UNIVERSITY OF TEXAS RIO GRANDE VALLEY
RESEARCH OPPORTUNITY AND INFRASTRUCTURE ASSESSMENT

HURON

September 2020

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EXECUTIVE SUMMARY

HURON

EXECUTIVE SUMMARY
ENGAGEMENT OVERVIEW

The University of Texas Rio Grande Valley (UTRGV) engaged Huron Consulting Group (Huron) to conduct an assessment of its current research investments and research administration infrastructure to identify areas for enhancement and optimization. Each of these three components must be developed collaboratively and cohesively in order to successfully achieve growth goals.

Programmatic

- Identify programmatic focus areas for significant growth and high-yield return on investment
- Identify best practices to increase likelihood of securing externally-funded grants and converting sponsored research into industry and commercial partnerships

Infrastructure

- Enhance organizational structure, roles & responsibilities, and workflows
- Develop recommendations to optimize infrastructure related to compliance, efficiency, and customer service

Financial

- Prepare a financial model and related analysis of the current financial performance of the research enterprise
- Develop a financial model showing the year-over-year sponsored research growth and institutional investment required to meet UTRGV's research targets.

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EXECUTIVE SUMMARY
APPROACH AND METHODOLOGY

Huron conducted the following tasks to assess UTRGV's current state and make recommendations to achieve the desired future state:

| Task 1: Confirm Project Objectives | Task 2: Complete RADIUS Survey | Task 3: Issue Information & Data Request | Task 4: Conduct Site Visit | Task 5: Analyze Data and Conduct Assessment | Task 6: Analyze Sponsored Research and Industry Partnership Opportunities | Task 7: Conduct Financial Analysis & Build Financial Model | Task 8: Prepare & Deliver Report |

Interviewees are listed in Appendix A.

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EXECUTIVE SUMMARY
RESEARCH GROWTH GOALS

UTRGV's leadership has set a goal for the institution to achieve $100M in research.

Huron's assessment of UTRGV's programmatic, infrastructure, and financial structures focused on recommendations that allow UTRGV to achieve this goal progressively across three stages, each with a different definition of $100M in research:

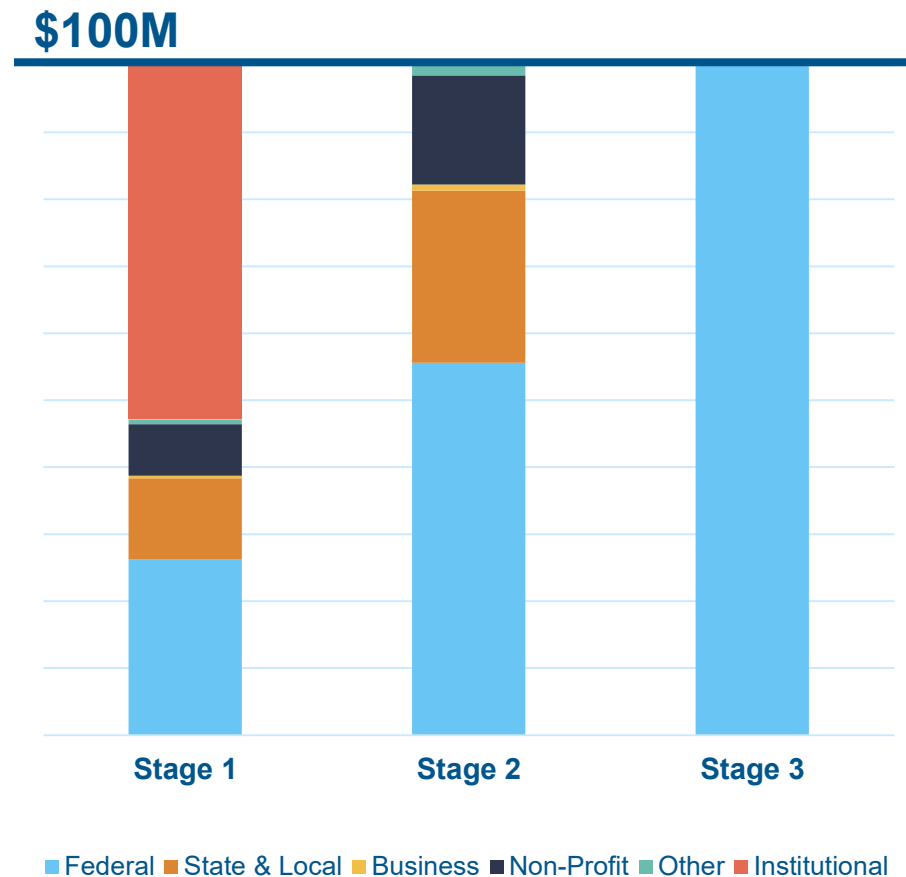**Stage 1:** $100M in R&D Expenditures

- *Includes institutionally-funded expenditures aligned with the National Science Foundation (NSF) HERD Survey definitions*
- *Excludes non-research sponsored programs*

Stage 2: $100M in Externally-Funded R&D Expenditures

- *Excludes institutionally-funded expenditures*

Stage 3: $100M in Federally-Funded R&D Expenditures

- *Includes only federally-funded research programs*

$100M

Stage 1   Stage 2   Stage 3

■ Federal ■ State & Local ■ Business ■ Non-Profit ■ Other ■ Institutional

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EXECUTIVE SUMMARY
PILLARS OF LEADING RESEARCH ENTERPRISES

Through interviews and data analysis, Huron identified four overarching pillars that categorize the opportunities to elevate UTRGV's research enterprise to achieve the institution's goals.

LEADING RESEARCH ENTERPRISES

MISSION

- Research is emphasized in institution mission statements and established as a core component of the institution's identity and purpose.

STRATEGY

- Research strategy is defined and documented to establish a manageable number of high priorities the institution wishes to be known for.
- Strategy provides specific, unifying direction driving the approach to decision-making and prioritization, including financial investments

SUPPORT

- Organizational structures and defined roles and responsibilities support strategic governance and effective operations.
- People are trained, developed, and held accountable to high standards based on their institutional role.
- Internal and external customer service is a core objective for all units and individuals.

SOPHISTICATION

- Processes are aligned to institutional risk tolerance and balance compliance with efficiency.
- Processes and systems support an efficient research operations engine that encourages the principle of "highest and best use" of human and financial resources.

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EXECUTIVE SUMMARY
THEMES AND OPPORTUNITIES

MISSION

UTRGV has focused on building and supporting its instructional mission. UTRGV will need to **enhance the focus on its nascent research mission** to achieve research growth.

Faculty leadership in schools and departments devote varying levels of expertise and attention to research, particularly outside the School of Medicine (SOM).

UTRGV's institutional infrastructure can benefit from research-specific enhancements that will support robust growth.

STRATEGY

UTRGV has identified research, in general, as a strategic priority. To optimize the return on its research, UTRGV should **identify specific research priorities on which to focus its investments.**

UTRGV does not have a research-specific strategic plan that identifies a manageable number of high research priorities that UTRGV wishes to be known for. By doing so, UTRGV establish unifying direction and goals to drive decision-making and prioritization, including budgetary and financial decisions, to generate research results that are significantly high-yield.

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EXECUTIVE SUMMARY
THEMES AND OPPORTUNITIES

SUPPORT

UTRGV should build on its foundational organizational structure and **develop roles that provide targeted support for its researchers.**

UTRGV's organizational structure is aligned with best practices, but roles can be further aligned to balance operational efficiency and compliance.

Faculty will benefit from dedicated transactional support for pre- and post-award research administration.

Staff will benefit from training and development to build skillsets and expertise across the research lifecycle.

SOPHISTICATION

Processes should be refined to **balance efficiency, compliance, and customer service.** Manual processes should become automated – aligned with research priorities – as UTRGV grows.

Streamlining processes can achieve efficiencies while mitigating risk through quality assurance mechanisms and monitoring.

Many research administration processes require manual intervention and hand-offs. UTRGV will need to consider its investment in automating processes to achieve efficiency and service goals.

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EXECUTIVE SUMMARY
UTRGV-WIDE RESEARCH ENABLEMENT

Substantial expansion of UTRGV's research enterprise requires an equally substantial financial investment and diligent efforts to maximize the return on that investment. UTRGV's success is dependent upon two critical tenets:

1. Growth of UTRGV's research enterprise is reliant on faculty across disciplines that are intentionally focused on research.
2. Increasing external funding allows UTRGV to invest in infrastructure that benefits <u>all</u> researchers.

Huron's recommendations are focused on providing broad benefit to UTRGV researchers through the fostering of culture of research and innovation across all disciplines and investment in research institution-wide while also focusing a larger portion of its investment on disciplines that have the highest likelihood of increasing external funding.

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EXECUTIVE SUMMARY
GROWTH ENABLEMENT STRATEGIES

1	Growth of UTRGV's research enterprise is reliant on faculty with <u>an intentional focus</u> on research. The concept of an "intentional focus" on research is critical for faculty development and financial investments, and **this is not limited to those research areas related to the RPAs**.
2	Considering the reality of limited resources, and the demanding needs of UTRGV's instructional mission, UTRGV must be diligent in conveying the intentional concept – especially for current faculty focused on instruction.
3	Substantial **expansion of UTRGV's research enterprise requires an equally substantial financial investment** and one objective of the Research Strategic Plan is to **identify those areas that will provide the greatest return on this investment**. Therefore, **a majority of UTRGV's financial investment should be weighted towards enabling the RPAs**, with the overall objective of growing the research enterprise and realizing a strong return on investment.
4	**It is expected and necessary that UTRGV maintains and grows research across the institution, including in areas outside of the RPAs as well. Therefore, while the RPAs should drive the majority of financial investments, they should not represent the only investment in UTRGV's research.**
5	Considering the necessary financial investment to achieve this growth, it is imperative for UTRGV to **maximize the financial impact of externally sponsored research and limit financial "leakage"** via cost share, waived indirect cost recovery, and investing research revenue in areas outside of research.

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EXECUTIVE SUMMARY
FINANCIAL AND OPERATIONAL OVERVIEW

Research Goals

+ The financial model assumes UTRGV seeks to achieve its federal funding goal of **$100M in 15 years**

+ We project UTRGV could reach their research goals in the following stages:
  - Stage 1 goals are projected to be reached in 8 years
  - Stage 2 goals are projected to be reached in 13 years
  - Stage 3 goals are projected to be reached in 15 years

Financial Requirements

+ We estimate the direct Institutional Investment required is $646M, cumulative from FY21 – FY35. Based on our projections, this includes:
  - Hiring approximately 48 faculty over this period of time
  - Developing new research space at a cost of approximately $60M

+ We estimate cumulative operating results over FY21 – FY35 at $950M

Sponsored Funding

+ We estimate that UTRGV should aim to secure $86.2M from FY21 – FY35 of federal research funding to meet research goals

Duration and investment could materially change based on management decisions

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EXECUTIVE SUMMARY
RESEARCH STRATEGY

Develop a formal Research Strategic Plan for the UTRGV research enterprise that establishes a manageable number of research priority areas (RPAs) for which UTRGV wishes to be known as a national leader. Potential RPAs are identified below and should be vetted through a Research Strategic Planning process.

Existing and Potential Research-Intensive Departments

School of Medicine	College of Sciences	College of Engineering
• Human Genetics • Immunology • Neuroscience • Psychiatry	• Biology • Chemistry • Physics & Astronomy • SEEMS	• Mechanical Engineering • Aeronautical Engineering

Purple text indicates Research Growth Departments that have existing strengths.
Green text indicates Research Strength Departments that have existing strengths with a smaller degree of success.

Existing and Potential Research Focus Areas

• Diabetes and Obesity • Liver Disease • Alzheimer's Disease • Opioids and Addiction • Infectious Disease • HIV / AIDS	• Integrative & Organismal Biology • Cellular & Molecular Biology • Biochemistry • Inorganic, Materials, Polymers, & Nanoscience • Physical Chemistry • Coastal and Marine Ecology • Coastal and Marine Biogeochemistry • Coastal Resilience • Natural Resource Conservation Management • Sustainable Ag & Food Systems • Biophysics & Nanoscience • Atomic, Molecular, & Optical Physics • Astronomy & Astrophysics	• Aeronautical Engineering • Materials Science • Cybersecurity • Artificial Intelligence

Purple text indicates existing focus areas aligned to Research Growth Departments.
Green text indicates existing focus areas aligned to Research Strengths Departments.
Yellow text indicates potential focus areas for New Program Development.

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EXECUTIVE SUMMARY
GROWTH STRATEGIES

As vetted and confirmed through the Research Strategic Plan development process, pursue growth using a combination of five major strategies.

PROGRAMMATIC INVESTMENT

FACULTY DEVELOPMENT
Foster development of research faculty through focused time, investment, mentorship, and associated accountability.

FINANCIAL INVESTMENT
Optimize investment in research to achieve a high ROI, systematically evaluating space, core facilities, infrastructure, etc.

EXTERNAL FUNDING OPTIMIZATION
Maximize direct and indirect cost recovery on sponsored fund sources and strategically "invest" in indirect revenue and cost-sharing.

EXTERNAL ENGAGEMENT

INDUSTRY PARTERNSHIP AND COMMERCIALIZATION
Focus resources on new disclosures and ongoing patents with sustainable commercialization potential.

CLINICAL TRIALS
Identify areas of high recruitment potential and focus business development efforts on aligned industry sponsors.
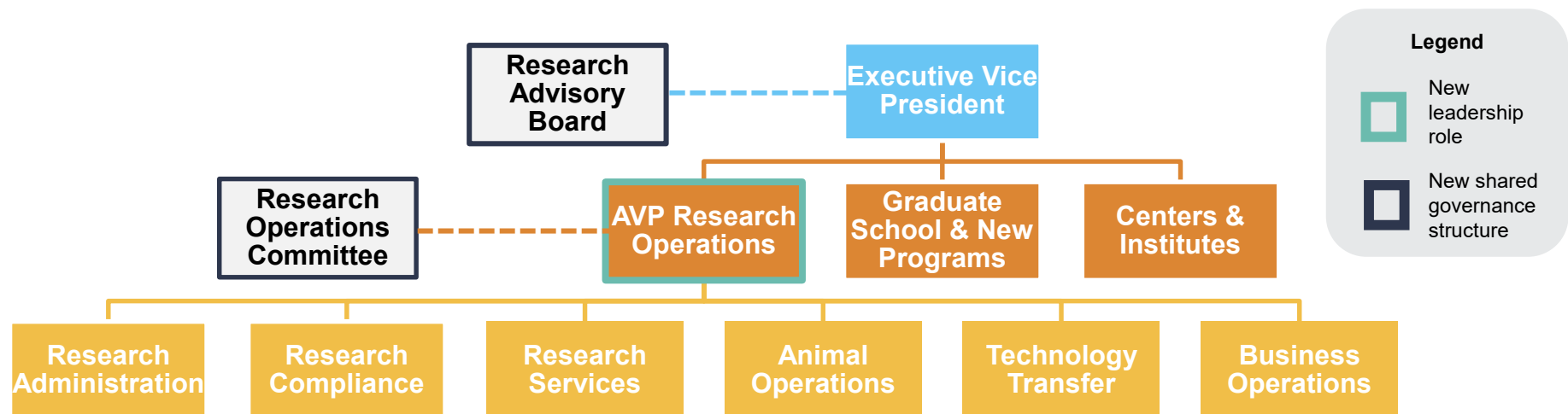
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EXECUTIVE SUMMARY
LEADERSHIP & GOVERNANCE STRUCTURE

Enhance the leadership structure, including roles, individuals and governance mechanisms, to provide the strategic direction, execution leadership and operational support necessary to realize and support UTRGV's planned growth.

- As the scope of this work is focused on research, this illustration depicts the details of the research portion of the EVP's scope of responsibilities. Other functions currently reporting to the EVP, including Libraries, Global Engagement and Sustainability would remain unchanged.
- Detailed recommendations on roles and responsibilities and an accompanying organizational chart for Research Operations are provided in the Support section of this report.

Research Advisory Board

Executive Vice President

Research Operations Committee

AVP Research Operations

Graduate School & New Programs

Centers & Institutes

Research Administration | Research Compliance | Research Services | Animal Operations | Technology Transfer | Business Operations

Legend

New leadership role

New shared governance structure

EXECUTIVE SUMMARY
IMPLEMENTATION NEXT STEPS

Update Leadership and Governance Structures

- Update leadership roles, including the recruitment of the AVP of Research Operations role.
- Establish and convene the RAB and ROC committees.

Develop the Research Strategic Plan

- Reaffirm and continue messaging support for UTRGV's research mission.
- After updating the leadership and governance structures, initiate the strategic planning process.
- Evaluate and confirm Research Priority Areas.

Make Independent Operational Enhancements

- Update and publish operational roles and responsibilities aligned with recommendations in this Report.
- Survey schools and departments to identify existing administrative support and train, realign, and/or hire as needed to fill faculty support gaps.

- Educate existing school, department, and administrative leadership on research.
- Evaluated oversight committee membership.
- Develop and publish a Financial Accountability Policy and associated work tools and reports.
- Evaluate animal per diem rates.

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CURRENT STATE

HURON

2.1

OBSERVATIONAL THEMES

HURON

CURRENT STATE: OBSERVATIONAL THEMES
PILLARS OF LEADING RESEARCH ENTERPRISES

Through interviews and data analysis, Huron identified four overarching pillars that categorize the opportunities to elevate UTRGV's research enterprise to achieve the institution's goals.

LEADING RESEARCH ENTERPRISES

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SOPHISTICATION

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HURON

CURRENT STATE: OBSERVATIONAL THEMES
MISSION

MISSION

- Research is emphasized in institution mission statements and established as a core component of the institution's identity and purpose.

UTRGV incorporates research and commercialization into its mission and has socialized its goal of becoming an Emerging Research Institute (ERI).

Faculty leadership in schools and departments particularly those outside the SOM, can better support UTRGV's research mission. Examples include:

- Pressure to meet course load and instruction demands can result in failure to honor course buy-outs earned under faculty workload policies and pressure to hire lecturers focused on instruction in lieu of tenure-track faculty with research agendas that deplete time available for instruction.
- The purpose and authority of research oversight committees is not well-understood, and this can result in inability to help embed compliance in the conduct of research.
- Leadership and faculty's ability to use discretionary funds to support research can be further clarified so that the reinvestment in research is reinforced.

To support this conclusion, some levels of leadership expressed concern that non-research faculty may be alienated by the newly-emphasized research mission and have hesitated to convey the shared importance of research and instruction to UTRGV's mission.

Research is such a nascent element of UTRGV's research mission that the existing institutional infrastructure outside Research Operations lacks understanding and administrative support (policy and procedure) for research. Examples include:

- Research facility and procurement challenges are frequently escalated to institutional leadership for resolution.
- Ongoing issues with hiring and paying graduate students on research projects.

HURON

CURRENT STATE: OBSERVATIONAL THEMES
STRATEGY

STRATEGY

- Research strategy is defined and documented to establish a manageable number of high priorities the institution wishes to be known for.
- Strategy provides specific, unifying direction driving the approach to decision-making and prioritization, including financial investments

UTRGV and the SOM separately have developed and published Strategic Plans.
- Research is identified as one of four core priorities in the UTRGV Strategic Plan and includes high-level initiatives and sample metrics, but no specific priorities or success targets are established.
- The SOM Strategic Plan identifies research as one of five key themes critical to SOM success and defines discrete objectives and outcome measures, including identifying focus areas that address "health and disease in the Hispanic population," but does not establish success targets.

UTRGV does not have a research-specific strategic plan that identifies a manageable number of high research priorities that UTRGV wishes to be known for or set institutional goals and priorities around funding levels to be achieved, diversity of sponsor mix, alternative research revenue streams, etc.

Without a unifying research strategy there is no foundation on which to base UTRGV's decision-making and investment prioritization to optimize high-yield results.

As a result, UTRGV has several policy and infrastructure gaps. Examples include:
- Multiple iterations of indirect cost return policies.
- The lack of a research space policy.
- No formal mechanisms to evaluate programmatic growth needs, such as new Ph.D. programs, core facility and shared service needs.
- A lack of formal, facilitated collaboration between the SOM and other schools.

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CURRENT STATE: OBSERVATIONAL THEMES
STRATEGY

STRATEGY

- Research strategy is defined and documented to establish a manageable number of high priorities the institution wishes to be known for.
- Strategy provides specific, unifying direction driving the approach to decision-making and prioritization, including financial investments

UTRGV's research programmatic development and growth strategies have not been focused to achieve the highest-yield results. Examples include:

- The Keys to Research Program provides faculty with an introduction to research but does not incorporate formal mentoring to continue the faculty development process.
- The Faculty Grant Award Incentive Program returns salary to all investigators securing external salary support, spreading funding across a wide population of qualifying investigators as opposed to focusing investment on faculty with the greatest potential and/or requiring achievement of a wider set of productivity standards.
- Limited seed and bridge funding, which is largely controlled at school and department levels, does not enable a UTRGV-wide approach to this investment.

There is no defined mechanism for faculty to provide advisory perspective and input on research-related issues, including allocation of resources and budget planning. School leadership and faculty believe their perspective is generally not considered in decision-making, including decisions that directly impact their research.

HURON

CURRENT STATE: OBSERVATIONAL THEMES
SUPPORT

SUPPORT

- Organizational structures and defined roles and responsibilities support strategic governance and effective operations.
- People are trained, developed, and held accountable to high standards based on their institutional role.
- Internal and external customer service is a core objective for all units and individuals.

The basic organizational structure, including reporting lines, for research administration and research compliance is aligned with best practices, but opportunities exist to align roles and responsibilities to more appropriately balance efficiency and compliance in operations.

Stakeholders expressed concern about the support and expertise provided by Research Operations and Animal Operations. Multiple anecdotal examples were cited, including instances where:
- Answers to basic questions changed based on which team member is responding.
- UTRGV direction / guidance was inconsistent with regulatory guidance.

Most faculty do not have access to basic support for conducting research, specifically dedicated transactional support for research administration, including proposal preparation, purchasing and hiring assistance and research account budget management.

UTRGV generally has more staff dedicated to central research administration functions than similar-sized peers, which is most likely attributed to the relative lack of administrative support provided within department or school-based administration units and UTRGV's reliance on manual processes necessitating more people to execute those processes.

Central research administration operations has been impacted by significant turnover and hiring freezes, impacting the ability to develop, train and sustain an adequate level of research administration professionals to serve as experts for UTRGV faculty.

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CURRENT STATE: OBSERVATIONAL THEMES
SOPHISTICATION

SOPHISTICATION

- Processes are aligned to institutional risk tolerance and balance compliance with efficiency.
- Processes and systems support an efficient research operations engine that encourages the principle of "highest and best use" of human and financial resources.

Several aspects of operations within Research Administration, Research Compliance, and Animal Operations are not tightly managed via balanced quality assurance mechanisms and procedure monitoring. Stakeholders provided multiple anecdotal examples where process gaps or failure to follow process resulted in increased levels of operational and financial risk. Examples include:

- Missed external deadline for proposal submissions and sponsor deliverables.
- Significant delays in cycle times and communication for compliance approvals.
- Return of funds to sponsors and/or failure to spend up to budgeted amounts, leaving money on the table.

While existing research administration systems are appropriate for the current research and protocol volume, many processes require manual intervention and hand-offs that will be unsustainable as UTRGV grows. Examples include:

- Manual routing of pre-award approvals, including proposal transmission and intent to submit forms, resulting in use of Excel to track metrics.
- Manual cost transfers via paper approval forms and hand-keyed journal entries.

