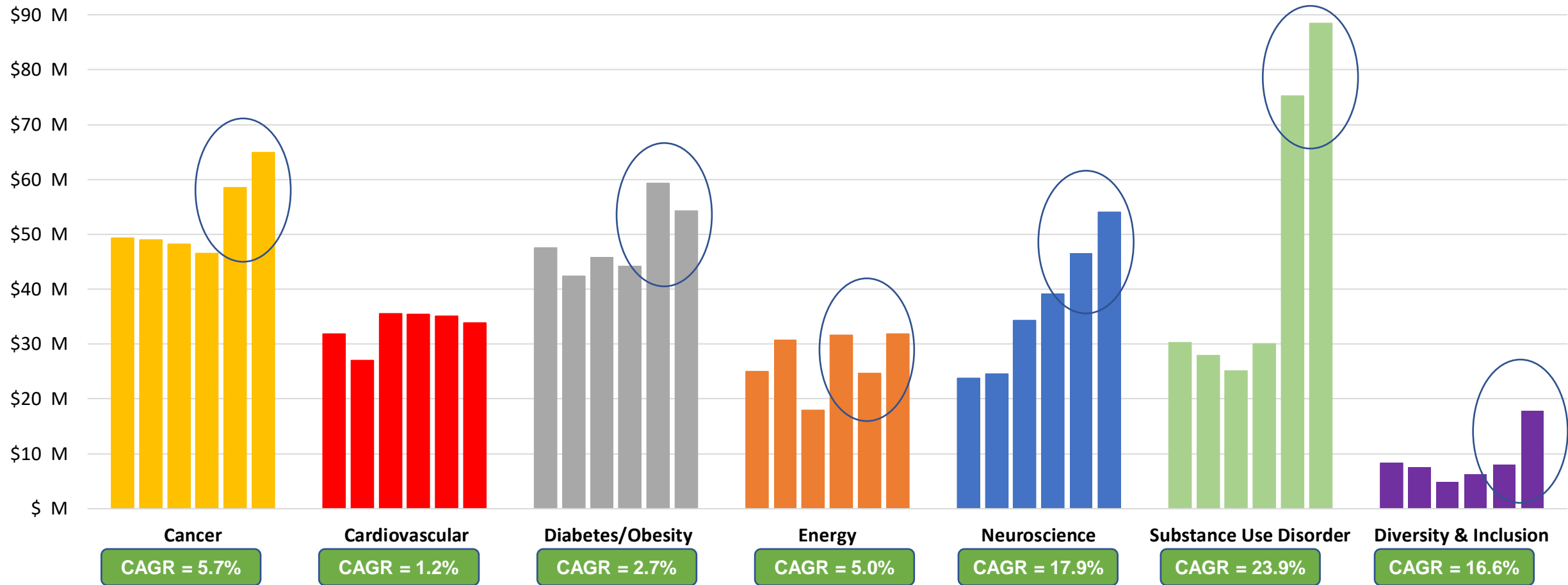
- Strategically Growing Research Through Designated Areas of Priority
- Added a seventh research priority area focused on diversity and inclusion, UNited In true racial Equity (UNITE)
- Criteria for Designation as a Research Priority Area:
 - Local relevance
 - Existing Strength
 - Diversity of disciplines
 - Impact on the Commonwealth
 - Sustainable research funding

RPA Offerings to Their Constituencies

- Competitive faculty recruitment & targeted hires in all seven areas
- Seed grant programs
- Creation of bio-banks
- Website development & infrastructure
- Multiple symposia held
- Funded administrative positions (e.g., clinical research coordinators)
- Purchase of specialized equipment for shared use
- Expanding collaboration networks and capacity



Creation of RPAs is having a positive impact on extramural funding



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

UNITE RPA: Founding Vision and Mission

- UNITE is synergizing impactful research and scholarship focused on achieving racial equity in the Commonwealth and beyond. This is achieved by fostering new and existing collaborations with multiple relevant, but distinct centers and institutes on campus.

The UNITE RPA mission is to support **research** and scholarship that:

- Develops innovative solutions and establishes best practices focused on recruitment and retention of racially diverse faculty, staff and students.
- Focuses on racial disparities, racial health equity, social and racial justice that will result in impactful scholarly outputs and extramural funding for sustainability.

UNITE: Current & Projected Activities

Annual Research Day

- Symposia to present racial equity research

Community engagement

- UNITE Listens Panel Discussion

Funding Activities

- Faculty pilot support, diversity incentive/bridge funds

Increasing Pipeline of Underrepresented Scholars

Workshops, training, consultation

- Grant-writing workshops
- Networking events

Recruitment and Retention of Underrepresented Faculty

- Support for new faculty start-up research
- Dedicated support for the grant submission/resubmission process

Strategic Initiative 3: Invest strategically in UK's existing strengths and areas of growth in selected focus areas that benefit and enrich the lives of those in the Commonwealth. **How?**

- Support for RPA program growth (II.C.7).
- Addition of UNITE RPA and support of its emerging programs (II.C.7).
- Support for emerging areas of research strength (COVID-19-related infectious disease research)(II.C.7).
- Support for professional staff to facilitate nominations of faculty across RPAs or within Colleges for prominent research awards and honors (I.B.1).

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- Strategic Initiative 1: Improve the quality of the research infrastructure.
- Strategic Initiative 2: Foster an inclusive culture of research success to retain and develop outstanding faculty, staff and students.
- Strategic Initiative 3: Invest strategically in UK's existing strengths and areas of growth in selected focus areas that benefit and enrich the lives of those in the Commonwealth.
- Strategic Initiative 4: Strengthen engagement with communities and translate outcomes of research and creative works for the benefit of the citizens of the Commonwealth.