UTRGV's processes do not balance efficiency and control, but risk and speed of business are prioritized differently depending on the process. Examples include:

- The award setup process involves from multiple handoffs and quality assurance steps to mitigate the risk of incorrect account setup in PeopleSoft while delaying set-up cycle times.
- The Letter of Credit draw process does not incorporate the full scope of reconciliation steps in order to expedite the flow of cash into the institution.
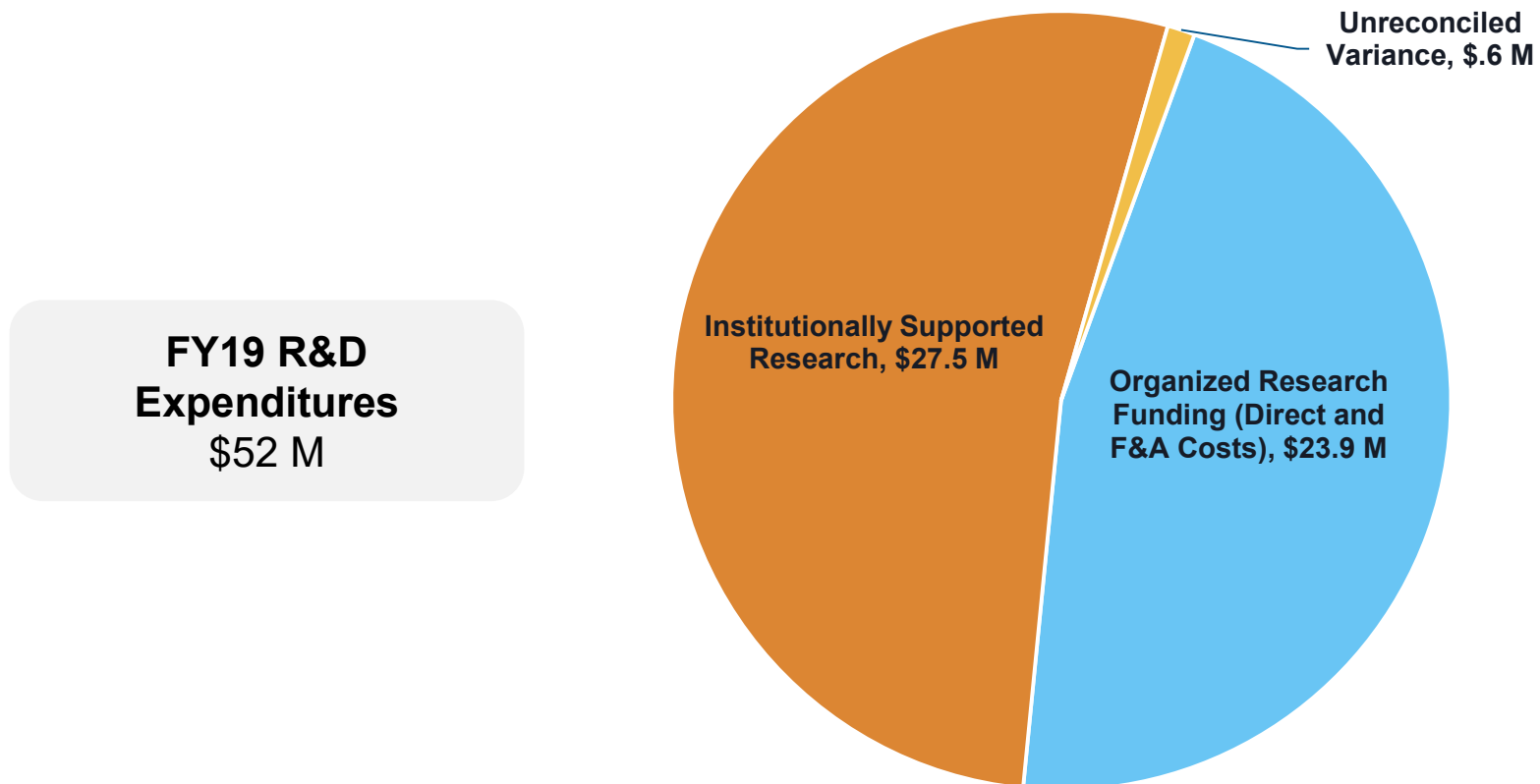
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2.2

FINANCIAL ANALYSIS

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CURRENT STATE: FINANCIAL ANALYSIS
FY19 RECONCILED R&D EXPENDITURES

UTRGV's FY19 HERD Survey R&D Expenditures was the starting point for understanding the current "Research" activity and related funding.
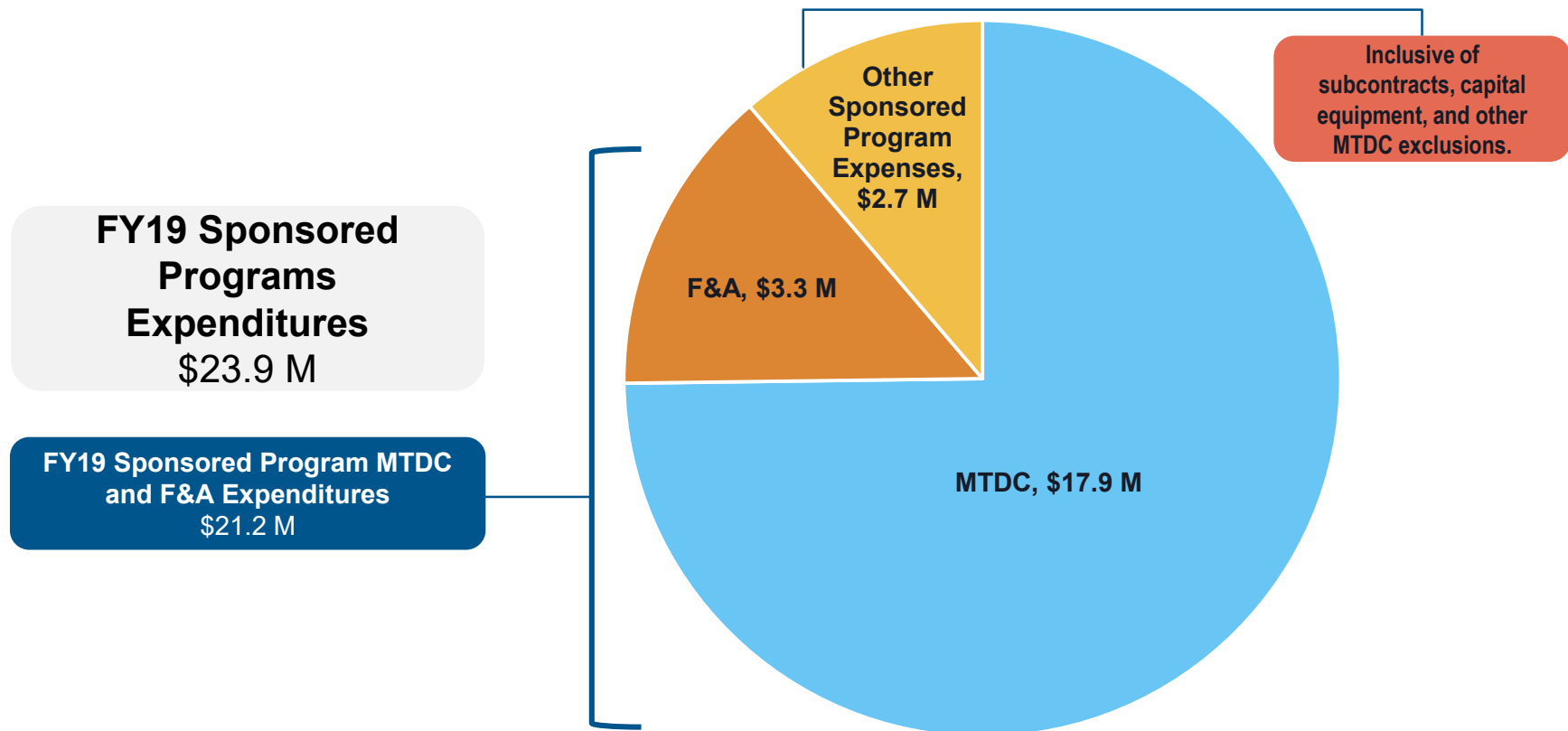
FY19 R&D Expenditures
$52 M

Unreconciled Variance, $.6 M

Institutionally Supported Research, $27.5 M

Organized Research Funding (Direct and F&A Costs), $23.9 M

Source: UTRGV FY19 HERD Survey Data and FY19 Sponsored Expenditures

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CURRENT STATE: FINANCIAL ANALYSIS
FY19 SPONSORED PROGRAM EXPENDITURES

The Modified Direct Costs (MTDC) and F&A sponsored program expenses will be the cost basis for subsequent "Research" growth scenario analysis.

FY19 Sponsored Programs Expenditures
$23.9 M

FY19 Sponsored Program MTDC and F&A Expenditures
$21.2 M

Other Sponsored Program Expenses, $2.7 M

F&A, $3.3 M

MTDC, $17.9 M

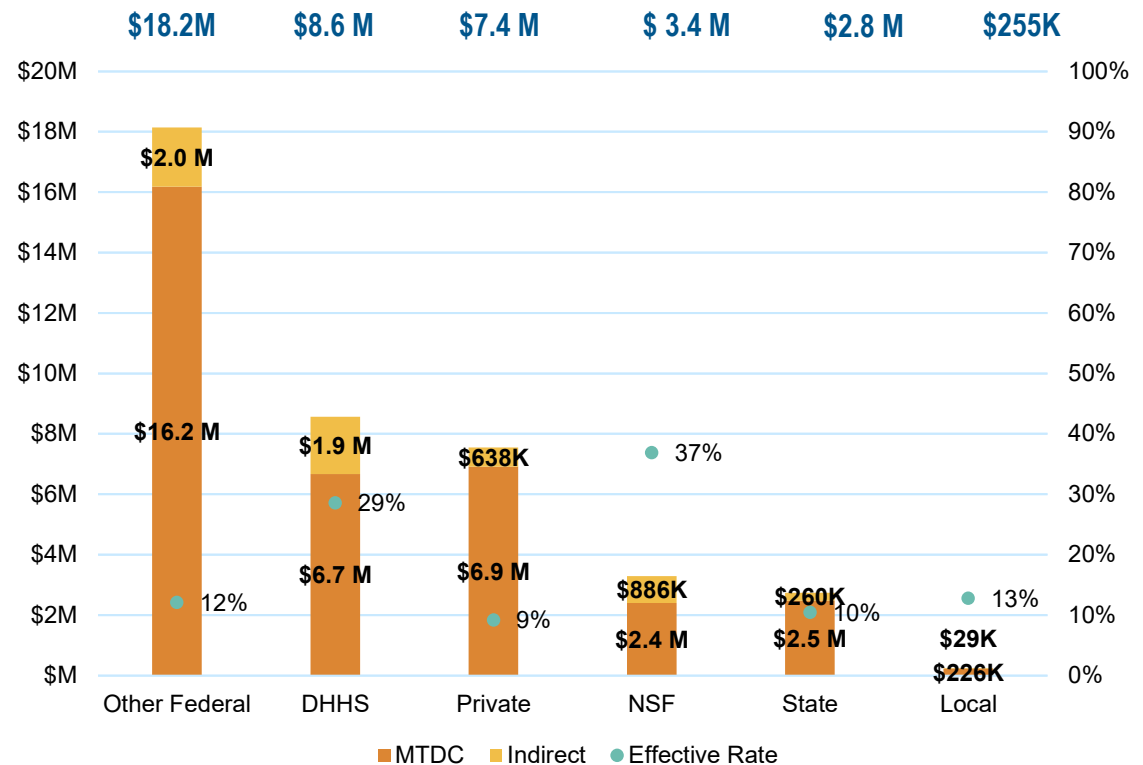Inclusive of subcontracts, capital equipment, and other MTDC exclusions.

Source: UTRGV FY19 HERD Survey Data and FY19 Sponsored Expenditures

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CURRENT STATE: FINANCIAL ANALYSIS
SPONSORED EXPENDITURES BY SPONSOR TYPE

Funding by sponsor type will be a consideration for identifying research growth opportunities, where this can point to current funding strengths and opportunities with other federal and non-federal sponsors.

FY19 Sponsored Program MTDC and F&A Expenditures:
$21.2 M
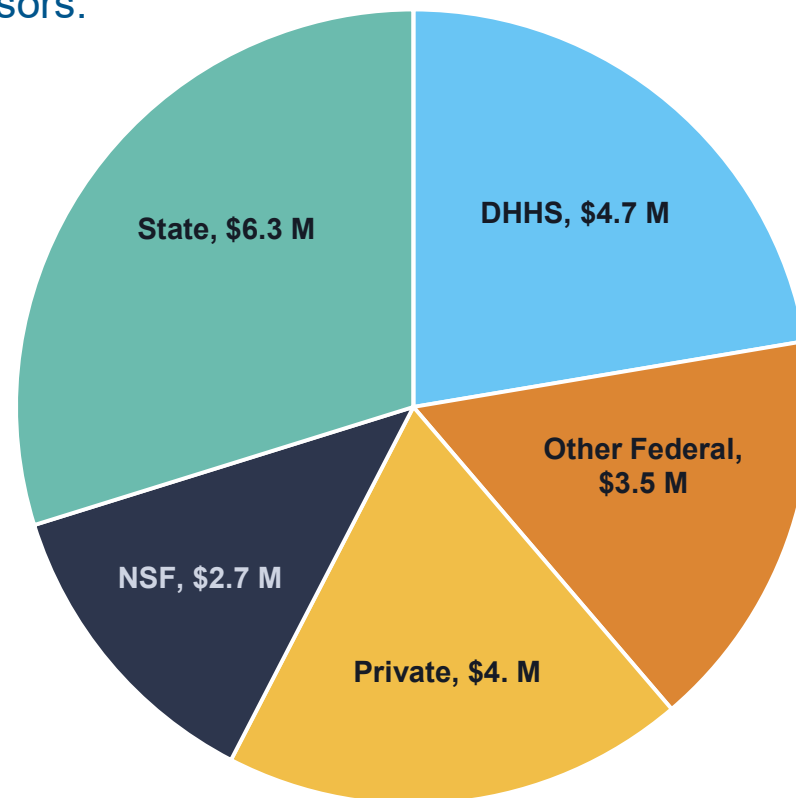
Pie chart segments:
- State, $6.3 M
- DHHS, $4.7 M
- Other Federal, $3.5 M
- Private, $4. M
- NSF, $2.7 M

Source: UTRGV FY19 HERD Survey Data and FY19 Sponsored Expenditures

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CURRENT STATE: FINANCIAL ANALYSIS
SPONSORED EXPENDITURES BY DEPARTMENTS

Sponsored program expense and the related awards were analyzed to determine those departments that could be considered "growth departments" based on current funding success.

FY19 Sponsored Program MTDC and F&A Expenditures: $21.2 M

Legend: ■ MTDC ■ Indirect

Department	MTDC	Indirect	Total
Human Genetics	$2.87	$1.11	$4.0 M
Neuroscience	$1.02	$0.16	$1.2 M
Psychiatry	$0.90	$0.09	$1.0 M
South TX Diabetes & Obesity Institute	$0.33	$0.10	$0.4 M
Biology	$1.52	$0.28	$1.8 M
School of Earth, Environ., & Marine Science	$1.33	$0.35	$1.7 M
Physics and Astronomy	$1.03	$0.25	$1.3 M
Chemistry	$0.28	$0.08	$0.3 M
All Other Departments	$3.87	$0.90	$4.8 M
State Appropriations	$4.73		$4.7 M

School of Medicine = $6.6 M

Non-School of Medicine Departments = $5.1 M

Growth Departments = $11.7 M

Source: UTRGV FY19 HERD Survey Data and FY19 Sponsored Expenditures

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CURRENT STATE: FINANCIAL ANALYSIS
DIRECT & INDIRECT EXPENSES BY SPONSOR TYPE

Sponsored expenses were analyzed by sponsor, breaking out the indirect (Facilities and Administrative) and direct expenses. The overall effective F&A rate is 16%.

Effective F&A rate is 16%

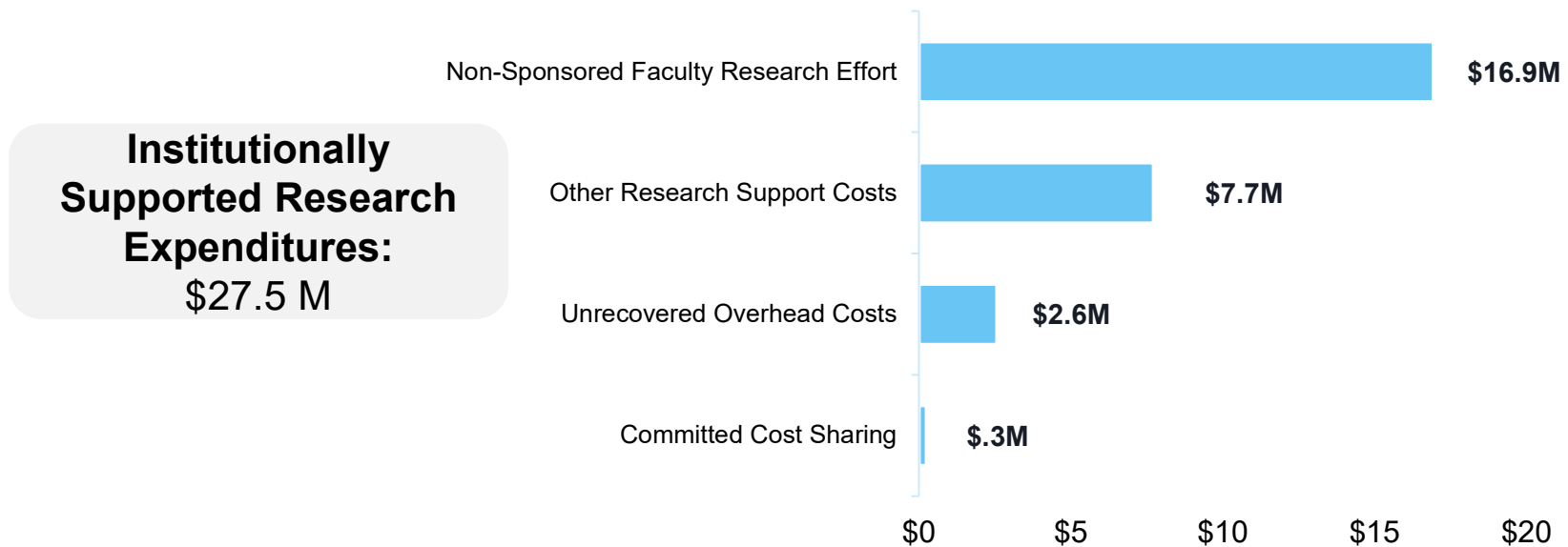Calculated as $\dfrac{\text{Total Indirect Costs}[1]}{\text{MTDC}}$

Chart data:

	Other Federal	DHHS	Private	NSF	State	Local
Total	$18.2M	$8.6 M	$7.4 M	$ 3.4 M	$2.8 M	$255K
Indirect	$2.0 M	$1.9 M	$638K	$886K	$260K	$29K
MTDC	$16.2 M	$6.7 M	$6.9 M	$2.4 M	$2.5 M	$226K
Effective Rate	12%	29%	9%	37%	10%	13%

Legend: MTDC, Indirect, Effective Rate

[1]Indirect costs calculated by multiplying S&W, SWB, MTDC, & TDC F&A Base by F&A Rate. This was compared to Revenue Accounts 41450, 41305, 41305, 41315, 41320, & 41455 for validation.

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CURRENT STATE: FINANCIAL ANALYSIS
TOTAL INSTITUTIONALLY FUNDED RESEARCH EXPENDITURES (IFRE)

The "Institution Funds" as reported in UTRGV's FY19 HERD survey were analyzed to better understand the related research expenditures.

Institutionally Supported Research Expenditures:
$27.5 M

Non-Sponsored Faculty Research Effort — $16.9M

Other Research Support Costs — $7.7M

Unrecovered Overhead Costs — $2.6M

Committed Cost Sharing — $.3M

$0 $5 $10 $15 $20

Source: UTRGV FY19 HERD Survey Data and FY19 Sponsored Expenditures

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CURRENT STATE: FINANCIAL ANALYSIS
ADJUSTED TOTAL INSTITUTIONALLY FUNDED RESEARCH EXPENDITURES

As a result of our analysis, additional institutionally funded research expenditures were identified.

Adjusted Institutionally Supported Research Expenditures: $42.3 M

Category	Value
Non-Sponsored Faculty Research Effort	$16.9M
Other Research Support Costs	$7.7M
Research Core Facilities	$.5M
Committed Cost Sharing	$.3M
Over-the-Cap Cost Sharing	$.1M
Unrecovered Overhead on Sponsored Programs	$7.8M
Unrecovered Overhead on Institutionally Supported Research	$6.4M
Unrecovered Overhead Costs Per HERD	$2.6M

Legend
- HERD-reported expenditures
- Adjusted expenditures

($0, $4, $8, $12, $16 Millions)

Source: UTRGV FY19 HERD Survey Data and FY19 Sponsored Expenditures

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CURRENT STATE: FINANCIAL ANALYSIS
IFRE: FACULTY RESEARCH EFFORT

Four Colleges report 20% or greater of institutionally funded research effort.

IFRE Faculty Research Effort of Total Faculty Salary is 17%

Calculated as

$$\frac{\text{Unfunded Research Effort } \$16.9\,M}{\text{Total Faculty Salary } \$100.2\,M}$$

Chart values:

- School of Medicine — $26.5 / $- / 0%
- College of Liberal Arts — $15.3 / $3.3 / 21%
- College of Sciences — $14.5 / $4.2 / 29%
- Robert C. Vackar College of Business & Entrepreneurship — $12.1 / $3.7 / 30%
- College of Engineering and Computer Science — $8.3 / $2.0 / 24%
- College of Education and P-16 Integration — $7.2 / $1.3 / 19%
- College of Health Professions — $7.2 / $0.8 / 12%
- All Other Colleges — $9.1 / $1.7 / 19%

Legend:
- ■ Faculty All Other Salary
- ■ Faculty Unfunded Research Effort
- ● % Unfunded Research Effort

Source: FY19 SW file for Huron Review, Other Related Research Expenditures

All Other Colleges include:
- College of Fine Arts
- School of Nursing
- School of Social Work

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CURRENT STATE: FINANCIAL ANALYSIS
ISRE: RESEARCH DOLLAR DENSITY (RDD) BY MTDC

UTRGV's RDD is below industry averages and contributes to the under recovery on sponsored programs.

College	Space Sum of NASF (250 Non-Class Lab & 255 Non-Class Lab Services)	Total Sponsored Expenditures			Research Dollar Density (RDD)		
		Total Sponsored Program Expenses	Modified Total Direct Costs (MTDC)	Indirect Costs	Total RDD	MTDC RDD	Indirect RDD
College of Sciences	88,261	$ 5,613,663	$ 4,550,934	$ 1,062,730	$ 64	$ 52	$ 12
School of Medicine	38,771	$ 8,798,666	$ 6,999,636	$ 1,799,030	$ 227	$ 181	$ 46
All Other Colleges	54,114	$ 2,073,226	$ 1,601,109	$ 472,117	$ 160	$ 143	$ 17
Grand Total	181,146	$ 16,485,556	$ 13,151,679	$ 3,333,876	$ 91	$ 73	$ 18

Source: UTRGV Space Data

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CURRENT STATE: FINANCIAL ANALYSIS
FY19 OSA EXPENSES BY SPONSOR TYPE

Other Sponsored Activities (OSA) expenditures in FY19 were $16.3M. The Department of Health and Human Services (DHHS) is by far the largest contributor to OSA expenses. DHHS and other federal sponsors constitute over 80% of OSA expenses.

FY19 Other Sponsored Activities Expenses
$16.4 M

Other Federal, $4.2 M

DHHS, $9.4 M

Private, $1.7 M

NSF, $.2 M

State, $.7 M

Local, $.2 M

Source: UTRGV FY19 HERD Survey Data

HURON
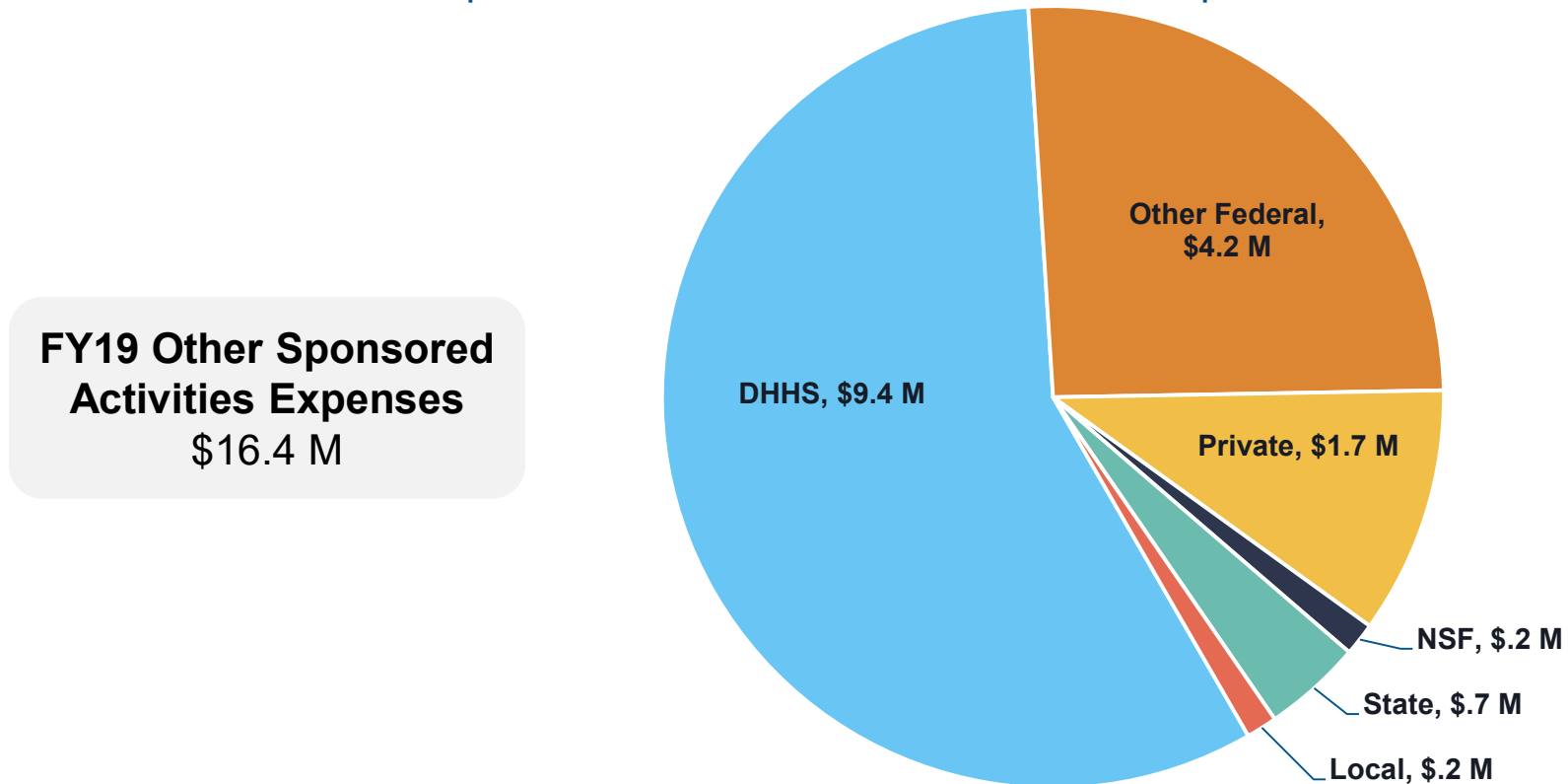
CURRENT STATE: FINANCIAL ANALYSIS
FY19 OSA EXPENSES BY COLLEGES

All other Schools and Colleges carried over 80% of OSA expenditures, followed by Health Affairs colleges with the remaining OSA expenditures.

FY19 Other Sponsored Activities Expenses
$16.4 M

All Other Colleges include:
- College of Education and P-16 Integration
- College of Engineering and Computer Science
- College of Fine Arts
- College of Liberal Arts
- College of Sciences
- Robert C. Vackar College of Business and Entrepreneurship

Source: UTRGV FY19 HERD Survey Data

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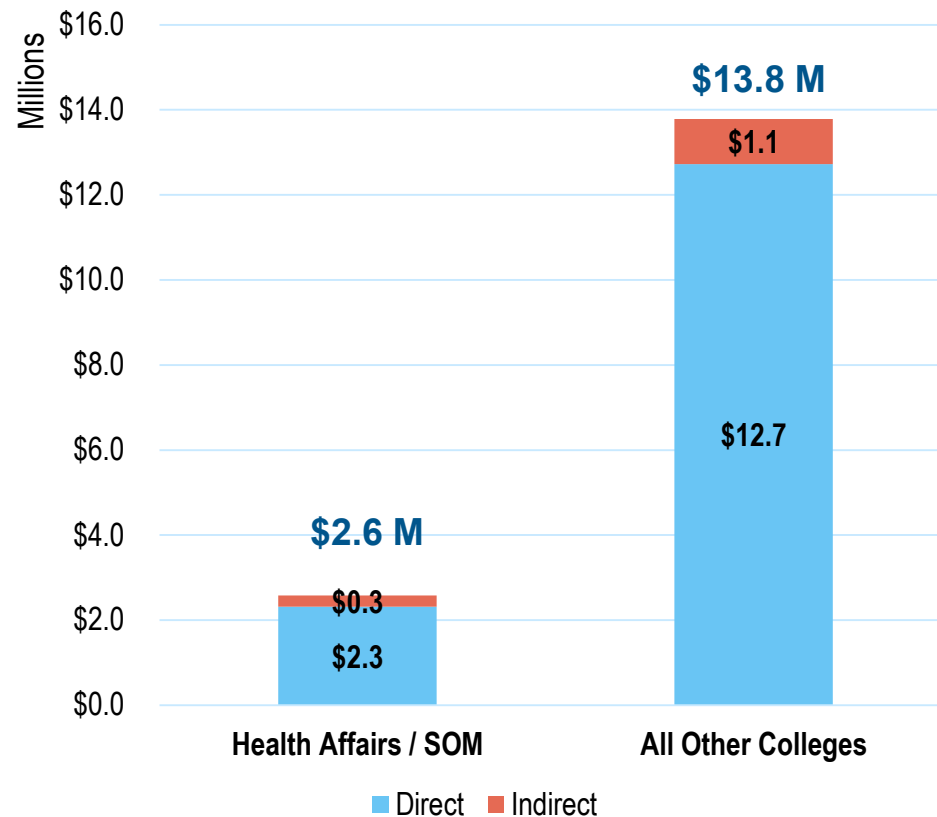
CURRENT STATE: FINANCIAL ANALYSIS
SPONSORED PROGRAM EXPENDITURES

Net Results from Operations of ($42.3M) represents the total institutional investment in research and unrecovered overhead expenses from sponsored programs. This institutional bottom line is 105% of the sponsored operating revenue of $40.2M.

	Sponsored Programs				Institutional Investments in Research					
	Organized Research	Other Sponsored Activity	State Appropriation	Subtotal	Cost Sharing	Non-Sponsored Faculty Research Effort	Research Core Facilities	Other Research Related	Subtotal	Total
Operating Revenue	19.2	16.4	4.6	$40.2	0.0	0.0	0.0	0.0	$0.0	$40.2
Direct Operating Expense	15.8	15.0	4.6	$35.5	0.4	17.0	0.5	7.7	$25.6	$61.1
Results from Operations Before Overhead	**$3.3**	**$1.3**	**$0.0**	***$4.7***	**-$0.4**	**-$17.0**	**-$0.5**	**-$7.7**	***-$25.6***	**-$20.9**
Overhead Expense	6.9	4.4	1.0	$12.3	0.0	3.5	0.0	1.6	$5.1	$17.4
Results from Operations Before Depreciation	**-$3.6**	**-$3.1**	**-$1.0**	***-$7.6***	**-$0.4**	**-$20.5**	**-$0.5**	**-$9.3**	***-$30.7***	**-$38.3**
Depreciation Expense	1.7	0.8	0.2	$2.8	0.0	0.9	0.0	0.4	$1.3	$4.0
Net Results from Operations	-$5.3	-$3.9	-$1.2	-$10.4	-$0.4	-$21.4	-$0.5	-$9.7	-$32.0	-$42.3

(Values in Millions)

HURON

CURRENT STATE: FINANCIAL ANALYSIS OBSERVATIONS

Huron's observations based on the current state financial analysis are summarized below.

Financial Impact Area	Leading Practice	UTRGV Observation
Mandatory / Voluntary Committed Cost Share	▪ Separate accounts for mandatory and voluntary committed cost sharing to allow for efficient monitoring of these expenses and use in support of other administrative functions (e.g., grants management).	▪ UTRGV has established policies and procedures to limit this expense. Huron was unable to derive this amount since it is accounted for under over the salary cap cost sharing.
Over the Salary Cap Cost Sharing	▪ Separate accounts for over the cap cost sharing to allow for efficient monitoring of these expenses and use in support of other administrative functions (e.g., grants management).	▪ Huron assumes most of the cost sharing relates to over the salary cap cost sharing, because the organization tries to limit cost sharing on sponsored projects (as described above). ▪ This expense is difficult to manage, since it is a result of federal regulations.

HURON

CURRENT STATE: FINANCIAL ANALYSIS OBSERVATIONS

Huron's observations based on the current state financial analysis are summarized below.

Financial Impact Area	Leading Practice	UTRGV Observation
Faculty – Institutionally Funded Research Effort	- Established guidelines that define: - Approved research activities - Expected research outcomes - Management actions if outcomes are not achieved (e.g. reassigning of unfunded effort to other institutional activities) - Annual process to establish effort allocations for all missions - Technology to manage effort and productivity for all missions	- Departments have established research/scholarship guidelines for their faculty evaluation and promotion processes - UTRGV has a workload management process, where each faculty member's activities are defined per related effort category (.e.g. Instruction) in specific percentage terms - Unfunded research effort is identified as part of this process - The Workload Management System/Faculty Portfolio Tool requires the research outcomes related to institutionally funded research effort be well-documented. - The Unfunded Research expense is tracked in the general ledger - The School of Medicine does not participate in this process

HURON

CURRENT STATE: FINANCIAL ANALYSIS OBSERVATIONS

Huron's observations based on the current state financial analysis are summarized below.

Financial Impact Area	Leading Practice	UTRGV Observation
Vivarium	▪ Establish rates to cover the total allowable costs of the facility ▪ Set a standard of care which clearly defines what services are covered in daily per diem rates ▪ Market facility to external users and charge a premium for these service	▪ Most of the vivarium's operating and related overhead costs are subsidized by UTRGV
Core Facilities	▪ Establish rates to cover the total allowable costs of the facility ▪ Market core facilities to internal users to both increase revenue and reduce duplicative capabilities within the institution ▪ Market core facilities to external users and charge a premium for these services	▪ There were not a significant number of research cores that were set up as recharge facilities ▪ The core subsidy is currently in acceptable range when compared to industry standards

HURON

CURRENT STATE: FINANCIAL ANALYSIS OBSERVATIONS

Huron's observations based on the current state financial analysis are summarized below.

Financial Impact Area	Leading Practice	UTRGV Observation
Other Research Related Expense	- Guidelines for use of funds in support of research - Tracking of institutional investments - Established research incentive policies that reward institutional research goals - Indirect cost recovery distribution policies that consider: - Reimbursement for covering those costs where incurred - Distribution to reward success in securing externally-funded grants and contracts	- A significant portion of these expenditures relate to the start-up commitment for the South Texas Diabetes and Research Institute - Other expenditures were expenditures that were incurred using the returned F&A funds - UTRGV does not have a formal research incentive compensation policy

HURON

CURRENT STATE: FINANCIAL ANALYSIS OBSERVATIONS

Huron's observations based on the current state financial analysis are summarized below.

Financial Impact Area	Leading Practice	UTRGV Observation

Institutional Subsidy of Overhead Expense (OR & OSA)	▪ **F&A Recovery**
	○ Annual review of the existing F&A Overhead Distribution Policy to determine if the policy should be modified to consider some of the following:
	  • Organizations financial position
	  • Research strategy
	  • Theoretical change in how these funds are being used
	
	▪ **Space Usage**
	○ Governance structure that enables formal consultation with departments and centers
	○ Standard written policy for research space performance evaluations, research space allocation decisions, and addressing space reassignment requests
	○ Quantitative target metrics and qualitative considerations to inform the research space management policy
	○ Report and/or tool to evaluate defined quantitative metrics
		▪ Subsidy of the F&A costs supporting research result from some of the following:
		○ **Regulatory cap;** limits on the percentage of administrative costs that can be charged to federally funded awards
		○ **Federal negotiation of the F&A cost proposal;** resulted in the university receiving an F&A rate lower that was calculated
		○ **Space usage;** based on the RDD analysis, there is inefficient use of research laboratories and related support spaces
		○ **Unfunded research;** takes place in the laboratories and related support space, resulting in no funding source to cover the related costs
		○ **Effective rate;** UTRGV has policies for F&A policy exception and F&A cost waivers related to charging a lower F&A rate on sponsored research.

CURRENT STATE: FINANCIAL ANALYSIS OBSERVATIONS

Huron's observations based on the current state financial analysis are summarized below.

Financial Impact Area	Leading Practice	UTRGV Observation
Startup and Retention Funding	▪ Clear financial and strategic goals for new recruits, and monitoring of progress towards these goals and investments	▪ UTRGV has not formally accounted for faculty start-up funding and does not monitor the related return on investment ▪ It appears there have been funds specifically targeted to support the research activities of the South Texas Diabetes and Research Institute
Bridge Funding / Interim Support	▪ Clear financial and strategic goals for faculty receiving bridge funding, and monitoring of progress towards these goals. ▪ Encourage faculty members to seek funding from less traditional sources; including alternative industry sponsors and funding types.	▪ Bridge funding/interim support is not separately tracked at UTRGV and there is no standard policies and guidelines to manage this expense
Staff - Unfunded Research Salary Support	▪ Research technical staff are fully funded through research grants and contracts.	▪ There does not appear to be a policy specifically outlining the employment terms of research staff.

HURON

3

MISSION & CULTURE

HURON

MISSION & CULTURE
RESEARCH MISSION

Recommendations
1   Clarify UTRGV's research mission to broadly confirm UTRGV's intent to be known equally as a student-focused instructional institution and the Rio Grande Valley's primary research university and academic medical center.
2   Leverage the clarified research mission as the foundation for an institutional operating model that equally prioritizes and supports instruction and research. The clarified mission and consistent messaging from executive-level leadership will reinforce the need for schools, departments, and central business units to develop sophisticated, balanced support for the research _and_ instructional missions through initiatives such as: • Building academic programs around faculty that contribute to both elements of the mission. • Incorporating individual scholarship as a criteria for future department and school leadership positions in order to foster building academic programs that integrate instruction and research. • Providing current department and school leadership training on faculty-focused tenets of research administration and research compliance in order to better position current leaders to support research faculty. • Balancing the instructional and research demands on faculty's time and dedicating department / school resources to support both missions in a balanced fashion.

HURON

MISSION & CULTURE
RESEARCH MISSION

Recommendations

3 Ensure all aspects of UTRGV's operations, including Human Resources, Facilities, and Procurement are prepared to support the whole of UTRGV's mission through policies and procedures that incorporate the requirements and unique considerations of a research university.
    • Conduct a UTRGV-wide inventory to identify the gaps in non-research policies, procedures and infrastructure that require updating to fully accommodate the research mission, such as:
        • Hiring postdoctoral positions,
        • Managing and responding to urgent vivarium and laboratory facility needs (particularly those that impact safety or animal welfare), and
        • Maintaining procurement source documentation.
    • Charge central business unit leadership to develop a roadmap and action plan to close these gaps, relying on the Research Operations Committee to drive execution.

HURON

4

STRATEGY

HURON

4.1

FINANCIAL MODEL

HURON

STRATEGY: FINANCIAL MODEL
METHODOLOGY

Huron conducted the following tasks to develop a financial model for the growth and expansion of the research enterprise based on institutional goals, reasonable expectations and effective strategies for UTRGV to meet its research growth goals:

Foundation

Recommendations

1.2 **Recommend Research Priority Areas**

2 **Recommend Industry Best Practices for Growth Enablement Strategies**

1.1 **Confirm Research Funding Goals**

1.3 **Prepare Financial Projection Model**

HURON
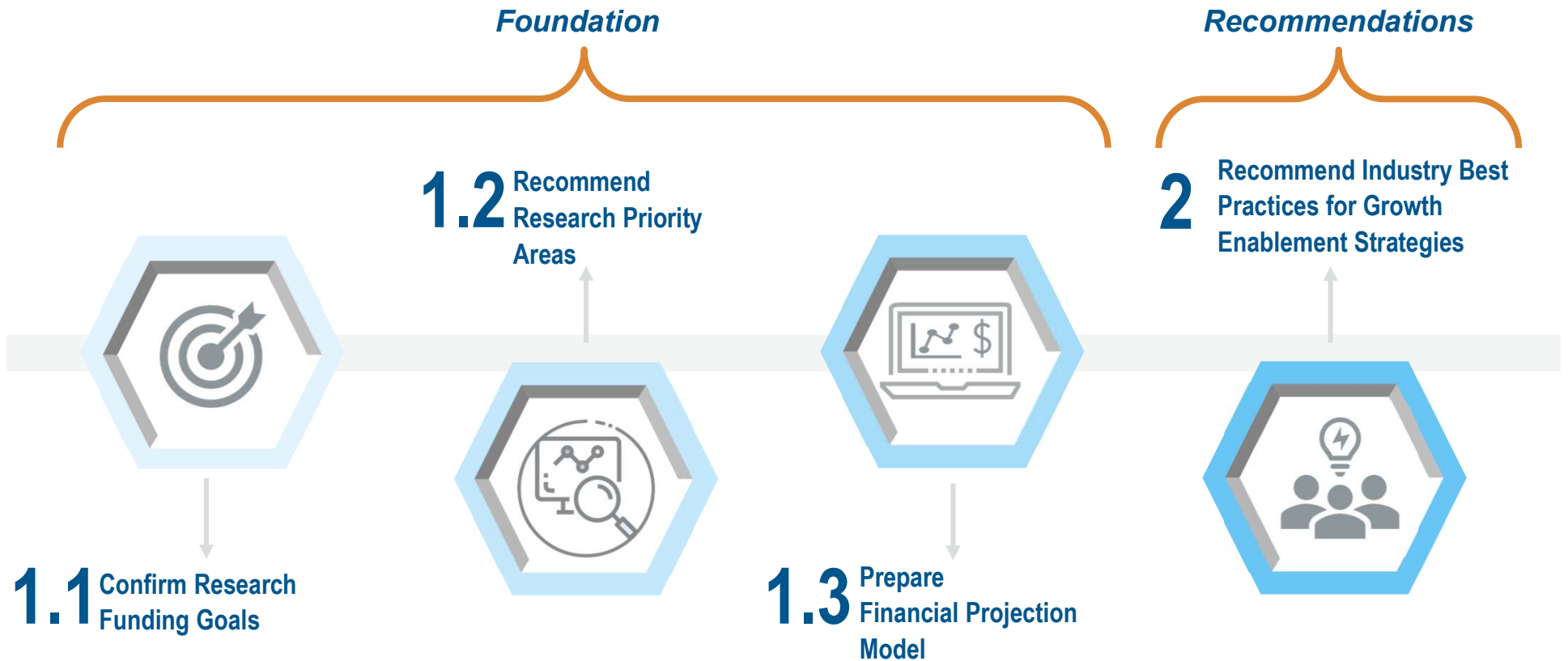
4.1.1

FINANCIAL MODEL: RESEARCH GROWTH GOALS

HURON

STRATEGY: FINANCIAL MODEL
RESEARCH GROWTH GOALS

Achieve $100M in Research Funding

- Leadership has set a goal for UTRGV to achieve $100M in research
- UTRGV can achieve this goal progressively across three stages
  - *Stage 1:* $100M in R&D Expenditures
  - *Stage 2:* $100M in Externally-Funded R&D Expenditures
  - *Stage 3:* $100M in Federally-Funded R&D Expenditures

Grow a Clinical Trials Program

- UTRGV seeks to develop an industry sponsor-focused clinical trials program
- As the primary academic medical center in the Rio Grande Valley, UTRGV can leverage its brand to capture market share and capitalize on the potential for clinical care patient conversion to recognize the benefits of a robust clinical trials program

Grow Industry Partnership & Commercialization

- UTRGV should focus the resources of Commercialization Technology on new disclosures and ongoing patents with sustainable commercialization potential to increase the value and impact of UTRGV's IP portfolio

HURON

STRATEGY: FINANCIAL MODEL
RESEARCH GROWTH GOAL OF $100M IN RESEARCH

UTRGV's leadership has set a goal for the institution to achieve $100M in research.

Huron's assessment of UTRGV's programmatic, infrastructure, and financial structures focused on recommendations that allow UTRGV to achieve this goal progressively across three stages, each with a different definition of $100M in research:

Stage 1: $100M in R&D Expenditures

- *Includes institutionally-funded expenditures aligned with the National Science Foundation (NSF) HERD Survey definitions*
- *Excludes non-research sponsored programs*

Stage 2: $100M in Externally-Funded R&D Expenditures

- *Excludes institutionally-funded expenditures*

Stage 3: $100M in Federally-Funded R&D Expenditures

- *Includes only federally-funded research programs*

Legend: Federal, State & Local, Business, Non-Profit, Other, Institutional (Stage 1, Stage 2, Stage 3 bar chart with $100M goal line)

HURON

STRATEGY: FINANCIAL MODEL
RESEARCH GROWTH BENCHMARKS

Huron analyzed ten-year historic data from the NSF HERD survey against UTRGV's growth targets to identify institutions that reached similar growth targets over five and ten-year timeframes.

This data suggests that achieving Stage 3 represents an aggressive goal but could be achievable within 15 years if UTRGV pursues strategic and focused investments. Huron developed the financial model assuming it will take UTRGV 15 years to reach its Stage 3 goal.

STAGE 1

92%

Stage 1 represents 92% growth of UTRGV's 2019 HERD-based Research & Development expenditures.

STAGE 2

300%

Stage 2 represents more than 300% growth of UTRGV's 2019 External Research & Development spending.

STAGE 3

700%

Stage 3 represents more than 700% growth of UTRGV's 2019 Federal Research & Development expenditures.

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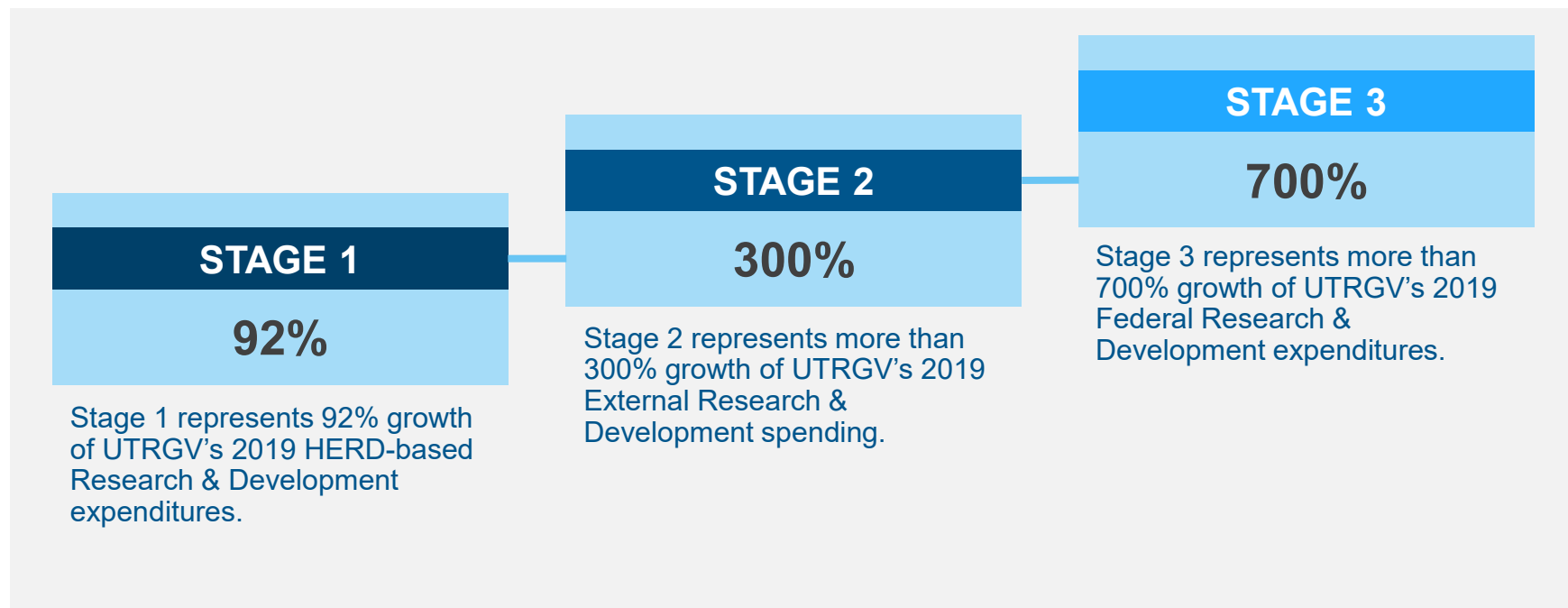
STRATEGY: FINANCIAL MODEL
STAGE 1 GROWTH GOAL: $100M IN R&D

Stage 1 represents **92% growth** of UTRGV's 2019 HERD-based Research & Development expenditures.

The chart below demonstrates similar growth rates achieved over either a 5 or 10-year period by other research universities with a starting position similar to UTRGV's 2019 HERD standing.

HURON
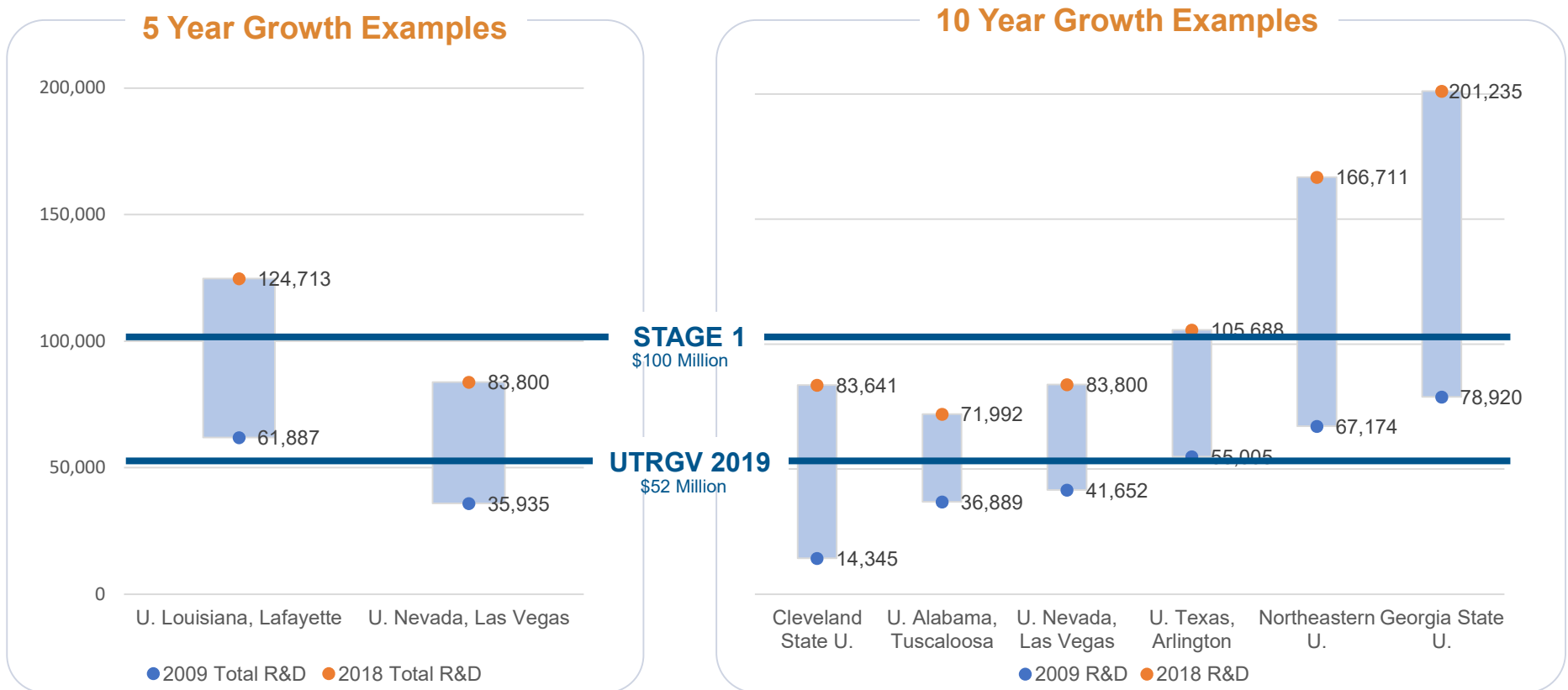
STRATEGY: FINANCIAL MODEL
STAGE 2 GROWTH GOAL: $100M IN EXTERNAL R&D

Stage 2 represents **more than 300% growth** of UTRGV's 2019 External Research & Development spending.