Strategic Initiative 4: Strengthen engagement with communities and translate outcomes of research and creative works for the benefit of the citizens of the Commonwealth. **Why?**

- As the land-grant, flagship University *for* Kentucky:
 - Our research and creative work should engage and support the community.
 - We will work with land-grant engagement to support activities across the Commonwealth.
 - We must lead research innovation, commercialization and economic development.

Research Innovation: Patents, Licenses, and Start-ups: Growing the Opportunity Pipeline

Capturing More Innovation; Transferring More Technology

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021 YTD (as of 04/13/2021)
INVENTIONS DISCLOSED	55	53	54	101	104	117	73
PATENTS FILED	25	27	39	62	85	165	123
LICENSES & OPTIONS EXECUTED	4	7	13	29	30	29	20
STARTUPS LICENSED	6	3	8	10	8	6	5

Source: UK Office of Technology Commercialization

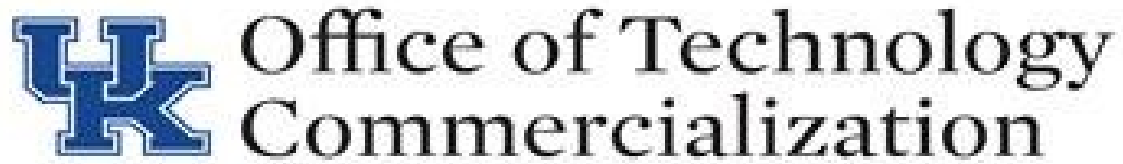
Strategic Initiative 4: Strengthen engagement with communities and translate outcomes of research and creative works for the benefit of the citizens of the Commonwealth. **How?**

- Associate Vice President for Research, Innovation and Economic Impact (I.B.3, II.A.5)
- Use of the Research Leadership Academy for structuring of community research within an integrated umbrella platform and potential seed support (II,C.3).

Office of Technology Commercialization

GROWING WITH GRANTS





Innovation Economic Development

(Community engaged research, state economic development alignment, innovation-based industry partnerships)

Innovation & Entrepreneurship. Training

(Commercialization education, product development, entrepreneurship coaching and mentorship)

Social Innovation

(Social impact, technology transfer for social sciences, inclusive innovation programs)

UKRF Budget

- For FY20/21, we budgeted \$59M of anticipated F&A income, representing a 14% increase from the previous year because of growth in extramural grants and contracts.
- FY21/22 Proposed Budget: \$62M (a 5.1% increase)

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Budget Summary

- Total Revenue: \$149,938,412, representing an increase of \$908,872
- Transfers and Expenditures:
 - Transfer of \$29,612,800 to the institution, an increase of \$1,289,300
 - Expenditures of \$120,325,612

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II. Transfers to General Fund (major changes)

- A.2. Service assessment, +\$123,900
- A.7. Research Financial Services, +\$180,900, replacement staff
- A.8. VP External Affairs, -\$235,000, transfer from Public Relations to VPR
- B.1. Research Administration Personnel and Support, +\$699,800, increased staff to accommodate growth in grants and contracts
- B.2. College Grant Officers, +\$236,100, increased staff at college level handling of grants and contracts
- B.3. Office of Technology Commercialization, +\$283,600, Research Innovation and Economic Development Program Offerings, Associate Vice President for Research Innovation and Economic Impact
- E. Debt Service, \$6,100 movement from one debt service payment (BBSRB) to another (HKRB)

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II. Expenditures

A. Operating expenses

- A, Operating Expenses, Research Administration
 - A.2. Research Information Services: +\$246,000 for site license software (e.g., Electronic Lab Notebook, eSirius upgrade, PURE or Scholars@UK, etc)
 - A.3. Office of Sponsored Program Administration: +\$4,500, Cayuse software increase
 - A.5. Office of Technology Commercialization: +\$60,950, increased staff structure requires more operating costs
 - A.7. Discretionary Accounts, +\$1,900, more employees
 - A.9. Office of the Attending Veterinarian: +\$11,900
 - A.10. VPR, -\$160,000, moved software costs from VPR to Research Information Services
 - A.13. Proposal Development Office: -\$24,088, movement of software costs to Research Information Services
 - A.15. Research Financial Services, +\$119,000, effort certification software and consulting contract for F&A space survey

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II. Expenditures, B. Other activity

- II.B.1, Contingency reserve, +\$300,000, 10% of estimated budget
- II.B.2, Private gifts/endowments, +\$76,010, college estimates
- II.B.3, Intellectual property license expenses, +\$500,000, patent costs are increasing
- II.B.4, Intellectual property royalty sharing program, +\$295,900, increased royalty sharing fund balances in colleges

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II. Expenditures, C. Research Programs

- 1a. Formulaic start-up: +\$600,000 (20% of UKRF budget)
- 1b. Other Start-up commitments: +\$1,022,000 (Dean's packages, etc)
- 2a-c. Formulaic incentive return programs to colleges/centers: +\$377,500 (45% of overall budget)
- 6a. University Wide Initiatives: +\$500,000, support for college-wide Undergraduate Research
- 7a-c. Strategic Investment Fund: +\$710,000 (7% of overall budget), RPA program including UNITE
- 8a. Fund Balance Carryforward Estimate: +\$6,000,000 (fund balance across departments, colleges and centers)
- 9a. HKRB, -\$2,000,000, paid off cost share for NIH C06 grant for part of this, remainder for imaging suite
- 9c. Angliana Avenue: -\$8,000,000, purchase not made and under consideration