The chart below demonstrates similar growth rates achieved over a 10-year period by other research universities with a starting position similar to UTRGV's 2019 HERD standing.

10 Year Growth Examples

STAGE 2
$100 Million

UTRGV 2019
$24.5 Million

Cleveland State University: 11,043 (2008 Ext Fund), 63,241 (2018 Ext Fund)

Wichita State University: 22,994 (2008 Ext Fund), 69,823 (2018 Ext Fund)

● 2008. Ext Fund ● 2018 Ext Fund

HURON
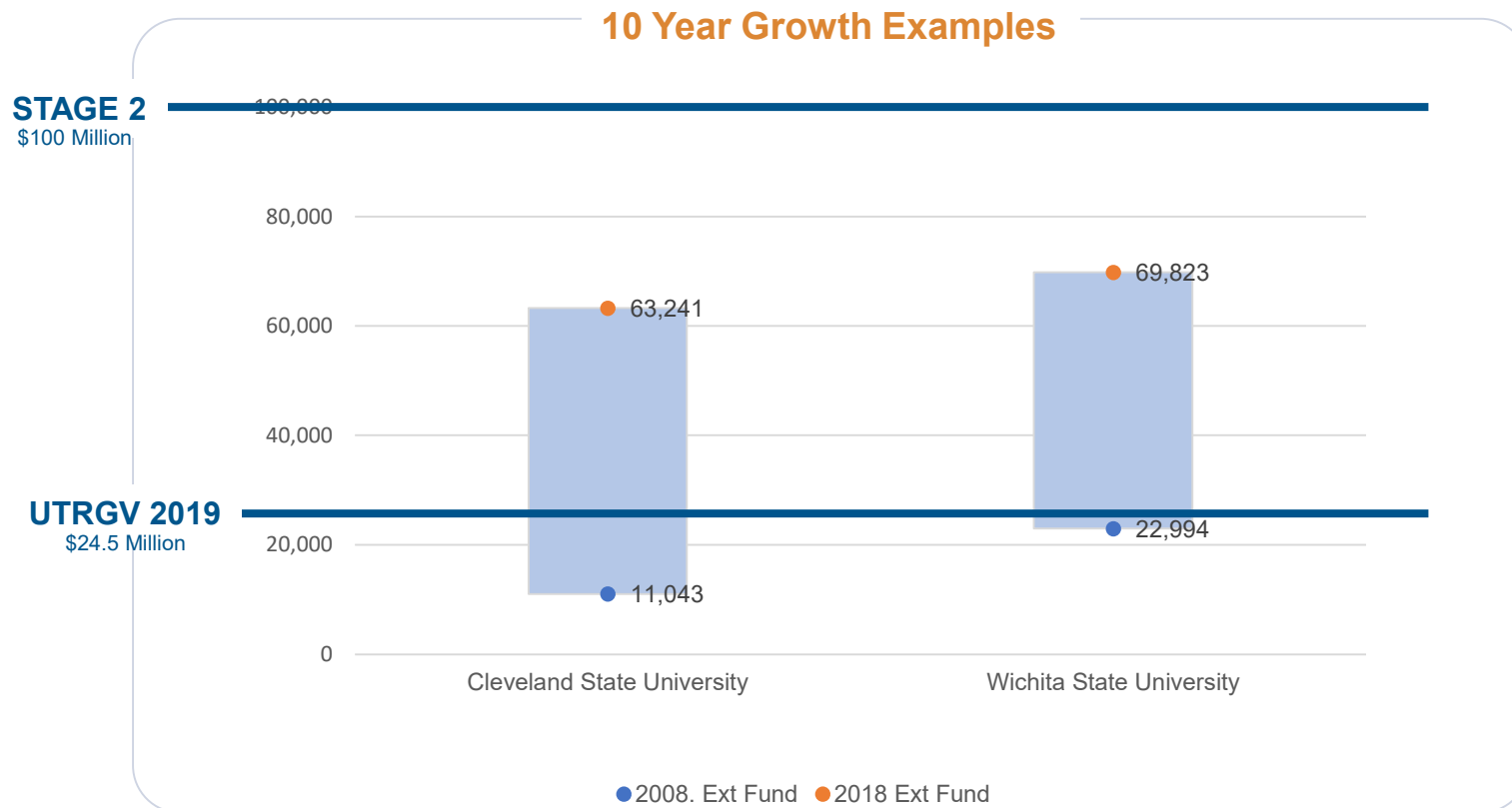
STRATEGY: FINANCIAL MODEL
STAGE 3 GROWTH GOAL: $100M IN FEDERAL R&D

Stage 3 represents **more than 700% growth** of UTRGV's 2019 Federal Research & Development expenditures.

The chart below demonstrates similar growth rates achieved over a 10-year period by other research universities with a starting position similar to UTRGV's 2019 HERD standing.

10 Year Growth Examples

STAGE 3
$100 Million

100,000

80,000

60,000

55,468

40,000

30,314

24,918

20,000

UTRGV 2019
$13.6 Million

9,938

8,312

4,356

0

Cleveland State U.   Texas State U.   Boise State U.

● 2009 Fed Research
● 2018 Fed Research

HURON
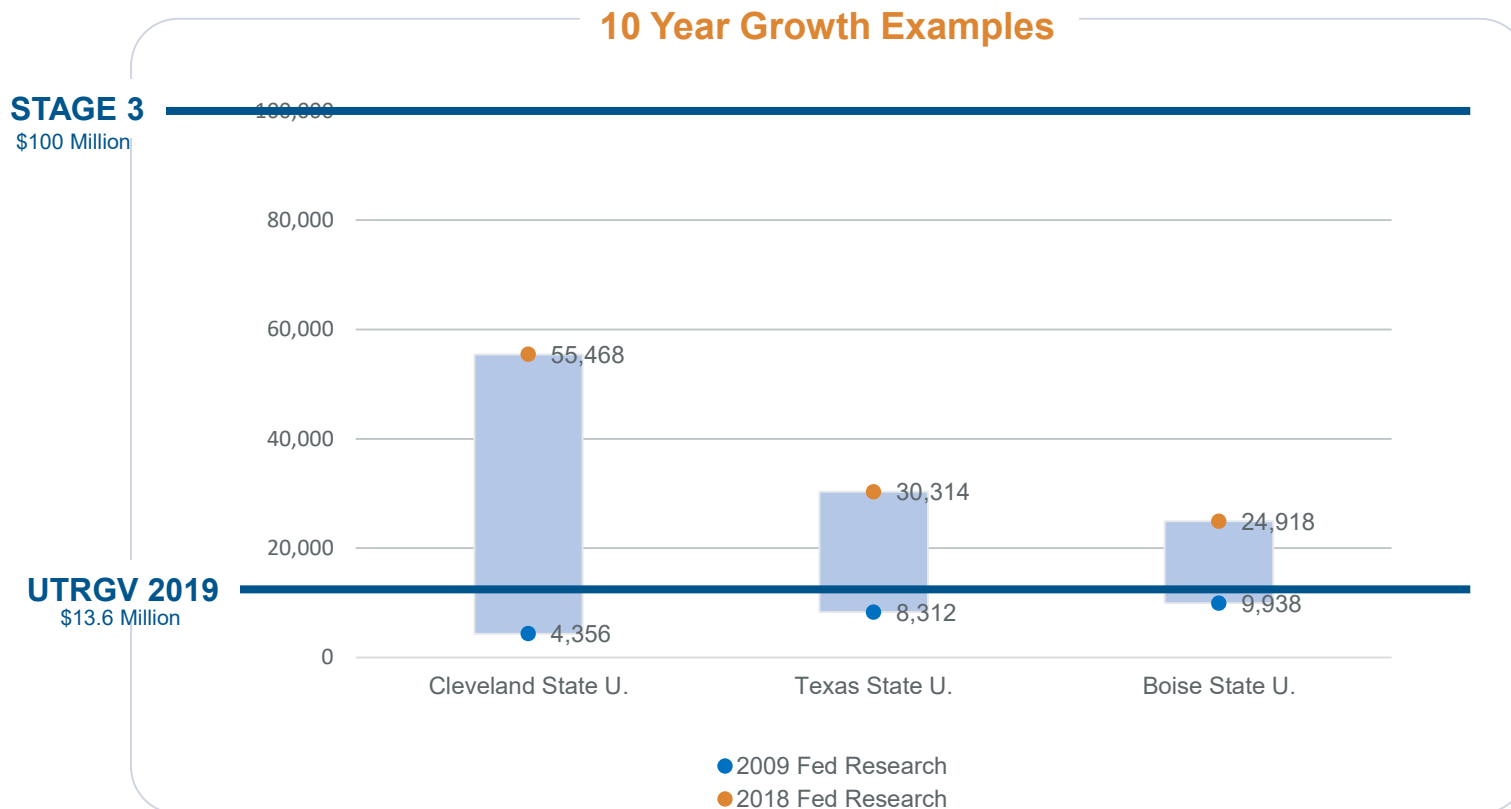
4.1.2

FINANCIAL MODEL: RESEARCH PRIORITY AREAS

HURON

STRATEGY: FINANCIAL MODEL
RESEARCH PRIORITY AREAS

UTRGV should identify a manageable number of Research Priority Areas (RPAs) for which it wishes to be known as a national leader. RPAs will support and drive achievement of research growth targets by directing strategic hiring activity and focusing investments.

- *This section highlights **specific research focus areas** to be considered by UTRGV when identifying and developing the RPAs for the Research Strategic Plan. RPAs should be confirmed by obtaining broader institutional consensus during the strategic planning process.*
- *This section also includes opportunities for UTRGV to grow research via broader research strategies to increase engagement in **clinical research and clinical trials** and **commercialization and industry partnership pursuits.***

1 *Organic Growth:* Research Growth Departments

2 *Organic Growth:* Research Strengths in Other Departments

3 *Strategic Hiring:* Research Growth Departments and Existing Research Strengths Areas

4 *Strategic Hiring:* New Research Program Development

5 *Organic Growth:* Industry Funded Clinical Trials

6 *Organic Growth:* Industry Partnership and Commercialization Opportunities

HURON

STRATEGY: FINANCIAL MODEL
RESEARCH PRIORITY AREAS

Existing and Potential Research-Intensive Departments

School of Medicine	College of Sciences	College of Engineering
• Human Genetics • Immunology • Neuroscience • Psychiatry	• Biology • Chemistry • Physics & Astronomy • SEEMS	• Mechanical Engineering • Aeronautical Engineering

Purple text indicates Research Growth Departments that have existing strengths.
Green text indicates Research Strength Departments that have existing strengths with a smaller degree of success.

Though some Research Focus Areas align to one school or department, many provide opportunities for *interdepartmental or inter-school collaboration*.

Existing and Potential Research Focus Areas

• Diabetes and Obesity • Liver Disease • Alzheimer's Disease • Opioids and Addiction • Infectious Disease • HIV / AIDS	• Integrative & Organismal Biology • Cellular & Molecular Biology • Biochemistry • Inorganic, Materials, Polymers, & Nanoscience • Physical Chemistry • Coastal and Marine Ecology • Coastal and Marine Biogeochemistry • Coastal Resilience • Natural Resource Conservation Management • Sustainable Ag & Food Systems • Biophysics & Nanoscience • Atomic, Molecular, & Optical Physics • Astronomy & Astrophysics	• Aeronautical Engineering • Materials Science • Cybersecurity • Artificial Intelligence

Purple text indicates existing focus areas aligned to Research Growth Departments.
Green text indicates existing focus areas aligned to Research Strengths Departments.
Yellow text indicates potential focus areas for New Program Development.

Analysis of FY19 federal funding for Research Strengths and New Program Development are provided in Appendix B.

HURON

STRATEGY: FINANCIAL MODEL
RESEARCH PRIORITY AREAS: METHODOLOGY

Huron's approach to identifying UTRGV's departments with significant levels of research success and/or research capabilities is outlined below.

Research Focus Area Classification	Identification Approach
1 **Research Growth Departments**	1. Analyzed active FY19 Sponsored Research projects to identify those departments with significant external funding and/or a critical mass of researchers. 2. Assumed research centers/institutes would be also be areas of research growth

2
Research Strengths
	1. Analyzed UTRGV faculty bio's, project abstracts, technology transfer data, and other data sources to determine where UTRGV has research strengths with external funding potential outside of the *Research Growth Departments.*
	
	2. Identified federal funding levels related to UTRGV research strengths
	
	    • Identified sponsors that provided FY19 funding
	    • Identified what colleges and universities received FY19 funding
	
	3. Selected those departments based on:
	
	    • Significant external funding levels related to research strengths
	    • Opportunities to collaborate regionally or within the UT System

HURON

STRATEGY: FINANCIAL MODEL
RESEARCH PRIORITY AREAS: METHODOLOGY

Growth targets will also be achieved through strategic research hires.

Research Focus Area Classification	Identification Approach

3
 	
New Research Program Development
	1. Identified federal research focus areas where UTRGV currently does not have a critical mass
	    • Identified sponsors that provided FY19 funding
	    • Identified other colleges and universities that received FY19 federal research funding
	
	2. Considered UTRGV's regional location and related demographics
	
	3. Selected research focus areas for UTRGV to consider based off external funding potential and UTRGV's unique attributes
	
	4. Determined the number of faculty hires required to meet UTRGV's $100M federal funding target

HURON

4.1.3

FINANCIAL MODEL: PROJECTIONS

HURON

STRATEGY: FINANCIAL MODEL PROJECTIONS: METHODOLOGY

Huron projected the cumulative financial results of the research enterprise for FY19-35 when considering both sponsored research growth and required institutional investments.

Steps to develop 15-year financial forecast:

3.1 **Developed FY19 baseline profit and loss statement**
(As presented in the Current State Analysis)

3.2 **Created the sponsored research projection model for research growth**

3.3 **Created the institutional investment model for research growth**
(e.g., strategic hires, start-up packages, space allocations)

3.4 **Prepared the 15-year financial forecast to target the research funding goal**

$ Research Funding Goal

Sponsored Research Growth
+
Institutional Investments

FY19 Baseline

15-year projection
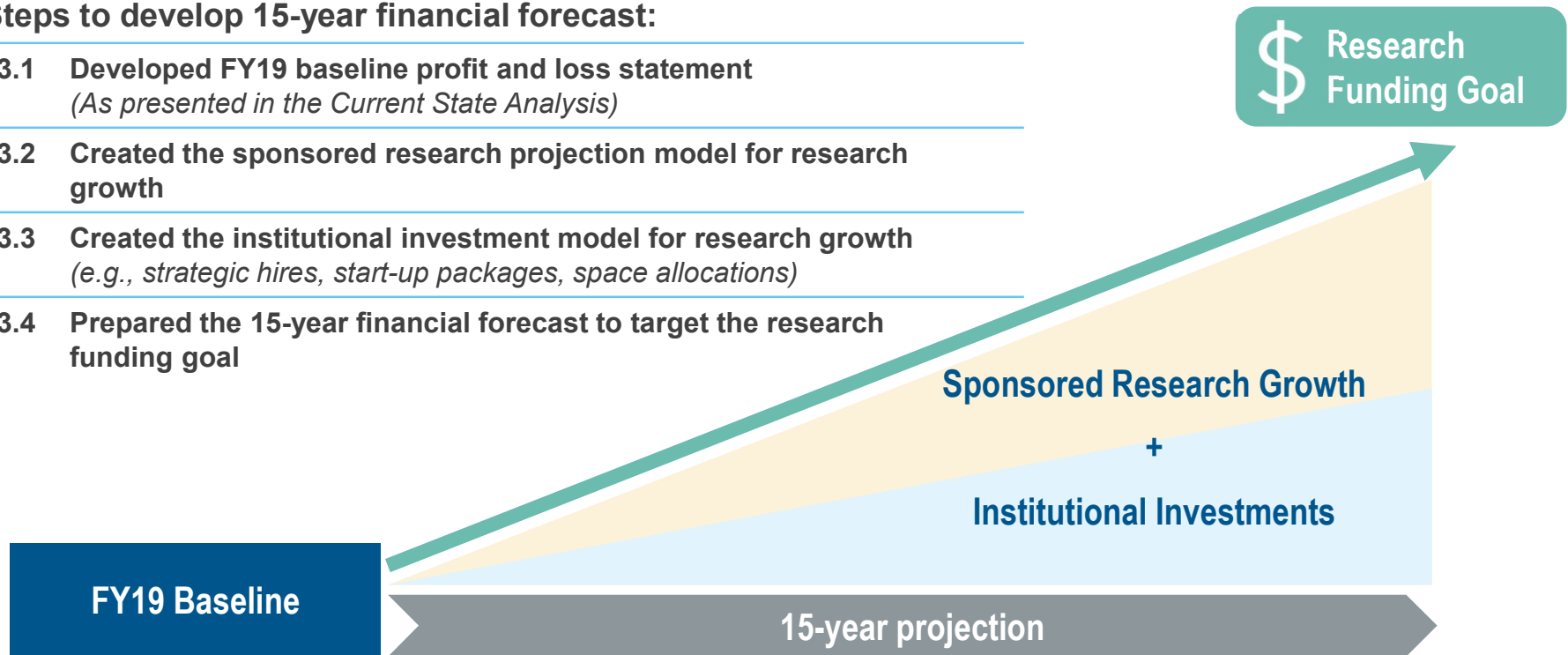
HURON

STRATEGY: FINANCIAL MODEL
PROJECTIONS: FY19 BASELINE P&L STATEMENT

Huron's FY19 current state Research P&L served as the baseline of the 15-year financial projection.

	Sponsored Programs				Institutional Investments in Research					
	Organized Research	Other Sponsored Activity	State Appropriation	Subtotal	Cost Sharing	Non-Sponsored Faculty Research Effort	Research Core Facilities	Other Research Related	Subtotal	Total
Operating Revenue	19.2	16.4	4.6	$40.2	0.0	0.0	0.0	0.0	$0.0	$40.2
Direct Operating Expense	15.8	15.0	4.6	$35.5	0.4	17.0	0.5	7.7	$25.6	$61.1
Results from Operations Before Overhead	**$3.3**	**$1.3**	**$0.0**	**$4.7**	**-$0.4**	**-$17.0**	**-$0.5**	**-$7.7**	**-$25.6**	**-$20.9**
Overhead Expense	6.9	4.4	1.0	$12.3	0.0	3.5	0.0	1.6	$5.1	$17.4
Results from Operations Before Depreciation	**-$3.6**	**-$3.1**	**-$1.0**	**-$7.6**	**-$0.4**	**-$20.5**	**-$0.5**	**-$9.3**	**-$30.7**	**-$38.3**
Depreciation Expense	1.7	0.8	0.2	$2.8	0.0	0.9	0.0	0.4	$1.3	$4.0
Net Results from Operations	-$5.3	-$3.9	-$1.2	-$10.4	-$0.4	-$21.4	-$0.5	-$9.7	-$32.0	-$42.3

(Values in Millions)

Reconciles to HERD Survey results.

HURON

STRATEGY: FINANCIAL MODEL PROJECTIONS: STAGE 1 GOAL

The $100M Research Goal (HERD) of **Externally-Funded and Institutionally Supported R&D** expenditures is projected to be achieved by FY28.

Projected Research Expenditures
(In Millions)
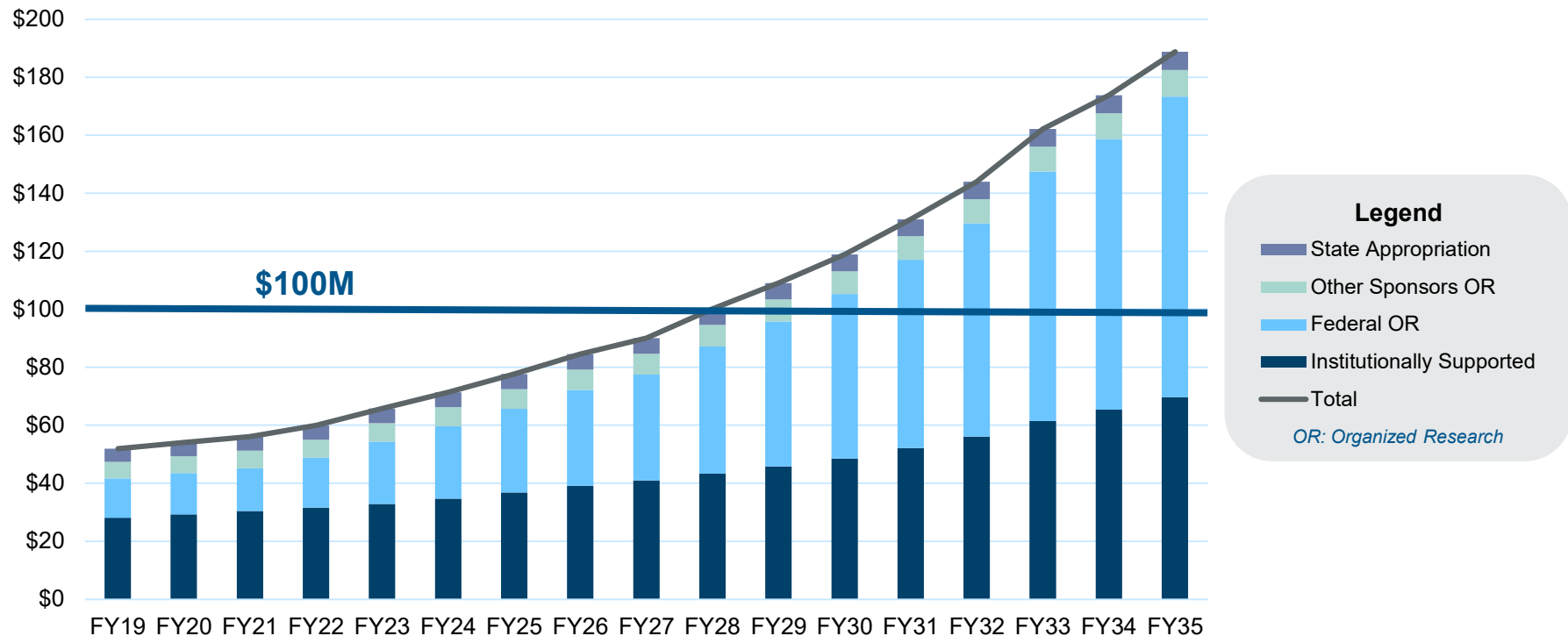
STRATEGY: FINANCIAL MODEL PROJECTIONS: STAGE 2 GOAL

The $100M Research Goal of **Externally-Funded R&D** expenditures is projected to be achieved by FY33.

Projected Sponsored Research Expenditures
(In Millions)

Legend
- State Appropriation
- Other Sponsors OR
- Federal OR
- Total

OR: Organized Research

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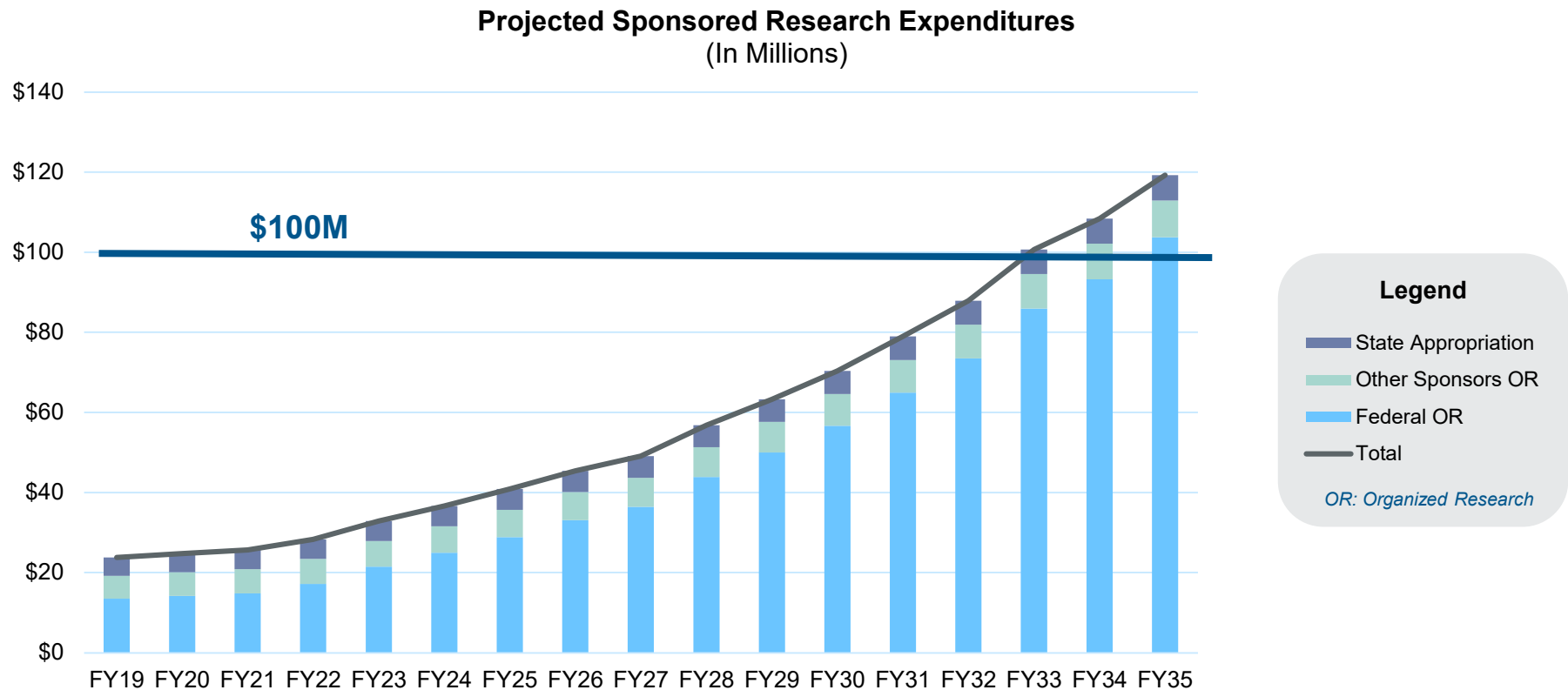
STRATEGY: FINANCIAL MODEL PROJECTIONS: STAGE 3 GOAL

The $100M Research Goal of **Federally funded R&D** expenditures is projected to be achieved by FY35.

Projected Federally-Funded Research Expenditures
(In Millions)

Legend

- New Research Program Development
- Research Strength & Other Departments
- Research Growth Departments
- Baseline Federal OR
— Total

OR: Organized Research

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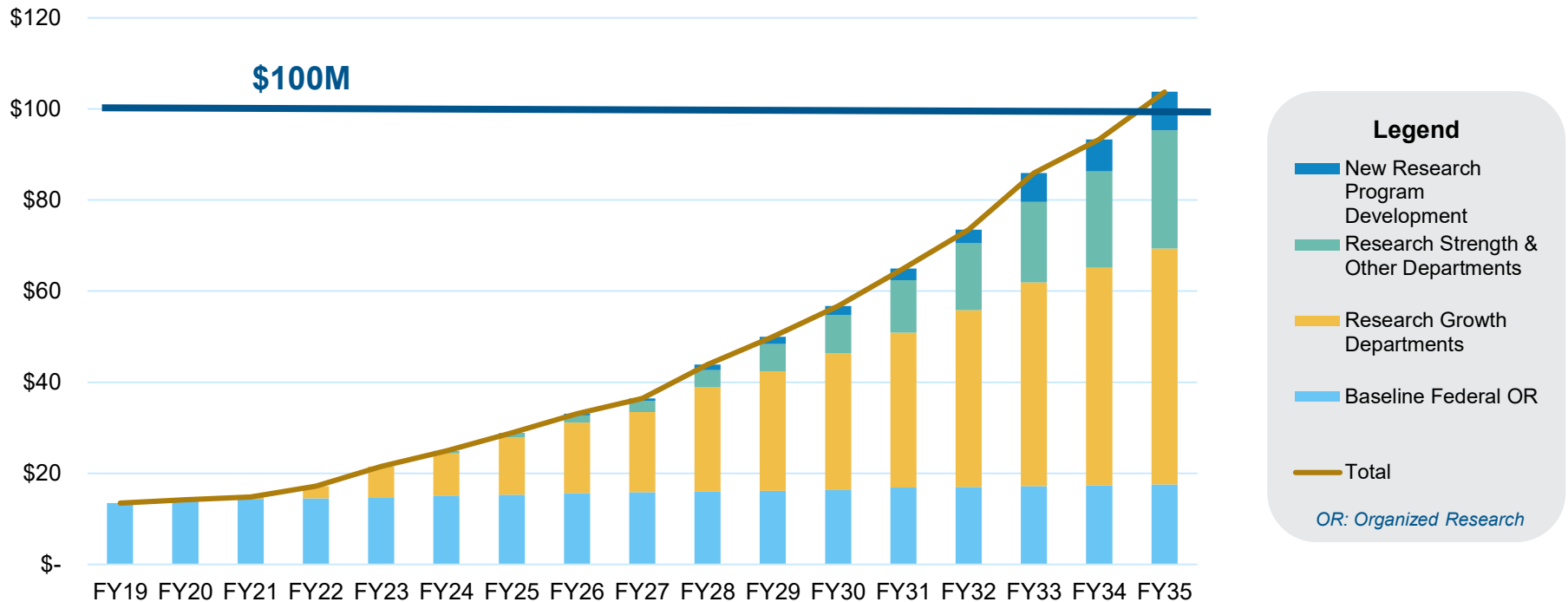
STRATEGY: FINANCIAL MODEL PROJECTIONS: STAGE 3 DETAIL

UTRGV will need to strategically hire new faculty and encourage current faculty to pursue new award funding to achieve $100M in federally-funded expenditures by FY2035.

Growth Area	New Federal Awards (#)	New Federal Awards ($)	New Faculty Hires
1. Organic Growth: Research Growth Departments	203	$51.8M	18
2. Organic Growth: Research Strengths and Other Departments	124	$25.9M	5
3. Strategic Hiring: New Research Program Development	40	$8.5M	25
Total	**368**	**$86.2M**	**48**

The timeframe to achieve this target is approximately 15 years.

HURON

STRATEGY: FINANCIAL MODEL
PROFIT AND LOSS: FY19-FY35

The Net Operating Results if UTRVG was to reach $100M of Federal Funding in FY35 is approximately **$84M.**

Fiscal Year	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY19-27
Sponsored Projects										
Direct Revenue	$35.5	36.4	37.3	39.6	43.3	46.1	49.6	52.9	55.9	*$396.5*
Indirect Revenue	4.7	4.9	5.0	5.6	6.7	7.7	8.7	10.1	10.9	*$64.3*
Operating Revenue	**$40.2**	**$41.3**	**$42.3**	**$45.2**	**$49.9**	**$53.9**	**$58.2**	**$62.9**	**$66.8**	***$460.8***
Direct Expense										
Direct Sponsored Program Expense	35.5	36.4	37.3	39.6	43.3	46.1	49.6	52.9	55.9	*$396.5*
Direct Institutional Investment Expense	25.6	26.6	27.7	28.9	30.1	32.0	34.0	36.3	38.2	*$279.5*
Direct Operating Expense	**$61.1**	**$63.1**	**$65.0**	**$68.5**	**$73.4**	**$78.1**	**$83.6**	**$89.2**	**$94.1**	***$676.0***
Results from Operations Before Overhead	*-$20.9*	*-$21.7*	*-$22.7*	*-$23.3*	*-$23.5*	*-$24.3*	*-$25.3*	*-$26.2*	*-$27.3*	*-$215.3*
Overhead Expense	17.4	18.0	18.7	19.4	20.3	21.2	22.0	23.0	27.5	*$187.4*
Results from Operations Before Depreciation	*-$38.3*	*-$39.8*	*-$41.4*	*-$42.7*	*-$43.8*	*-$45.4*	*-$47.4*	*-$49.2*	*-$54.7*	*-$402.7*
Depreciation Expense	4.0	4.1	4.2	4.3	5.0	5.1	5.2	5.3	8.1	*$45.4*
Net Results from Operations	**-$42.3**	**-$43.9**	**-$45.6**	**-$46.9**	**-$48.8**	**-$50.5**	**-$52.6**	**-$54.5**	**-$62.8**	***-$448.1***
Cumulative Results	**-$42.3**	**-$86.2**	**-$131.8**	**-$178.8**	**-$227.5**	**-$278.1**	**-$330.7**	**-$385.2**	**-$448.1**	

(Values in Millions)

HURON

STRATEGY: FINANCIAL MODEL
PROFIT AND LOSS: FY19-35 (continued)

Projected research growth is expected to reach **Stage 2 goal of ~$100M** of externally-funded research by FY2032.

Fiscal Year	FY19-27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	Total
Sponsored Projects										
Direct Revenue	$396.5	62.0	67.1	72.7	78.3	85.2	94.9	100.8	109.2	*$1,066.6*
Indirect Revenue	64.3	12.8	14.3	15.9	19.1	21.3	24.6	26.5	29.3	*$228.0*
Operating Revenue	**$460.8**	**$74.7**	**$81.3**	**$88.6**	**$97.4**	**$106.5**	**$119.5**	**$127.4**	**$138.4**	**$1,294.6**
Direct Expense										
Direct Sponsored Program Expense	396.5	62.0	67.1	72.7	78.3	85.2	94.9	100.8	109.2	*$1,066.6*
Direct Institutional Investment Expense	279.5	40.5	42.9	45.7	49.2	53.2	58.6	62.4	66.6	*$698.5*
Direct Operating Expense	**$676.0**	**$102.5**	**$110.0**	**$118.3**	**$127.5**	**$138.3**	**$153.4**	**$163.3**	**$175.7**	**$1,765.1**
Results from Operations Before Overhead	*-$215.3*	*-$27.8*	*-$28.7*	*-$29.7*	*-$30.1*	*-$31.9*	*-$34.0*	*-$35.9*	*-$37.3*	*-$470.5*
Overhead Expense	187.4	28.6	29.7	30.9	32.1	33.4	34.7	36.1	37.5	*$450.4*
Results from Operations Before Depreciation	*-$402.7*	*-$56.3*	*-$58.4*	*-$60.6*	*-$62.2*	*-$65.2*	*-$68.7*	*-$72.0*	*-$74.8*	*-$920.8*
Depreciation Expense	45.4	8.2	8.4	8.5	8.7	8.8	9.0	9.1	9.3	*$115.5*
Net Results from Operations	**-$448.1**	**-$64.6**	**-$66.8**	**-$69.1**	**-$70.9**	**-$74.0**	**-$77.6**	**-$81.1**	**-$84.1**	**-$1,036.3**
Cumulative Results	**-$448.1**	**-$512.7**	**-$579.4**	**-$648.6**	**-$719.4**	**-$793.5**	**-$871.1**	**-$952.2**	**-$1,036.3**	

(Values in Millions)

HURON

STRATEGY: FINANCIAL MODEL
EMERGING RESEARCH INSTITUTE STATUS

As part of achieving its research growth goals, UTRGV seeks to achieve Emerging Research Institute (ERI) status.

- Potential ERI funding is not incorporated into the financial model but would expedite achieving Stages 1 and 2 of UTRGV's growth targets.
- In its broader strategic plan, UTRGV should identify how it will achieve at least 4 of the 6 optional categories required to earn ERI status.

Mandatory Eligibility Criteria:	☐ Must be designated as an emerging research university in the Coordinating Board's accountability system;
	☐ Must have expenditures of at least $45 million in restricted research; and
Optional Eligibility Criteria:	☐ Must comply with four of the following: 　☐ $400 million endowment annually; 　☐ 200 PhD degrees awarded annually; 　☐ Freshmen class with high academic achievement; 　☐ Membership in Association of Research Libraries, Phi Beta Kappa or equivalent national recognition; 　☐ High quality faculty; 　☐ Commitment to high quality graduate education.

HURON

4.2

GROWTH ENABLEMENT STRATEGIES

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INTRODUCTION

1	Growth of UTRGV's research enterprise is reliant on faculty with <u>an intentional focus</u> on research. The concept of an "intentional focus" on research is critical for faculty development and financial investments, and **this is not limited to those research areas related to the RPAs**.
2	Considering the reality of limited resources, and the demanding needs of UTRGV's instructional mission, UTRGV must be diligent in conveying the intentional concept – especially for current faculty focused on instruction.
3	Substantial **expansion of UTRGV's research enterprise requires an equally substantial financial investment** and one objective of the Research Strategic Plan is to **identify those areas that will provide the greatest return on this investment**. Therefore, **a majority of UTRGV's financial investment should be weighted towards enabling the RPAs**, with the overall objective of growing the research enterprise and realizing a strong return on investment.
4	**It is expected and necessary that UTRGV maintains and grows research across the institution, including in areas outside of the RPAs as well. Therefore, while the RPAs should drive the majority of financial investments, they should not represent the only investment in UTRGV's research.**
5	Considering the necessary financial investment to achieve this growth, it is imperative for UTRGV to **maximize the financial impact of externally sponsored research and limit financial "leakage"** via cost share, waived indirect cost recovery, and investing research revenue in areas outside of research.

HURON

4.2.1

COMPREHENSIVE STRATEGIC PLAN

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
COMPREHENSIVE STRATEGIC PLAN

Recommendations

1 Develop a formal Strategic Plan and defined RPA's to guide UTRGV's investment and development efforts with the intent of realizing an accelerated rate of growth for UTRGV's research in these RPAs.
 	
   • Leverage the recommendations and content within this report as a starting point for developing the UTRGV Research Strategic Plan and defining RPAs.
 	
      • Determine RPAs based on UTRGV's existing research programmatic strength, funding priorities on the national landscape, and UTGRV's unique geographic and cultural circumstances.
 	
      • Recognize that other programmatic research areas not included in the RPAs still support UTRGV's overall research mission, require a level of institutional support and should be expected to achieve growth over the next 5-10 years. However, due to finite resources, these other research areas cannot receive the same level of investment and prioritization as the RPAs.
 	
   • Broadly integrate UTRGV research and leadership stakeholders into the development of the Research Strategic Plan. Specifically, charge the Executive Committee of the Research Advisory Board with leading the Plan development and leverage the methodology used in developing the UTRGV Strategic Plan to obtain input and buy-in from stakeholders, including faculty.
 	
   • Establish a detailed action plan to tightly manage implementation efforts and investments with clear accountability measures supported by metrics.
 	
   • Establish a process to reevaluate the UTRGV Research Strategic Plan every three to five years and adjust direction as institutional, state, and national priorities shift.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
COMPREHENSIVE STRATEGIC PLAN

Recommendations
2   Organize the Research Strategic Plan to outline specific tactical actions across four approaches that will support the growth of RPAs and bolster UTRGV's research enterprise as a whole. These activities are contingent on defining RPAs so that approaches can be appropriately targeted.

Research Priority Area-Driven

Institution-Wide Capabilities

PROGRAMMATIC INVESTMENT	EXTERNAL ENGAGEMENT	ADMINISTRATIVE OPERATIONS	TECHNOLOGY ENABLERS
Focus developing research at UTRGV through a strategic approach to: • Faculty development • Financial investment • Optimizing use and recovery of external funding	Focus developing relationships and partnerships with external organizations that are heavily focused on RPAs, including through: • Clinical trials • Industry partnerships and commercialization	Enhance and strengthen research operations to support programmatic growth opportunities through: • Organizational structures and defined roles and responsibilities • Developing staff and fostering a culture of customer service • Efficient, compliant processes	Develop a complementary roadmap focusing on deploying systems that enable administrative efficiency and ensure a coordinated, streamlined approach to operations, including: • Research-specific technology • Integration with institutional technology

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
COMPREHENSIVE STRATEGIC PLAN

As vetted and confirmed through the Research Strategic Plan development process, pursue growth using a combination of five major strategies.

PROGRAMMATIC INVESTMENT

FACULTY DEVELOPMENT
Foster development of research faculty through focused time, investment, mentorship, and associated accountability.

RESOURCE ALLOCATION
Optimize investment in research to achieve a high ROI, systematically evaluating space, core facilities, infrastructure, etc.

EXTERNAL FUNDING OPTIMIZATION
Maximize direct and indirect cost recovery on sponsored fund sources and strategically "invest" in indirect revenue and cost-sharing.

EXTERNAL ENGAGEMENT

INDUSTRY PARTERNSHIP AND COMMERCIALIZATION
Focus resources on new disclosures and ongoing patents with sustainable commercialization potential.

INDUSTRY FUNDED CLINICAL TRIALS
Identify areas of high recruitment potential and focus business development efforts on aligned industry sponsors.

HURON

4.2.2

FACULTY DEVELOPMENT

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
FACULTY DEVELOPMENT

Recommendations

1 Codify UTRGV's support for research by establishing guidelines to more formally govern and structure faculty roles and associated research and instruction efforts.
    • Define separate approaches and expectations for instructional faculty (faculty focused entirely on instruction) and research faculty (faculty with an intentional research focus and adjusted instructional loads).
    • Establish distinct faculty evaluation and promotion and tenure guidelines and recommended standards that account for the uniqueness of both types of faculty focus, including expectations and productivity / success metrics for research.
    • Charge department and school leadership, under the direction of the EVP-R, with:
        • Identifying faculty who will have an intentional focus on research and be held accountable for research productivity / success metrics.
        • Aligning department and school budgets with institutional investments in research, including providing research faculty with unfunded research time and/or course release.
        • Clearly communicating expectations and timelines to achieve demonstrated productivity for research-focused faculty.
    • Align faculty evaluations and promotion and tenure with the annual budgeting process to ensure funding and resources within departments / schools is properly aligned with instructional and research budgets. For example:
        • Funding for Start-Up Packages and strategic course buy-outs may be established in UTRGV's Strategic Research budget
        • Funding for foundational research (e.g. course buy-outs) and instructional activities can be embedded in existing UTRGV processes and budgets.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
FACULTY DEVELOPMENT

Recommendations

2   Structure UTRGV-wide guidelines for research faculty to consider the unique requirements, expectations and aspects of research to be implemented by individual department and school leadership.

- Define specific requirement for promotion and tenure for research faculty to achieve a sustained level of productivity that will continue to be productive post-tenure and promotion, such as:
    - Obtained external competitive research funding, including expectations on the number and dollar value of received awards.
    - Defined number and dollar amount of submitted proposals for external competitive research funding, balanced against active funding but still required even for well-funded research faculty.
    - Defined number of peer-reviewed publications, weighting publications based on journal impact factor.
    - Defined number of presented papers / invited talks / presentations / demonstrations at professional meetings/conferences to present work completed at UTRGV.
    - Defined level of research service, such as research committee contributions.
    - Defined percentage of external salary support for research.
- Establish a faculty workload guidelines specific to research faculty that reflects reduced course loads and/or wRVU obligations and affords protected time for research while maintaining an appropriate level of focus on instruction as the growth of the research mission is highly dependent on the strength of the instructional mission.
- Structure additional appointment types to bring in faculty with the right balance of research and clinical, instructional or service focus.
    - Consider a "Professor of Practice" role to integrate industry experience with the research and teaching missions.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
FACULTY DEVELOPMENT

Recommendations

3   In consideration of the instructional mission and need to focus UTRGV's limited research resources in a way that will optimize growth, revisit the structure of UTRGV's instructional-focused faculty.
 	
   • Establish separate faculty <u>workload guidelines for instructional faculty</u>, minimizing time not directly related to instruction responsibilities.
   • Charge department and school leadership to use resources to maintain an intentional focus on research. For example, as part of the annual faculty review and budgeting process, evaluate requests from traditional instructional faculty to become more research focused, via steps such as:
     • If instructional faculty wish to engage in unfunded research, petition for course release and require the faculty member to propose a well-developed, focused plan for research during this time and incorporate specific metrics and success metrics.
     • Review, evaluate and accept these proposals after an assessment of the financial impact to the department / school and the development of an action plan to fund the research release request by instructional faculty.
     • Require requests for research release funding outside of the department and school budgets be evaluated as an institutional investment in research and considered against the RPAs and other institutional authorities.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
FACULTY DEVELOPMENT

Recommendations
4   Increase UTRGV's overall research capacity by increasing the stream of research faculty, especially those that are tenure track and whose research areas aligned with the RPAs, via targeted recruitment and external hires.
5   Further grow UTRGV's research enterprise from within by developing UTRGV's existing junior and mid-career research faculty so that they can achieve higher levels of research productivity and success based on their existing research programs.   • Leverage expectations and performance measures to motivate existing faculty to increase their productivity through an increase in proposal submissions, especially for higher dollar awards. • Build off the existing Keys to Research program by creating a New Investigator Development Program (NIDP) that assists junior faculty with writing competitive grant applications.   • Allow graduates of Keys to Research to enroll in NIDP pair them with senior faculty members other than the participant's chair or dean to serve as a mentor and build collaboration networks across UTRGV. • Develop an internal Peer Review process for UTRGV's research opportunities to leverage the experience and insight of established research faculty to improve the quality of developing faculty research and to ensure the highest quality research is identified and promoted within UTRGV. Use this mechanism to inform multiple strategic research decisions, such as selecting limited submission proposals and awarding seed and pilot funding via an internal competitive process.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
FACULTY DEVELOPMENT

Recommendations

6   Increase awareness about UTRGV's research and scholarship programs and activities to allow established and developing faculty to interact, develop cross-discipline relationships, and enhance collaboration. Example approaches include:
 	
   • Developing a search tool/database to facilitate identification of other UTRGV researchers based on related areas of focus.
   • Providing 'touch-down' space and/or shared research space on campus to entice faculty to work in proximity to each other.
   • Enhancing the institutional structure to enable cross-discipline collaboration, with the ability to make multi-disciplinary appointments, conduct regular research seminars and informal research exchanges, and other 'incubator' activities.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
FACULTY DEVELOPMENT

Recommendations
7   Revise institutional policy and develop formal expectations to incentivize faculty to seek external funding for research. Best practices for incentives include: - Providing salary incentives for faculty who exceed a targeted percentage of externally-sponsored salary support. Best practices policy guidelines include: - Paying incentives during the year.   - Not increasing Institutional Base Salary / base compensation.   - Using a formulaic approach to calculating incentives, where faculty receive a percentage of compensation recovered from externally-funded sponsored projects above an established threshold.   - Excluding certain awards from counting towards the salary coverage target (e.g., awards that require cost sharing).   - Allowing faculty to take incentives as funding to be used to support their lab and allowing for these funds to be carried over from year to year.   - Meeting all other standard requirements of other university duties.   - Establishing funding targets as consideration in annual performance evaluations.   - Redesigning the indirect cost distribution policy to fund these incentives.

HURON

4.2.3

RESEARCH RESOURCE ALLOCATION

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
RESEARCH RESOURCE ALLOCATION

Recommendations
1   **Direct Funding for Faculty:** Research faculty, as individuals, require financial resources in order to establish and build their independent and collaborative research programs. There is a significant time—and associated financial investment—to identify funding opportunities, develop well-crafted proposals, and establish a lab. As such, faculty require individual funding to initiate new and grow established research programs. Specific faculty funding needs include: • Start-up funding and packages for newly recruited faculty intended to fund equipment and other expenses to develop a strong capacity for research. • Unfunded research effort, including course buy-out including additional release from teaching obligations for both research track faculty looking to increase their internally funded research time for a period and instructional faculty petitioning for the opportunity to develop a research program.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
RESEARCH RESOURCE ALLOCATION

Recommendations

2 **Core Facilities and Equipment:** STEM and biomedical research require robust core facilities and support infrastructure, including space and equipment for these facilities, but also maintenance and staff to own/train others on facility resources.

- Initially, UTRGV should inventory existing equipment and research facilities present in departments and schools and determine if any should be monetized as core facilities or shared service centers (recommended evaluation criteria are provided in *Sophistication, Business Processes*).
- Subsequently, UTRGV should focus on closing gaps and developing additional foundational core facilities, consisting of 'medium level' equipment that is necessary for research but not generally funded by equipment grants.
- As a next step, UTRGV should identify the cutting-edge facilities that will bolster the research program ahead of peers and result in new funding opportunities over competing institutions.
  - Monitor subcontracts and vendor agreements for commonly-used goods and services to identify potential core facilities and/or service centers in support of retaining funds at UTRGV.

Representative List of Existing Equipment and Facilities
- Optical imaging (SOM)
- Cell/molecular biology (SOM)
- Genetic epidemiology (STDOI)
- High throughput sequencing center (STDOI)
- Molecular genetics (STDOI)
- High-performance computing (Physics)
- Applied microwave and electromagnetic lab (Electrical Engineering)
- Power system lab (Electrical Engineering)

Core Facilities to Consider
- Bioinformatics
- Statistics (general, specialized)
- Imaging Core
- Cloud-based computing facilities
- Transmission electron microscope

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
RESEARCH RESOURCE ALLOCATION

Recommendations
3 **Space:** Physical space is one of the most key investments necessary to grow and expand UTRGV's research enterprise. Specific future space needs for UTRGV could include the following: • Dedicated wet and dry lab space to support the existing and growing research needs. • "Floater" space (non-wet labs) that can be used to store data in both electronic and paper format made available when new and/or junior investigators receive funding and are now able to hire staff but do not have the research necessitating a designated lab space of their own. • Incubator space for faculty to get funding and develop new ideas prior to proposal submission and requests for funding. • Thematic arrangements of research units, all respecting cohesion between departments, assigned space that can fuel interdisciplinary collaboration. Establish principles for space allocation including alignment to strategic goals, capital outlay, opportunities for colocation and/or collaboration, environmental health & safety, and commitments to faculty.

HURON

4.2.4

EXTERNAL FUNDING OPTIMIZATION

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
EXTERNAL FUNDING OPTIMIZATION

Recommendations
1 Maximize the impact of external funding, making full use of all externally funded awards and limiting unspent budget balances (money left on the table) as well as overdrafts. • Develop and deploy updated reports and budget monitoring procedures so that faculty remain up to date on the funding balances on their awards and can plan to spend all funding, especially on cost reimbursable awards, to further research before the award period expires.   • UTRGV currently has expired awards with a $6M positive budget balance, funding which could have been used to further the research as well as increase UTRGV's externally funded research expenditures. • Use these same mechanisms to limit any sponsored project spending above the awarded amount. As these overdraft expenditures represent real costs, funding these expenditures from other non-sponsored sources can limit the financial resources available to UTRGV to support other strategic objectives.
2 Develop institutional policy and oversight mechanisms to ensure cost share investments are strategically focused. • Establish an annual budget for central UTRGV cost sharing and matching contributions and commitments specifically for those projects aligned with the Research Strategic Plan and RPAs. • When requests for funding are made to UTRGV, evaluate these requests against the Research Strategic Plan and RPAs, incorporating perspective from the Research Advisory Board. • Require all *other* cost share commitments to be reviewed, approved, committed and paid for by departments / schools based on annual budgets and available funds.   • Hold unit leadership accountable for maintaining annual budgets, as no additional central indirect return funding is available to supplement commitments.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
EXTERNAL FUNDING OPTIMIZATION

Recommendations

3   Develop institutional policy and oversight mechanisms to enhance the recovery of indirect costs on externally sponsored awards.
 	
    • Review the indirect cost return policy to ensure it adequately incentivizes research at the faculty member, as well as department and school levels.
    • Set the expectation and requirement that all externally funded projects should seek to recover the maximum allowable amount of indirect costs, specifically UTRGV's federally negotiated indirect rate. Limit voluntary F&A rate waivers to the greatest extent possible.
    • Define specific financial accountability by level (PI, Department, School, UTRGV) for those awards that receive less than the full negotiated rate.
        • Policy that returns some portion of funding directly to the investigator can serve as a powerful incentive for research engagement.
        • Further, policy that reduces the return from the bottom-up (PI is first impacted) when awards do not receive the full rate incentivizes the pursuit of full return awards as the financial of indirect cost reductions will most directly impact the PI / Departments / Schools.
        • If a voluntary waiver is requested by the PI (for an award that would allow the full negotiated rate), require Chair/Dean approval so that the financial impact of such an award is understood at the onset.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
EXTERNAL FUNDING OPTIMIZATION

Recommendations
5   Evaluate UTRGV's indirect cost return model and how funds are distributed across the institution. This policy should include a defined approach to determine the portion of indirect costs returns allocated to fund: • The operating budget of specific UTRGV research service divisions (Research Administration, Research Compliance, etc.) • A UTRGV Strategic Investment Pool to fund additional research objectives (as further described in this report) • Other institutional indirect costs, including central administration and facilities • Distribution to the generating units and investigators
6   Establish policy requiring the reinvestment of revenue earned from research back into UTRGV's research program. Revenue to be reinvested includes indirect cost recovery returns, residual funding from fixed price agreements, and licensing revenues. • Consider enabling mechanisms, such as designated accounting within a specific Fund Group, to administer research-related revenues and enable monitoring that these funds are reinvested in research. • Define roles and responsibilities for departments and schools to monitor these fund balances and consider policies and processes to build accountability for the budgeting and timely utilization of these funds in support of research.
7   Redefine the Licensing Revenue Distribution Policy to direct a percentage of licensing revenues to ensure adequate reimbursement of Patent and Licensing operations, in addition to reimbursement of direct patent costs. Ensure the policy also defines the portion of the licensing revenue returned to faculty and their associated departments / schools.

HURON

4.2.5

INDUSTRY-FUNDED CLINICAL TRIALS

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY-FUNDED CLINICAL TRIALS: GOALS

In order to build a comprehensive research enterprise, UTRGV seeks to develop an industry sponsor-focused clinical trials program. As the primary academic medical center in the Rio Grande Valley, UTRGV can leverage its brand to capture market share and capitalize on the potential for clinical care patient conversion to recognize the benefits of a robust clinical trials program:

TREATMENT

- Improve health of the Rio Grande Valley
- Focus on health and disease in the Hispanic population
- Provide cutting-edge treatment

EDUCATION

- Enable mission-based Graduate Medical Education
- Develop and maintain a clinical workforce that fulfills the needs of the Rio Grande Valley

REVENUE

- Enjoy the "halo effect" of integrating trials into the care continuum and associated clinical revenue

Aligning clinical trial growth strategy with research expenditure growth strategy allows for *additional ROI* and increases *opportunities for translational research*.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY-FUNDED CLINICAL TRIALS

Recommendations: Research Priority Areas

1   Identify initial clinical trials growth development areas that are aligned with RPAs. Huron recommends identifying no more than three initial areas of focus.
    • Confirm interest by surveying existing physicians and/or residents aligned with RPAs.
    • Develop insight into current patient clinical encounter volume and work relative value units (wRVU) utilization to inform areas of highest potential for clinical trial recruitment and develop a baseline to inform future steps related to clinician workforce capacity.
        • Stratify volume by clinical service and then complexity (e.g., primary, secondary, tertiary, quaternary, as applicable). This analysis allows UTRGV to focus efforts on an initial "low hanging fruit" population of trials with low complexity and requiring minimal cost, with potential for high recruitment yield.
        • Once foundational elements of the clinical program are established, more complex trial targets should be considered (e.g., those that require practitioner specialization and/or other investment requirements).

2   As UTRGV begins to significantly engage in clinical trials, build capacity for higher-risk research through reverse complexity. Use this approach to more gradually increase the compliance risk and requirements so that the UTRGV compliance infrastructure can grow ahead of trial complexity.
    • Engage in observational and Phase II / III or IV interventional trials before engaging in Phase I research.
    • Coordinate expansion into Phase I research with clinical research facility expansion, including considering a specific Phase I unit and/or study team due to increased study complexity and need for heightened controls.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY-FUNDED CLINICAL TRIALS

Recommendations: Faculty Development
3   Develop and execute a Physician-Investigator mentoring program to partner established physicians and residents to provide education on the foundations of clinical research regulations and Good Clinical Practice, roles and responsibilities of research staff, interactions with industry, etc. (as outlined below). Such a mentoring program will enable UTRGV to develop a viable Investigator workforce, residents who can serve as sub-Investigators, and a pool of Physician-Investigator for future years.

Months 1-2

Identify first cohort of Investigator targets for training.

Classroom/Virtual Training (series of clinical trial fundamental training modules, developed and led by Medical Director or third parties).

Identify Clinical Trial Investigator Mentors (In Year 1 the Medical Director may serve as the mentor for all targets).

Schedule Mentor-Mentee meetings on an established cadence, such as every three weeks.

Months 3-4

Conduct Mentor Shadowing (Sponsor Site Feasibility Meetings, IRB/Regulatory Development, Coverage Analysis and Budgeting, Contract Review, Negotiation and Execution, Recruitment Planning).

Mentoring could also include Mentee being named as a sub-investigator on a trial.

Clinical Trial Investigator Mentor-Mentee meetings continue on the established cadence.

Mentee self reflection, and Meeting with Mentor/Dean to discuss progress, allowing for opt-out decision if target/research is not a good match.

Months 5-6

Finding First Clinical Trial (working with Mentor to find first clinical trial, applying Q2 shadowing learnings).

Mentor Shadowing (Continued) (Sponsor Site Initiation Meetings, See-one, do-one Patient Informed Consent (a total of 10), Research Procedures and Documentation, research order entry shadowing).

Conduct 20 patient study visits where Mentee "drives," mentor attends and provides mentee with feedback.

Months 7-8

Open First Clinical Trial (conduct site initiation meeting, begin patient enrollment; supported by Mentor).

Draft clinical trials Investigator Plan for next year (goals including number of trials to serve as PI, areas of focus, sponsor targets, etc.).

Mentoring check point meetings (questions, feedback, and opportunities for improvement).

Capstone Session (learnings and insight over the last 8 months, Research Plan Presentation (Dean, Faculty and Mentor) for next performance year).

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY-FUNDED CLINICAL TRIALS

Recommendations: Research Resource Allocation

4   Invest in the development of an effective and compliant clinical trial operations, including financial, operational, and regulatory functions, to increase UTRGV's standing as an attractive site for industry sponsors.
     • Faculty personnel investment should align with the UTRGV-wide research track and incorporate wRVU buy-outs in a philosophy similar to course buy-outs.
     • Clinical personnel investment should be based on clinical trial complexity and patient recruitment goals (e.g., clinical research nurses, data coordinators, etc.). Because personnel needs vary widely based on complexity and recruitment, UTRGV should conduct an analysis on staffing once clinical trial growth areas are identified.
     • Administrative personnel investment should be limited to a per-trial costing basis wherever possible to minimize fixed, recurring costs and maximize cost recovery from industry sponsors.
     • Other major investments associated with clinical research should be considered as UTRGV grows and discussed during the Research Strategic Plan due to the significant nature of these investments, including:
          • Dedicated clinical research space.
          • Funding investigator-initiated research and sophisticated infrastructures for managing investigator-initiated research (e.g., protocol / technical writers, data safety monitoring teams, ClinicalTrials.gov and IND/IDE management, etc.).
          • Technology systems (e.g., clinical trials management systems, electronic data capture).

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY-FUNDED CLINICAL TRIALS

Recommendations: Research Resource Allocation
5   Invest in the development of an effective and compliant clinical trial operations, including financial, operational, and regulatory functions, to increase UTRGV's standing as an attractive site for industry sponsors.
Financial Investment Estimates / Assumptions:
• Base year investments of ~$3.8M include Investigator and Research Nurse staffing and recurring outsources services. Outsourcing key services (e.g. coverage analysis, budgets, contracts, regulatory and sponsor invoicing) controls fixed, recurring operating costs, aligning expense to per-unit trial activity and sponsor pass-through of outsourcing expense. • Assuming capture of 10 trials in base year, meeting enrollment goals and realizing a 30% year-over-year growth rate (including increasing trial capacity), UTRGV has the potential to develop an ~$11M clinical trials program by year 5. • All else equal, industry clinical trials should break even. Deficits should be expected in early years, and unrestricted surplus in subsequent years, allowing for reinvestment and/or unrestricted sundry account funding.

	UTRVG Clinical Trials Program 5-Year Projection				
Fiscal Year	**FY22**	**FY23**	**FY24**	**FY25**	**FY26**
Operating Revenue	3.6	4.8	6.4	8.6	11.5
Direct Operating Expense	-2.8	-3.7	-5.0	-6.7	-8.9
Results from Operations Before Overhead	**0.8**	**1.1**	**1.4**	**1.9**	**2.6**
Overhead Expense	-1.0	-1.2	-1.5	-1.9	-2.4
Net Results from Operations	**-0.2**	**-0.1**	**-0.1**	**0.0**	**0.1**

(Values in Millions)

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY-FUNDED CLINICAL TRIALS

Recommendations: External Funding Optimization

6   Focus efforts on business and relationship development with clinical trial sponsors aligned to identified growth areas, including industry sponsors and existing clinical trial sites, to market UTRGV as an advantageous clinical trial site.
    • Analyze the Rio Grande Valley catchment to solidify understanding of and promote the population health conditions present in the catchment area.
    • Consider using existing Institutional Advancement personnel to develop relationships with industry sponsors and research collaborators aligned to RPAs.
    • Explore partnerships with local commercial clinics (e.g., Walgreens, CVS, etc.) as recruitment sites and/or as a partner to promote trials.
    • Attend targeted conferences and industry events to raise UTRGV's profile (e.g., Drug Information Association, etc.).

7   Employ a "push and pull" strategy to identify potential clinical trials aligned to identified growth areas.
    • Leverage the TriNetX platform, where industry sponsors proactively contact potential sites for clinical trial participation. The platform comes at no cost to UTRGV.
    • Review publicly available data from ClinicalTrials.gov and proactively initiate discussions with potential partner institutions (see Appendix C).

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY-FUNDED CLINICAL TRIALS

Recommendations: Leadership & Support

8   Create a new position for the Medical Director of Clinical Research to support the Dean of the SOM by providing medical leadership and oversight for clinical trial program development.
    • Initially establish the position as a part time FTE filled by a current UTRGV physician.
    • Charge the Medical Director with defining a path to infrastructure development, including identifying targeted areas of trial focus aligned with RPAs, developing goals and metrics, developing workforce capacity, and collaborating with existing and new external partnerships.
    • Develop a job description and recruit for an individual with extensive experience conducting clinical trials. Target candidates with an established clinical research track record from an Academic Medical Center or university setting.

9   As clinical research teams are developed and/or hired, educate teams on the foundation concepts and leading business practices to ensure compliant and effective clinical trial operations.
    • Educate clinical staff on process standards and best practices for study binder management, electronic file management, pre-study activation, study supply management, patient recruitment and eligibility, informed consent, treatment management, medication administration / accountability, study documentation and integrity, and monitoring visits.
    • Consider using national experts to conduct training to incorporate best practices (e.g., ACRP, SOCRA, etc.).

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY-FUNDED CLINICAL TRIALS

Recommendations: Sophistication

10 Develop processes to facilitate the management, growth, and oversight of clinical research. Major components to consider include:
• Study Identification
    • Feasibility processes to ensure a focused approach to opening trials that align with the current patient population and/or catchment area and to the Research Strategic Plan.
• Study Startup
    • Coverage analysis, budget, and contract development and negotiation processes that maximize financial recovery, including considering outsourcing to enable a per-trial costing basis.
    • Efficient regulatory oversight via relationships with external IRBs.
• Study Management
    • Use of electronic medical records (EMRs) and clinical trial management systems (CTMS) to manage safety risks (identifying on-trial patients, adverse event documentation) and billing compliance risks.
    • Financial recovery strategies regarding sponsor invoicing and salary charges for clinical research staff (e.g., shared coordinator pool, coordinator and data manager utilization expectations, etc.).

11 Aligned with the SOM's Strategic Plan goal to focus on health and disease in the Hispanic population and address health disparities, build UTRGV's capabilities to recruit and enroll Hispanic patients on clinical trials. • Address perception of clinical trials among the Hispanic population by using community educators and public health specialists to develop and support initiatives to build familiarity with clinical research. • Educate partner hospital resources on clinical research to provide participant recruitment support and patient education focused on the Hispanic patient population, such as through bilingual patient navigators. • In addition to interdisciplinary work within the SOM, consider this a cross-collaboration opportunity with non-SOM departments, such as social work, sociology, and psychology.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY-FUNDED CLINICAL TRIALS

Recommendations: Sophistication

12   Conduct a working session with SOM, UTRGV General Counsel, and other stakeholders to confirm UTRGV's approach to use of external clinical trial sites for inpatient and/or outpatient clinical research.
    • Develop a template Research Affiliation Agreement (RAA) aligned with UTRGV's Research Strategic Plan and UT System requirements.
        • Leverage agreements governing existing relationships between UT components and hospitals such as The University of Texas Health Science Center at Houston and Memorial Hermann Hospital System, The University of Texas Southwestern Medical Center and Parkland Memorial Hospital, etc.
        • Incorporate standard RAA terms, including intellectual property, ownership and use of patient data, funds flow, clinical research billing, liability and indemnification, etc.
    • Evaluate formal relationships with Valley Baptist, Doctor's Hospital Renaissance, Knapp, and Rio Grande Hospital ensuring that ongoing partnerships are supported by RAAs aligned with the developed template.

HURON

4.2.6

INDUSTRY PARTNERSHIP AND COMMERCIALIZATION

HURON

INDUSTRY PARTNERSHIP & COMMERCIALIZATION

Recommendations: Strategy

1. Focus the resources of Commercialization Technology on new disclosures and ongoing patents with sustainable commercialization potential to increase the value and impact of UTRGV's IP portfolio.
   - Broaden the scope of inventors to diversify contributions to UTRGV's patent portfolio.
   - Continue to trend to increase new patents (as in recent years) and focus efforts and select patents with the potential to achieve higher market values.
   - Focus efforts to encourage development UTRGV IP that is highly useful to industry and provides more extensive licensing opportunities.
   - Increase UTRGV's overall volume of medical patents, a lucrative patent classes with high opportunities for licensing revenue.

Current UTRGV Patent Portfolio
Patent Age vs. Market Value

Highest Value Patents: Chen (no longer with UTRGV)
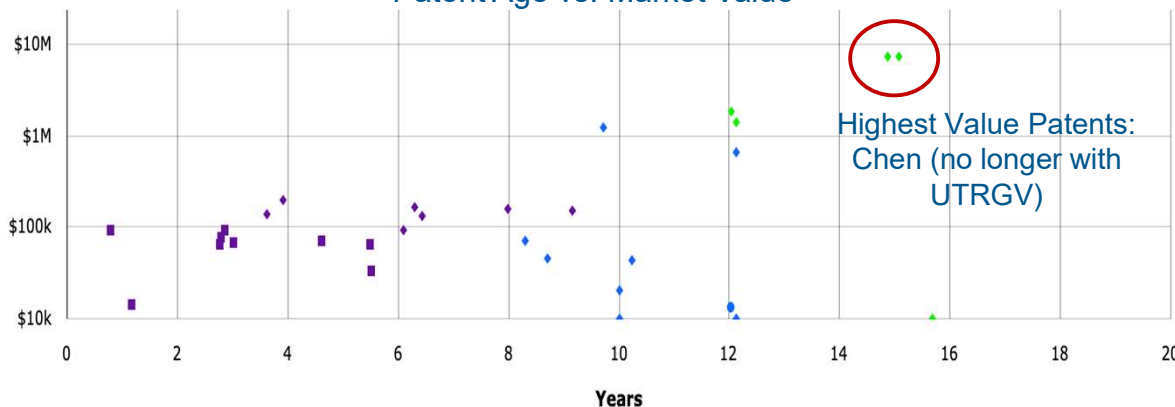
Legend

- ● Issued patent with standard expiration life
- ◆ Issued patent with a term extension beyond standard expiration
- ■ Patent application not yet granted

Patent maintenance cycle (based on grant date)
- *0 to 4 years old*
- *4 to 8 years old*
- *8 to 12 years old*
- *> 12 years old*

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY PARTNERSHIP & COMMERCIALIZATION

Recommendations: Strategy
2 Identify and execute strategies to increase the licensing potential of UTRGV's invention disclosures. • The ratio of the total research expenditure per invention disclosure provides a measure of the conversion of research dollars into invention disclosures, representing opportunities to develop IP. UTRGV is performing well compared to Peers and Aspirational Peers*. • However, the major measure of technology success is the number of value-add commercialization agreements (e.g. licenses) executed per invention disclosure, and UTRGV's performance is far below Peers and Aspirational Peers.   • Over time, a measure of approximately 0.3 is a typical conversion, and universities that are more strategic and aggressive in identifying and pursuing licensing opportunities able to achieve an even higher metric.
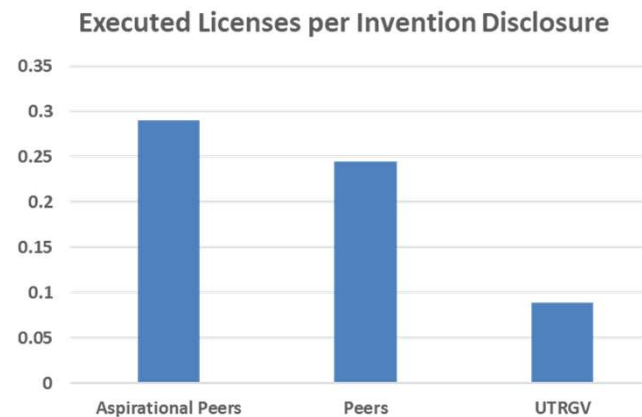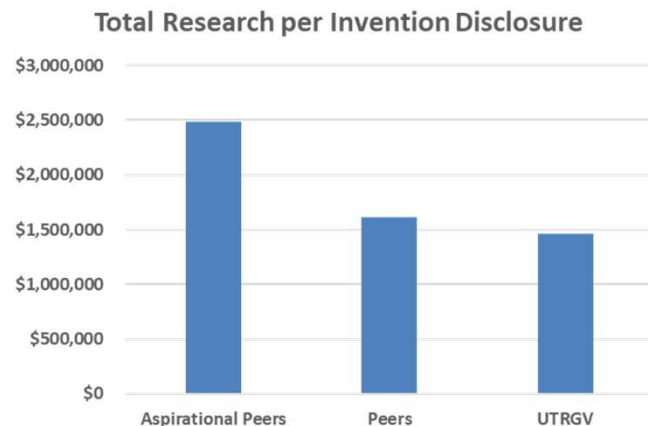
Total Research per Invention Disclosure

	Aspirational Peers	Peers	UTRGV
Value	~$2,500,000	~$1,600,000	~$1,475,000

Executed Licenses per Invention Disclosure

	Aspirational Peers	Peers	UTRGV
Value	~0.29	~0.245	~0.09

* Peer institutions were self-identified in UTRGV's University Strategic Plan.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY PARTNERSHIP & COMMERCIALIZATION

Recommendations: Strategy
3   Establish an IP Review Committee with internal and external stakeholders to review and validate IP potential prior to investing in patenting. Evaluate IP against RPAs within the Research Strategic Plan and UTRGV's potential return on investment (i.e., licensing opportunity).
4   Charge the Technology Commercialization unit with driving the commercialization process and with primary responsibility for both those services necessary for award compliance (e.g. Invention Disclosure processing) and foundational investigator service (patent and licensing). Expand Technology Commercialization's responsibilities to emphasize: • Conducting regular meetings with active research faculty and reviewing UTRGV's active research portfolio to identify, pursue and discuss innovation potential. • Evaluating disclosures to identify those with the most commercialization potential. • Proactively identifying and marketing protected inventions to potential licensees. • Evaluating potential for start-up companies. • Mitigating potential IP leakage (see Appendix D for IP Leakage Analysis).

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY PARTNERSHIP & COMMERCIALIZATION

Recommendations: Strategy
5   Focus institutional outreach by Technology Commercialization on research programs with a higher return on investment via valuable disclosures, patents and licenses.

- Medical Devices
- Drug Compositions
- TeleMedicine
- CyberSecurity
- Onshoring Manufacturing Technology

- Emerging Tech Spaces
  - Autonomous Vehicles
  - 5G Wireless
  - Internet of things (IoT)

The chart on the following page highlights those classes where other universities are filing patents (box size) against the estimated average market value (box color). Green boxes represent patent classes that have demonstrated the highest market value (generally including those classes listed above) that UTRGV should consider when making strategy decisions on how to invest resources to file patents and pursue licensing opportunities.

HURON
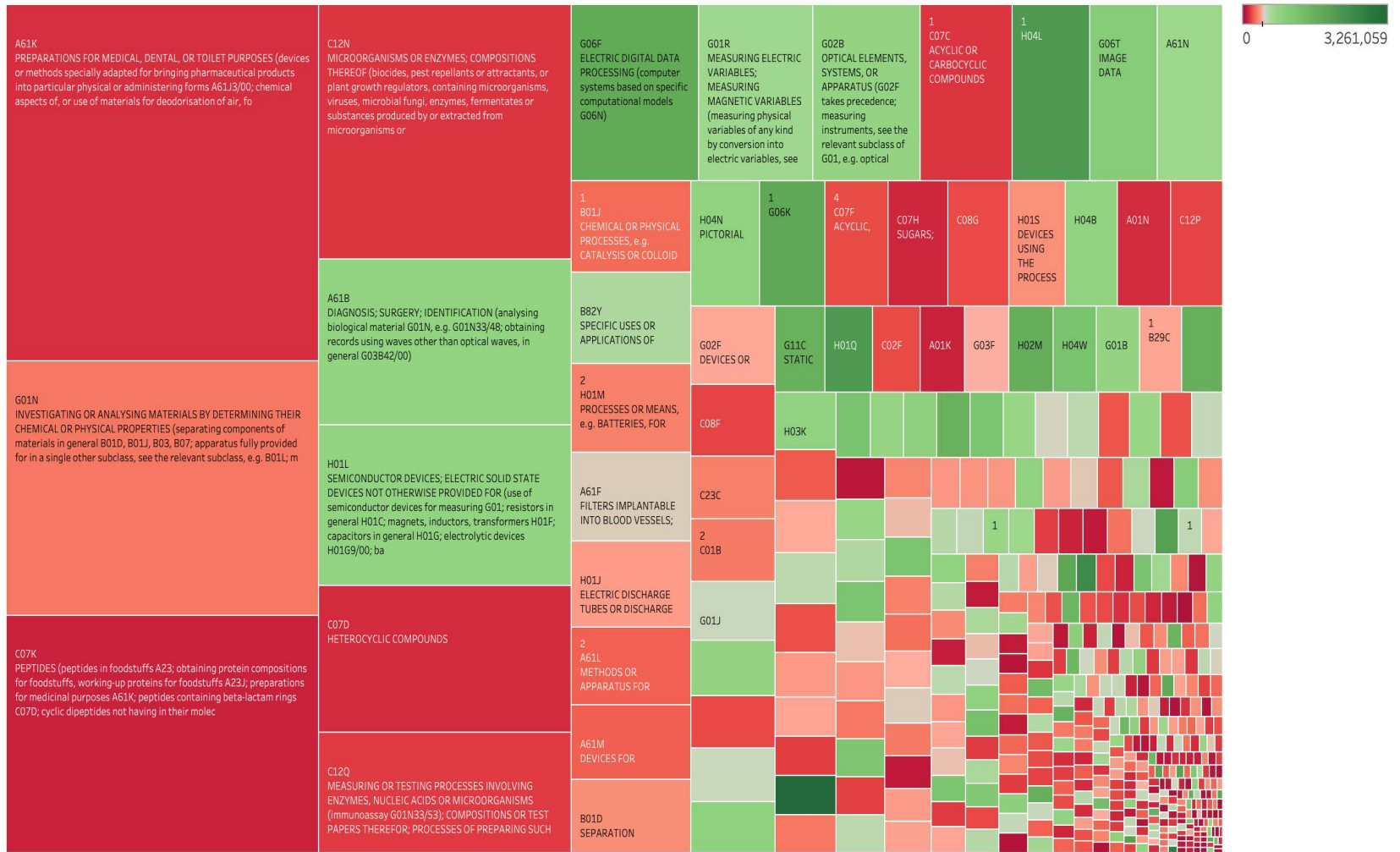
STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY PARTNERSHIP & COMMERCIALIZATION

Recommendations: Sophistication

6   Bolster institutional outreach efforts and deploy new strategies to increase the visibility of Technology Commercialization as a resource to lead investigators through the process of identifying, evaluating and pursuing intellectual property and commercialization opportunities. Position Technology Commercialization not just as the UTRGV subject matter experts in this space, but as institutional advocates and resources that directly apply their understanding and creativity to each PI's research program.
 	
 • Conduct seminars to educate faculty on commercialization approaches and opportunities, reminding them the benefit of commercialization success is shared between the individual and the University to increase interest and motivation.
     • Demonstrate the benefit and success of commercialization activities via detailed case studies to demonstrate the process and various approaches to commercialization across the life cycle from invention disclosure to patent to commercialization – including licensing, start-ups and material transfer agreements.
     • Invite speakers, including internal and external faculty inventors who have demonstrated commercialization success, as well as external experts and industry leaders to share their experiences.
 • Further educate developing researchers, including graduate students and postdoctoral researchers via informal settings that cover the same basics as the seminar series but allow added time for questions, discussion and more foundational education focused on these developing innovators.
 • Conduct commercialization "road shows" at department staff meetings to introduce the office and specifically generate follow on visits with individual faculty to review and discuss their individual portfolio of opportunities.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
INDUSTRY PARTNERSHIP & COMMERCIALIZATION

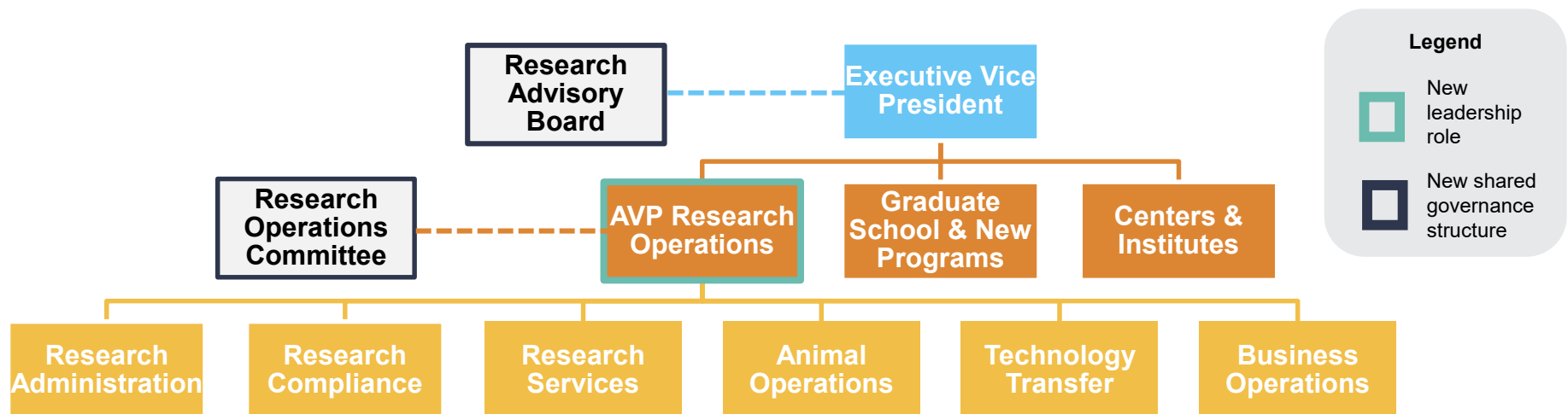| Recommendations: Sophistication |
|---|
| 7 Broadcast UTRGV research and partnership opportunities through a robust web presence that helps attract industry partners and outside research investment.
• Develop and organize the intranet pages to serve researchers, inventors, and interested stakeholders by providing access to updated policies, SOPs, forms, and agreement template(s).
• Launch an externally-facing website that publishes technologies available for licensing. |
| 8 Integrate Technology Commercialization into the earlier stages of the award lifecycle, specifically once a research award has been made. Develop processes for Technology Commercialization to review incoming awards to identify IP potential and initiate PI conversations to build knowledge about the research and potential IP. Leverage this deeper knowledge to engage with industry *during* the research phase (as opposed to after an award concludes) to help inform the creation of IP that has industry commercialization potential. |
| 9 Develop and implement processes to evaluate every invention disclosure for patent opportunities, not just based on its technical aspects and merit, but also on market application opportunities. Ensure Technology Commercialization representatives, in partnership with the inventor and IP Review Committee, strategically select the inventions for patent and align the inventions with the best patent classifications with the longest-term market value. |
| 10 For both exclusive and non-exclusive licensing agreements, negotiate clauses requiring the licensee to reimburse UTRGV for legal expenses necessary to obtain patent coverage for the licensed invention(s) in order to better manage the patent budget. |
| 11 Set and monitor performance against institutional technology transfer goals to focus on the objective of licensing and start-up activities enabled by a selective approach to patenting. |

HURON

4.2.7

LEADERSHIP

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
LEADERSHIP

Recommendations

1   Enhance the leadership structure, including roles, individuals and governance mechanisms, to provide the strategic direction, execution leadership and operational support necessary to realize and support UTRGV's planned growth.

- As the scope of this work is focused on research, this illustration depicts the details of the research portion of the EVP's scope of responsibilities. Other functions currently reporting to the EVP, including Libraries, Global Engagement and Sustainability would remain unchanged.
- Detailed recommendations on roles and responsibilities and an accompanying organizational chart for Research Operations are provided in the Support section of this report.

Legend

- New leadership role
- New shared governance structure

STRATEGY: GROWTH ENABLEMENT STRATEGIES
LEADERSHIP

Recommendations

2   Establish the EVP for Research, Graduate Studies & New Program Development (EVP-R) as the position responsible for championing the execution of UTRGV's Research Strategic Plan, including building the operational infrastructure and setting service expectations necessary to achieve accelerated growth and excellence in research.
   • Define a mission statement for the EVP-R organization outlining how the EVP-R supports the pillars of a student-centered research university, including providing:
     • **Strategic** research enablement.
     • **Support structures** that promote accountability among stakeholders and team members.
     • A **sophisticated infrastructure** that promotes efficient and compliant processes.

3   Once the EVP-R's mission statement is defined, build on this process to define the mission and focus for each office and function reporting to the EVP-R.
   • Identify core values or tenets for all operations in the EVP-R's organization that serve as the foundation for enabling the mission and pillars.
   • Set and unify the mindset of staff to embrace a culture of balance across:
     • **Compliance** with laws, regulations, and policies.
     • **Stewardship** of financial and human resources.
     • **Service** to researchers and stakeholders in support of UTRGV's service to its constituents.

4   Define institutional reporting structures for Centers and Institutes (Centers) to provide the level of oversight and direction aligned to the Center's primary purpose and programmatic focus.
   • Cross-college / school inter-disciplinary Centers and those of escalated institutional priority (such as related to RPAs) should report to the EVP-R.
   • Intra-college / school intra-disciplinary Centers should report to the college's respective Dean.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
LEADERSHIP

Recommendations

5   Establish a Research Advisory Board (RAB) to promote partnership, university buy-in, active communication, and broad coordination in executing UTRGV's Research Strategic Plan.

- Establish an Executive Committee aligned with UTRGV's current tripartite model consisting of the EVP-R, EVP for Health Affairs, EVP for Academic Affairs, EVP for Institutional Advancement, and Deputy President.
  - Appoint the EVP-R to serve as RAB and Executive Committee Chair.
  - Identify the operational team responsible for committee facilitation (e.g., developing agendas, taking minutes, etc.).
- Charge the President with appointing an additional 12-15 individuals to the full RAB representative of UTRGV's research community.
  - Include the Executive Committee, school and department leaders, faculty, and an official representative of the Faculty Senate.
  - Determine diverse membership to include representation from a variety of research backgrounds. Weight membership toward representation from RPAs in accordance with the Research Strategic Plan.
- Develop a Committee Charter that charges RAB with:
  - Advising the EVP-R and UTRGV on research strategy and direction and associated financial and programmatic decisions, such as investing in graduate programs and core facilities, identifying the need for new or revised policies and technology systems, etc.
  - Serving as ambassadors for change and fostering open communication with the research community to build a high level of engagement and trust between faculty, staff and the research infrastructure.
  - Promoting and celebrating research achievements.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
LEADERSHIP

Recommendations

6   Create an Associate Vice President (AVP) for Research Operations (AVP-R) position to support the Executive Vice President (EVP) for Research by providing operational leadership, oversight and management for all research administration functions, increasing the EVP-R's capacity to focus on programmatic strategy and research development. This position should be a full-time administrator focused on operations, as opposed to the current model of a faculty member with teaching and research loads also serving in an administrative role.
     •   Recruit for a seasoned sponsored projects administrator with broad experience across research administration (including pre-award, post-award, regulatory compliance, etc.) to effectively serve as the operations leader and UTRGV subject matter expert for research administration.
     •   Charge the AVP with ensuring Research Operations supports the strategic direction for research via effective policies and procedures based on industry leading practices, as well as building a customer service-oriented organization.

HURON

STRATEGY: GROWTH ENABLEMENT STRATEGIES
LEADERSHIP

Recommendations

7   Establish a Research Operations Committee (ROC) to execute the Institution-Wide Capabilities focus areas (administrative support and technology enablers) of the Research Strategic Plan and serve as a mechanism for communication across administrative units that impact research.
   • Appoint the AVP-R to serve as ROC Chair and identify the operational team responsible for facilitation (e.g., developing agendas, taking minutes, etc.).
   • Charge the EVP-R and AVP-R with appointing 12-15 individuals representative of administrative units impacting research. Include representatives from Research Administration, Research Compliance, Human Resources, Facilities, Supply Chain, Finance, and school and department administration.
   • Develop a Committee Charter that charges ROC with:
      • Advising the AVP-R on service needs as well as performance, policy, process and regulatory issues.
      • Ensuring transparency and communication across ROC constituencies.
      • Leveraging information systems wherever possible to improve reporting capabilities, minimize duplicative work and process redundancies, and strengthen internal controls.
   • As discussed in Mission, the initial work of ROC should be to execute on the roadmap to close gaps in infrastructure beyond research administration and policy to fully accommodate UTRGV's research mission.

HURON

5

SUPPORT

HURON

5.1

PEOPLE

HURON

SUPPORT: PEOPLE
COMPETENCIES & DEVELOPMENT

Recommendations

1   Ensure that leaders within Research Operations are prepared to execute on responsibilities and drive accountability for compliance, financial stewardship, and customer service across their respective areas. Consider the following core competencies for Executive Director / Director roles:
    • People Leadership
       • Sets and is accountable for operational standards and quality and service expectations.
       • Oversees individual team managers and oversees coordination / cohesion across teams.
       • Identifies the need for and ensures development and training opportunities for managers and staff.
       • Conducts team staff meetings to ensure consistent information dissemination and process execution.
       • Leads development efforts for internal and external (customer) training.
       • Ensures effective performance management, including appraisals, upholding productivity and quality standards, and counseling and disciplining employees.
       • Communicates effectively with all levels of staff and leadership; uses political savvy to build relationships across UTRGV.
    • Functional Expertise
       • Stays abreast of developments in research administration and applicability to UTRGV and applies expert knowledge of regulatory requirements to Research Operations.
       • Owns applicable business processes and related systems and aligns processes to systems.
       • Identifies and presents opportunities for increased efficiency to leadership.
       • Produces and monitors key performance indicators and metrics; identifies root causes for variances or downward trends and escalates to leadership as necessary.

HURON

SUPPORT: PEOPLE
COMPETENCIES & DEVELOPMENT

Recommendations
2	Ensure mid-level leadership and staff are equipped with the appropriate skills and provided with development opportunities. As a baseline for performance measurement, develop a competency model for research leaders and staff in support of a sophisticated future state research enterprise. • Conduct an initial evaluation of all current managers and staff against the competency model in order to identify areas for targeted development, level-set expectations for performance, inform salary adjustments and ensure all individuals are an adequate fit for their defined role. • Incorporate the competency model into ongoing performance reviews to maintain high performance standards and people development on an ongoing basis.
3	Set and communicate the expectation that the role of an organizational "manager" is not only the daily task manager, but also a coach and mentor to individuals reporting to them. Expand the efforts supervisors take to further build and professionally develop their staff (provide training and coaching from current leaders) to enhance professionalism and accountability throughout the AVP-R's organization.
4	Emphasize the role of performance management within the AVP-R's organization and require consistent use of this process to heighten the level of professionalism, engagement and skill across the office. Set and communicate goals for each individual and monitor and evaluate performance against these goals on a regular (quarterly) basis.
5	Provide development opportunities for research administration and research compliance leaders and staff to improve understanding of the research administration lifecycle and empower staff to engage in continuous improvement. • Training should encompass financial compliance, financial management, regulatory compliance, and core competency development. • Consider using national experts to conduct training to ensure best practices are addressed (e.g., NCURA traveling workshops, NCURA Region V or national conferences, etc.).

HURON

SUPPORT: PEOPLE COMPETENCY MODEL

EXECUTIVE
- Think Strategically
- Coach and Develop
- Provide Direction
- Influence Others

DIRECTOR
- Be Politically Savvy
- Coach and Develop
- Provide Direction

MANAGER
- Collaborate with Others
- Coach and Develop
- Possess Business Acumen

PROFESSIONAL
- Collaborate with Others
- Develop Oneself
- Think Innovatively

FOUNDATIONAL
- Listen
- Adapt
- Have Functional Expertise

Pyramid levels (top to bottom):
- Org Leaders
- Team Leaders
- People Leaders
- Team Members
- All Individuals

HURON

SUPPORT: PEOPLE COMPETENCY MODEL

	Strategic Influence	People Leadership	Functional Expertise
EVP-R	• Is accountable for overall strategic direction and customer service • Communicates externally on behalf of UTRGV	• Builds organizational talent • Ensures development of management team	• Stays abreast of developments in research administration and applicability to UTRGV • Ensures UTRGV presence in national initiatives (e.g., FDP, COGR, etc.)
AVP-R	• Partners with EVP on supporting strategic direction • Translates strategy to operational reality • Communicates internally on behalf of the research community	• Oversees Directors and coordination / cohesion across units • Creates accountability focused on continuous improvement • Ensures skills and readiness of staff and drives internal and external training plans	• Owns applicable policies, leveraging team contributions and input • Participates on internal committees on behalf of the research community • Serves as Research Operations representative to UTRGV faculty and stakeholders

HURON

SUPPORT: PEOPLE COMPETENCY MODEL

|	Collaborate with Others	Develop Oneself and Others	Functional Expertise
Directors	• Sets and is accountable for operational standards for quality and service expectations • Initiates and develops relationships across UTRGV to build effective partnerships	• Oversees individual teams and ensures consistent delivery of performance management • Leads development of internal and external trainings • Ensures performance management of staff is delivered consistently	• Owns applicable business processes, including systems • Aligns systems and processes • Serves as functional lead for systems implementations • Ensures consistent utilization of SOPs
Managers	• Is accountable for and holds teams accountable for operational standards for quality and service expectations • Interacts with all levels of internal UTRGV stakeholders and with various funding agencies / sponsors.	• Serves as a resource for team members and develops staff into subject matter experts and well-rounded professionals • Provides clear, actionable, objective feedback to team members and executes annual performance reviews and goal-setting	• Identifies and analyzes challenges and opportunities for efficiency and presents solution options to leadership • Monitors staff work product to ensure accuracy in execution • Assign and manage staff workload; assist staff with prioritizing workloads
Staff	• Is accountable for operational standards for quality and service expectations	• Pursue learning and self-development; set high standards for performance • Be willing to adapt to the needs of UTRGV stakeholders to ensure good customer service	• Understands the impact of assigned teams / workstreams on the conduct of research • Proactively approach problems with curiosity; independently and systematically address complex problems

5.2

ORGANIZATIONAL ROLES AND RESPONSIBILITIES

HURON

SUPPORT: ROLES & RESPONSIBILITIES
ORGANIZATIONAL ALIGNMENT

Recommended Organizational Role & Responsibility Alignment

1 Realign certain research operational responsibilities within UTRGV's research administration organization to optimize efficiencies, enhance coordination and promote a culture of administrative support for research. An organizational chart is provided in Appendix E.
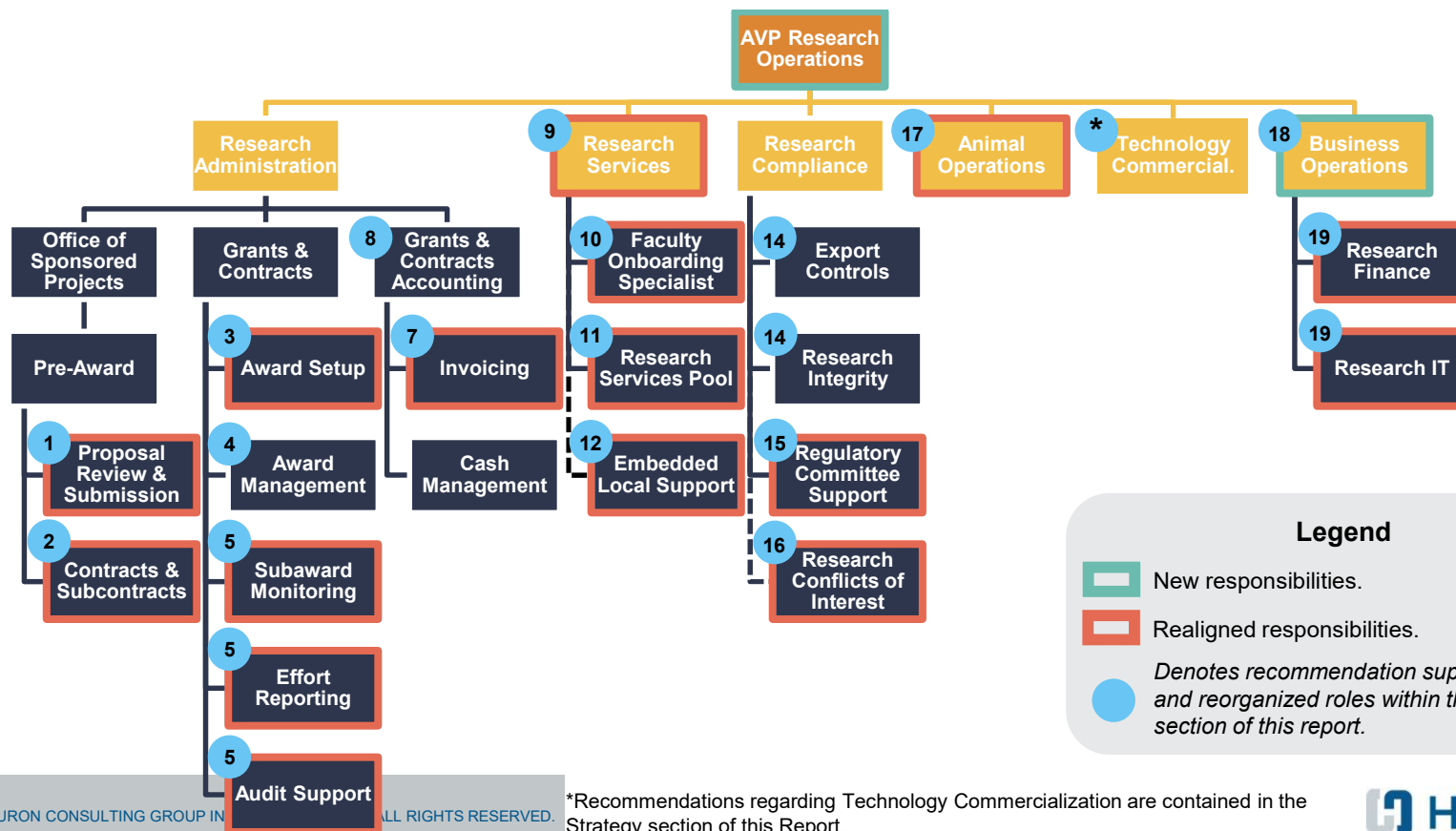
Legend

- New responsibilities.
- Realigned responsibilities.
- Denotes recommendation supporting new and reorganized roles within the Support section of this report.

*Recommendations regarding Technology Commercialization are contained in the Strategy section of this Report.

HURON

SUPPORT: ROLES & RESPONSIBILITIES
OFFICE OF SPONSORED PROJECTS

Recommendations
1   Charge the Office of Sponsored Projects (OSP) unit with proposal review and submission for all sponsored research, including private foundation and industry awards to ensure consistent application of UTRGV policies and procedures, allow staff to specialize in proposal review and eliminate processing redundancies.   • Continue to leverage Institutional Advancement (IA) to cultivate relationships with organizations that fund research and identify proposal opportunities aligned with UTRGV's mission and individual faculty research agendas.

2   Segregate OSP team members into proposal administrators and contract administrators to better focus staff skill sets within these two distinct pre-award functions.
     • Proposal administrators are responsible for proposal review and submission of grant applications.
     • Contracts administrators are primarily responsible for negotiation and execution of research contracts, including clinical trials, lab service agreements and non-funded agreements (confidential disclosure, material transfer, data use).
     • Dedicate clinical research contract specialists to the SOM.

HURON

SUPPORT: ROLES & RESPONSIBILITIES
GRANTS & CONTRACTS

Recommendations
3   Consolidate segmented award setup activities across OSP, Grants & Contracts (G&C), Grants & Contracts Accounting (GCA), and Finance into a dedicated Award Setup team responsible for review and acceptance of Notices of Awards, coordinating compliance checks (e.g., IRB approval, COI approval, etc.), and full setup of speedtypes in PeopleSoft.
4   Maintain the existing Award Management team dedicated to award oversight responsibilities focused on institutional compliance and financial stewardship, including tasks such as direct charge and cost transfer review, prior approval and sponsor communication, and financial reconciliation and reporting.   - Enable customer service, as well as compliance and stewardship, via a single point of contact providing holistic award monitoring and oversight.   - Align budget and expenditure reconciliations under G&C Award Managers, as these activities support comprehensive award oversight, requiring direct knowledge of the award and a high degree of coordination with the PI.   - Complete budget and expenditure reconciliation, specifically including: - High-level allowability and allocability review.   - Award budget management.   - Monitoring of other financial award requirements, such as program income.   - Identification of any necessary corrective actions, such as required cost transfers.   - Coordinate correcting journal entries with Research Services to resolve issues identified during reconciliation.   - Research Services should be responsible for processing cost transfers (e.g., addressing overdrafts or unallowable charges).   - G&C should be responsible for processing other correcting journal entries (e.g., indirect cost true-ups, etc.).

HURON

SUPPORT: ROLES & RESPONSIBILITIES
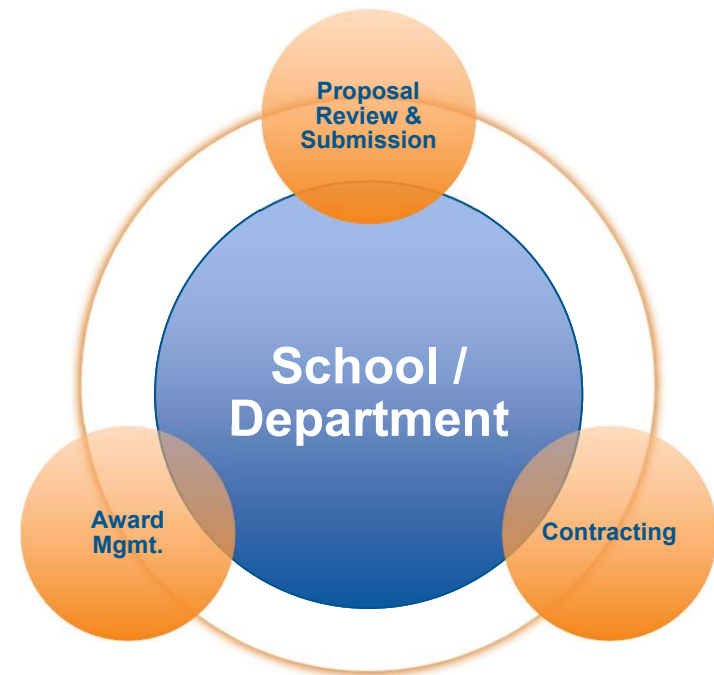## GRANTS & CONTRACTS

Recommendations

5   In addition to the existing Award Management team, create a new dedicated role for institution-level post-award compliance activities under G&C, including subaward monitoring, effort reporting, and audit support.
     • Creating a dedicated position ensures that significant operational compliance activities are completed without diverting resources / attention from on-going award oversight activities (assigned to the Award Management team).
     • Subaward monitoring should include conducting annual subaward risk assessments and coordinating appropriate subaward terms with the OSP Contract team, the FFATA reporting process, coordinating debarment checks, and obtaining subawardee audit reports.
     • Effort reporting should include coordinating the effort certification process across UTRGV, monitoring certified effort against Institutional Base Salary payroll and ensuring resolution of variances, and providing training to faculty and staff on effort certification regulations and procedures.
     • Audit support should include managing compliance audits, obtaining and QAing supporting documentation, and supporting management in developing responses to questions and formal reports.
     • This role can also include conducting monthly QA monitoring of award setup and post-award activities.

HURON

SUPPORT: ROLES & RESPONSIBILITIES
OSP & G&C

Recommendations
6   Within OSP and G&C, maintain the alignment of staff responsible for certain high-touch activities to specific departments to provide single points of contact to faculty and their administrators, enabling effective communication and customer service, as well as a more comprehensive view of compliance and financial stewardship activities.

Identifies activities requiring a high degree of coordination lending to portfolio-based alignment.

HURON

SUPPORT: ROLES & RESPONSIBILITIES
GRANTS & CONTRACTS ACCOUNTING

Recommendations

7   Transition invoicing responsibilities from G&C to GCA. As a high-volume, low-touch transactional task, dedicating resources to this function will lead to high throughput and timely invoices that can ultimately positive impact UTRGV cash flow.
    • This mitigates financial risk associated with untimely revenue recognition and noncompliance with award invoicing terms.
    • Aligning this function under GCA, along with cash management, will enable coordination and information sharing between these two highly related functions.
    • In addition, charge GCA with preparation of the quarterly Federal Cash Transaction Report (FCTR or 272).

8   Maintain "ledger maintenance" financial reconciliation under GCA as these elements are necessary for accurate institutional accounting and do not require direct interaction with faculty or departments.
    • Financial ledger reconciliation should include:
        • Revenue and deferred revenue (billed/unearned) reconciliation.
        • Billed and unbilled receivable (earned/unbilled and GL to detail) reconciliation.
        • Grants Module and General Ledger reconciliation.
        • Indirect cost reconciliation.
    • Allow GCA to process correcting journal entries to resolve issues identified during reconciliation.

HURON

SUPPORT: ROLES & RESPONSIBILITIES
RESEARCH SERVICES

Recommendations

9   Create a Research Services function to provide dedicated transactional support to research faculty via a central service delivery pool, minimizing compliance risk associated with untrained personnel supporting faculty or faculty providing their own support for administrative activities.
     • Establish a Director-level role responsible for team oversight to ensure attention is paid to traditional department research administration activities.
     • Realign existing positions within Research Administration to Research Services (see Staffing Analysis).
     • Charge Research Services with assisting faculty with:
         • Proposal and budget development.
         • Biosketch, CV, and Other Support / Current & Pending document maintenance.
         • Sponsored project purchasing and cost transfer assistance.
         • Sponsored project labor distributions and payroll planning.
         • Effort commitment management and monitoring assistance.
         • Grant budget and financial status monitoring.
         • Account reconciliation.
         • Progress and financial report preparation assistance.

HURON

SUPPORT: ROLES & RESPONSIBILITIES
RESEARCH SERVICES

Recommendations

10   Provide dedicated support to research faculty newly hired into UTRGV by creating a Faculty Onboarding Specialist role within Research Services to alleviate significant concerns about logistical difficulties impacting new faculty startup.
    • Charge the Faculty Onboarding Specialist with assisting research faculty with:
        • Initial research staff and student hiring.
        • Office and lab space allocation and readiness.
        • Coordinating transfer of existing research with applicable central offices (e.g., research administration, research compliance, etc.).
    • Consider a dotted line reporting relationship to Faculty Recruitment personnel embedded in schools or departments.

HURON

SUPPORT: ROLES & RESPONSIBILITIES
RESEARCH SERVICES

Recommendations

11   Assign Research Services team members to faculty based on a department constituency model to build relationships, portfolio familiarity, and trust between faculty members and Research Services specialists.
    • Promote team member specialization of portfolios and sponsors common to a given UTRGV department to provide enhanced service and efficiency and minimize compliance risk (e.g., specialists for departments that receive primarily National Science Foundation funding, departments that receive primarily Department of Education funding, etc.).
    • Consider physically locating Research Services personnel on campus to maximize relationship-building and ensure faculty can easily access support.

12   Continue to allow individual schools or departments to provide their own faculty-focused research administration support for faculty but enhance oversight for these distributed positions.
    • Establish a dotted line reporting relationship to the Director of Research Services to ensure consistent application of policies and procedures across UTRGV and maximize compliance.
    • Mandate a certain level of research administration support for faculty (either via Research Services or embedded personnel) based on research volume to maintain consistency of support and service.

HURON

SUPPORT: ROLES & RESPONSIBILITIES
RESEARCH SERVICES

Recommendations

13   Develop a standard threshold to determine when additional PI-focused support staff are needed as either embedded support within a department or school or as part of the Research Services Team.
      • Common industry benchmarks indicate one FTE for every $11 million in sponsored research expenditures <u>or</u> 80 proposals.
      • To account for UTRGV's current manual processes and desire to focus investments in research to promote growth, phase in this threshold on the following schedule.

	Current – $49M	$50M – $74M	$75M +
Research Priority Areas: Volumes per 1 FTE	50% of Benchmark • $6 million in sponsored research expenditures • 40 proposals	75% of Benchmark • $8 million in sponsored research expenditures • 60 proposals	100% of Benchmark • $11 million in sponsored research expenditures • 80 proposals
Other Departments and Programs: Volumes per 1 FTE	75% of Benchmark • $8 million in sponsored research expenditures • 60 proposals	100% of Benchmark • $11 million in sponsored research expenditures • 80 proposals	

HURON

SUPPORT: ROLES & RESPONSIBILITIES
RESEARCH COMPLIANCE & ANIMAL OPERATIONS

Recommendations
14 Continue to assign the Executive Director of Research Compliance the roles of the Research Integrity Officer and Export Control Officer.
15 Delineate research regulatory oversight staff with specialized responsibilities by regulatory area (IRB, IACUC, and IBC) operations to narrow staff focus and build skill sets and in-depth knowledge in a specific area, as opposed to broad knowledge across all areas. Maintain a baseline level of broad knowledge and cross-training to backup staff and provide cross-coverage.
16 Charge the Institutional Compliance Office (ICO) with responsibility to manage and oversee research conflicts of interest (COI) to minimize handoffs and workflow routing, incorporating a dotted line to Research Compliance for support and coordination.
17 Realign Animal Operations from reporting through Research Compliance to directly report to the AVP-R to preserve the independence and oversight of Research Compliance and IACUC committee functions.

HURON

SUPPORT: ROLES & RESPONSIBILITIES
BUSINESS OPERATIONS

Recommendations

18   Establish a new function (unit) to provide finance and business support to Research Operations and across UTRGV's research enterprise.
     • Charge Business Operations with responsibility to:
        • Develop and monitor the AVP-R operating budgets.
        • Prepare and analyze institutional reports to monitor sponsored research funding, expenditure and revenue trends, including those success measures within the Research Strategic Plan.
        • Prepare financial and other reports required by regulation (e.g., NSF HERD Survey, THECB Survey of Research Expenditures, NIH BRDPI Survey, etc.).
        • Support the preparation of indirect cost proposals, conduct space surveys and administer indirect cost recovery funds.
        • Provide financial monitoring activities for core facilities and service centers.
     • Elevate the existing Financial Analyst role reporting through Research Administration to a Director of Business Operations to ensure appropriate oversight and attention is paid to monitoring and managing UTRGV's financial investment in research.
     • Realign the existing Accountant I position reporting through Research Administration under Business Operations to consolidate and coordinate the full scope of these services.

19   Realign the existing Technology Support Specialist reporting through Research Administration to report under Business Operations and continue providing dedicated "Tier 1" business systems support for research IT applications.
     • Charge Research IT with administering enabling technologies, including managing the design, implementation, and deployment of research technology systems across AVP-R units in order to avoid requiring time from functional unit representatives.
     • Research IT should have a collaborative relationship with the broader IT function at UTRGV, which retains responsibility for providing Tier 2 and technical support for all IT functions.

HURON

SUPPORT: ROLES & RESPONSIBILITIES
ORGANIZATIONAL ROLES & RESPONSIBILITIES

Recommendations

20   Based on the recommendations within this section, develop and publish a formal research administration Roles and Responsibilities matrix that documents the future-state accountability of each unit under the AVP-R and other operations teams that support research, such as Institutional Advancement, Compliance, Procurement, Facilities, and school and department administration.
 	
     • Publish the Matrix on the intranet so it is readily available to the UTRGV research community.
     • Ensure contact information is also available to faculty members and school and department administrators.

UTRGV

	Roles & Responsibilities							
	Central Offices					Department	Assurance Functions	
Description	Research Admin: OSP	Research Admin: G&C	Research Admin: GCA	Finance	Institutional Advancement	Departments / Research Services	Research Compliance	Legal
Proposal Preparation & Submission and Just-In-Time								
Identification of Funding Opportunities					P	P		
Proposal Classification (Gift vs. Grant)	S	P		P	S			
Other Support / Current & Pending						P		
Budget Preparation	S					P		

Legend	
P: Primary	
S: Secondary	

HURON

5.3

ORGANIZATIONAL STAFFING

HURON

SUPPORT: ORGANIZATIONAL STAFFING
CURRENT FTE ALIGNMENT

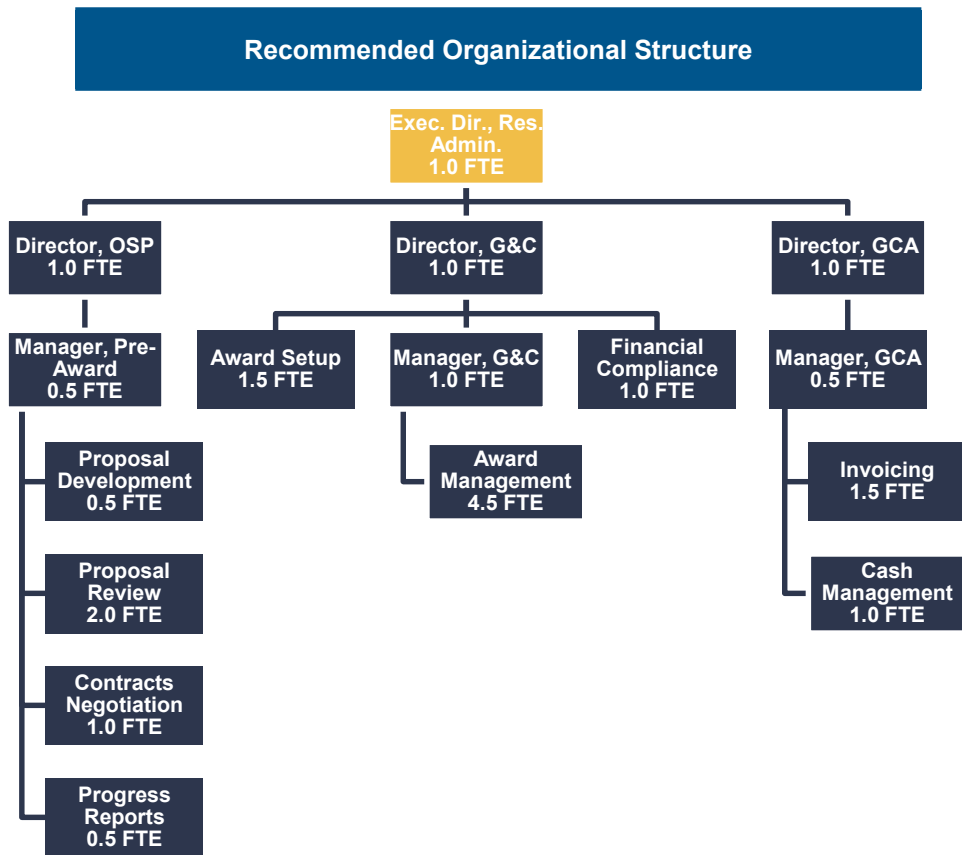| Recommendations |
|---|
| 1 Based on the recommended alignment of operational roles and responsibilities defined in the previous section, review the organizational design (team structure, management positions and staffing levels) for each AVP-R reporting unit.

    • This model assumes 1 current FTE for Research Services in the existing Accountant III role reporting to the Executive Director, Research Administration. Anecdotally, we are aware there is departmental support provided at various levels throughout UTRGV, particularly within the School of Medicine. Because these duties are spread across multiple roles and generally not associated with an FTE count, Huron assumed 0 FTE support for the purposes of calculating future state needs.

    • **Prior to posting new Research Services positions, UTRGV should evaluate existing departmental support and confirm the need to create new positions to achieve target service levels.** |

Operational Area	Current FTE Count	Recommended Current FTE Count	Staffing Level +/-
AVP, Research Operations	-	1.0	+1.0
Research Administration	28.7	19.5	-9.2
Research Services	1.0	16.0	+15.0
Research Compliance	4.0	5.0	+1.0
Animal Operations*	1.0	1.0	-
Technology Commercialization	4.0	4.0	-
Business Operations	3.0	3.0	-
Total	**41.7**	**49.5**	**+7.8**

*The 1.0 FTE represented is the Director. Huron did not conduct a detailed review of Animal Operations staffing. Appropriate staffing levels are highly dependent on animal census.

HURON

SUPPORT: ORGANIZATIONAL STAFFING
RESEARCH ADMINISTRATION

Recommended Organizational Structure

Role	Current FTE Count*	Rec'd FTE Count	Staffing Level +/-
Exec. Dir., Res. Admin.	1.0	1.0	-
Director, OSP	1.0	1.0	-
Manager, OSP	0.1	0.5	+0.4
Staff, OSP	9.4	4.0	-3.9
Director, G&C	1.0	1.0	-
Manager, G&C	1.0	1.0	-
Staff, G&C	8.7	7.0	-3.2
Director, GCA	1.0	1.0	-
Manager, GCA	0.8	0.5	-0.3
Staff, GCA	4.7	2.5	-2.2
Total	**28.7**	**19.5**	**-9.2**

*Current FTE count is based on UTRGV's self-reported RADIUS data by function. For comparison purposes, Huron grouped functions based on recommended realignment of roles and responsibilities as opposed to FTE counts by current unit (e.g., invoicing FTE is represented in GCA staff as opposed to G&C staff).

HURON

SUPPORT: ORGANIZATIONAL STAFFING
RESEARCH ADMINISTRATION

Huron leveraged the RADIUS Benchmarking Survey to report on staffing and productivity metrics within the scope of institutional-level Pre-Award and Post-Award activities. RADIUS contains data from more than 80 research institutions with a broad range of research volumes and portfolios.

Metrics included in this report show UTRGV's standing against:

- Averages of UTRGV's Cohort of institutions, defined as institutions with research volumes comparable to UTRGV's current state ($25-50 million in research expenditures).
- Quartile benchmarks and average for all RADIUS participants.
- Detailed metrics of FTE by functional task (e.g., proposal review, cash management, etc.) are provided in Appendix F.

Staffing Benchmarks

RADIUS benchmarks generally suggest UTRGV has **more staff per central research administration function than its Cohort**. This data should be considered in light of:

- The relative **lack of local-level (department of school-based) research administration support**, increasing the burden on central offices, and
- UTRGV's **reliance on manual processes**.

Salary Benchmarks

UTRGV's research administrators **earn 70-80%** of the RADIUS participant average, and UTRGV self-reported **41% turnover** in research administration. This data should be considered in light of:

- The **relative sophistication** of UTRGV's research enterprise, and
- The Brownsville-Harlingen Metropolitan Statistical Area's **relatively low cost of living**.

HURON

SUPPORT: ORGANIZATIONAL STAFFING
RESEARCH ADMINISTRATION

Research Administration Staffing Metrics: FTE / Transaction Volume

- The RADIUS benchmarks illustrate the relatively low number of pre-award transactions per UTRGV FTE for specific functions within the Office of Sponsored Projects' scope of responsibilities.

Staffing Metric	UTRGV	UTRGV Cohort Average	All Participant Average	All RADIUS Participant Spectrum		
				1st Quartile	Median	3rd Quartile
Proposals / Proposal Review FTE	73	157	313	165	285	407
Contracts / Contracting FTE	529	276	266	95	260	379
New Setups / Award Setup FTE	54	304	430	233	373	558
Accounts / Post-Award FTE	29	73	142	87	112	161
Expenditures ($M) / Post-Award FTE	$1.2	$5.1	$12.2	$6.9	$9.7	$15.1

◆ Represents UTRGV's placement on the "All RADIUS" spectrum for each metric.

HURON

SUPPORT: ORGANIZATIONAL STAFFING
RESEARCH ADMINISTRATION

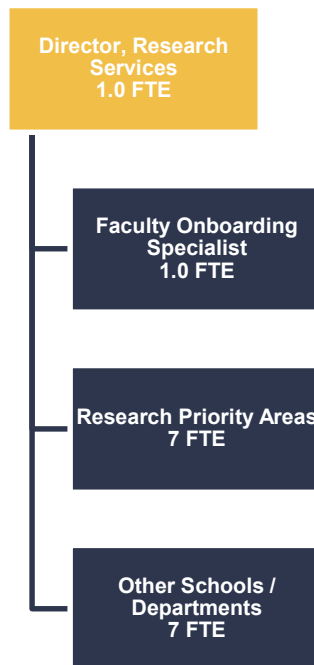**Research Administration Staffing Metrics: Salary by Position Level**

- The metrics below from RADIUS illustrate the average salary by position for central research administration.

Functional Area	UTRGV	UTRGV Cohort Average	All Participant Average	All RADIUS Participant Spectrum		
				1st Quartile	Median	3rd Quartile
Pre-Award Director	$89,094	$132,547	$129,006	$110,920	$121,992	$150,490
Pre-Award Manager	$59,046	$80,534	$77,671	$70,069	$84,950	$100,855
Pre-Award Staff	$50,648	$54,582	$60,661	$50,000	$58,537	$68,000
Post-Award Director	$84,500	$99,875	$115,766	$87,559	$113,000	$130,000
Post-Award Manager	$60,507	$91,693	$80,136	$67,268	$84,040	$90,764
Post-Award Staff	$42,284	$63,583	$57,634	$49,150	$56,755	$65,036

HURON

SUPPORT: ORGANIZATIONAL STAFFING
RESEARCH SERVICES

Recommended Organizational Structure

Director, Research Services
1.0 FTE

Faculty Onboarding Specialist
1.0 FTE

Research Priority Areas
7 FTE

Other Schools / Departments
7 FTE

Role	Current FTE Count**	Rec'd FTE Count	Staffing Level +/-
Director, Research Services	-	1.0	+1.0
Faculty Onboarding Specialist*	-	1.0	+1.0
Research Priority Area Specialists	-	7.0	+7.0
Other Schools / Departments Specialists	1.0	7.0	+6.0
Total	**1.0**	**16.0**	**+15.0**

*Currently staffed as an Accountant III reporting to the Executive Director, Research Administration.
**There is departmental support provided at various levels throughout UTRGV; given the distributed and largely unsophisticated nature of existing support, particularly outside of the School of Medicine, Huron assumed 0 FTE support for the purposes of calculating future state needs. Prior to posting new positions, UTRGV should evaluate existing departmental support and confirm the need to create new positions.

HURON

SUPPORT: ORGANIZATIONAL STAFFING
RESEARCH SERVICES

As discussed previously, Huron recommends providing targeted support to Research Priority Area (RPA) departments and increasing staffing levels over time to meet industry benchmarks. Huron reviewed FY19 proposal and expenditure data to identify initial recommended staffing levels (note that FY20 data was used for Immunology).

Huron made the following assumptions to inform recommended RPA Department and Other Department staffing levels.
- UTRGV will be awarded 20% of proposals it submits (e.g., to achieve $75M in sponsored expenditures, $375M in proposals will be submitted).
- Initially, RPA Departments will constitute 60% of UTRGV's proposal submission and sponsored expenditures volume.

RPA Staffing

Initially assign Research Services specialists to the following schools and colleges:
- **College of Engineering** (Computer Science & Mechanical Engineering): 1 FTE
- **College of Sciences** (Biology, Chemistry, Physics & Astronomy, SEEMS): 3 FTE
- **School of Medicine** (Human Genetics, Immunology, Internal Medicine, Neuroscience): 3 FTE

Other Department Staffing

Initially assign Research Services specialists to the following non-RPA schools and colleges:
- **College of Engineering:** 1 FTE
- **College of Sciences:** 1 FTE
- **School of Medicine:** 1 FTE
- **College of Health Professions & School of Nursing:** 0.5 FTE
- **College of Liberal Arts:** 0.5 FTE
- **Colleges of Education, Fine Arts, Business, School of Social Work, & Other:** 3 FTE

HURON

SUPPORT: ORGANIZATIONAL STAFFING
RESEARCH COMPLIANCE

Recommended Organizational Structure

Executive Director, Research Compliance 1.0 FTE

IRB Specialist 3.0 FTE

IACUC / IBC Specialist 1.0 FTE
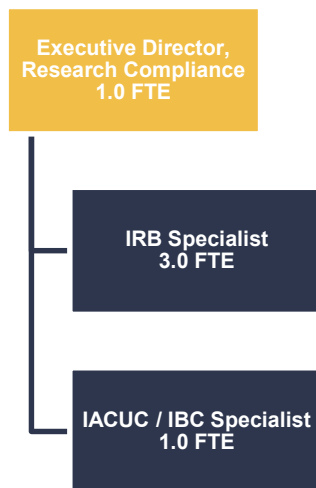
Role	Current FTE Count	Rec'd FTE Count	Staffing Level +/-
Executive Director, Research Compliance	1.0	1.0	-
IRB Specialist	3.0*	3.0	+1.0
IACUC / IBC Specialist	3.0*	1.0	-
Total	**4.0**	**5.0**	**+1.0**

*Current FTE count is based on UTRGV's self-reported RADIUS data by function. For comparison purposes, Huron grouped functions based on recommended realignment of roles and responsibilities as opposed to current FTE counts by unit (e.g., invoicing FTE is represented in GCA staff as opposed to G&C staff).

HURON

SUPPORT: ORGANIZATIONAL STAFFING
RESEARCH COMPLIANCE

Human Subject Protections:

Huron leveraged published reports of the Association for the Accreditation of Human Research Protection Programs (AAHRPP) that is collected from annual reports and new applications from AAHRPP current clients.

- UTRGV is benchmarked against institutions with 1-500 and 501-1000 active protocols.

Animal Subject Protections:

Huron leveraged metrics published in the Public Responsibility in Medicine and Research (PRIM&R) as the results of the 2015 IACUC Workload and Salary Survey.

- UTRGV is benchmarked against institutions with 1-25 annual new protocols.

HRPP and IACUC Benchmarks

AAHRPP and PRIM&R benchmarks generally suggest UTRGV is **understaffed for IRB functions** and has more staff per protocol for IACUC functions. This data should be considered in light of:

- **Staff sharing responsibilities** for supporting all research regulatory oversight functions (i.e., IRB, IACUC, and IBC).

COI Benchmarks

UTRGV receives approximately 300 – 350 disclosures of outside interests annually (excluding individuals who only acknowledge the COI Policy and confirm they have no interests to report).

Data collected from previous Huron engagements suggest that **one FTE is needed for every 1,000 disclosures** received. Huron did not review ICO staffing; 0.5 FTE is likely needed to manage UTRGV's disclosure volumes.

HURON

SUPPORT: ORGANIZATIONAL STAFFING
RESEARCH COMPLIANCE

Human Subjects Protection Administration Staffing Metrics

- The metrics below are published by AAHRPP and illustrate the median responses from institutions in each cohort.

	UTRGV IRB	AAHRPP Benchmark (*Median for institutions with 1-500 active protocols*)	AAHRPP Benchmark (*Median for institutions with 501-1,000 active protocols*)
Active Protocol Count	412 (FY19)	297	806
Number of Staff	3.0*	3.0	5.0
Median Protocols per FTE	204	113	161
Median $ Budgeted for the IRB	-	$191,086	$304,150

*Research Compliance staff currently share responsibilities for supporting the IRB, IACUC, and IBC.

HURON

SUPPORT: ORGANIZATIONAL STAFFING
RESEARCH COMPLIANCE

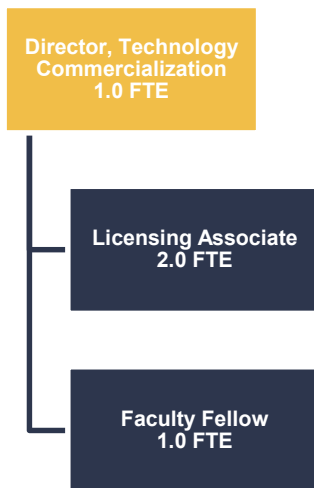| Animal Subjects Protection Administration Staffing Metrics		

- The metrics below were published by PRIM&R in its 2015 survey and illustrate the percentage of respondents with protocol volumes similar to UTRGV. The survey had approximately 230 respondents.

	UTRGV IACUC	% respondents with similar protocol volumes to UTRGV**
Number of FTE assigned to the IACUC(s)	3.0*	48% *(1-2 FTE)*
Approximate number of new protocols received in the last 12 months	19	34% *(1-25 new protocols)*
Approximate number of triennial reviews conducted in the last 12 months	13	37% *(1-25 triennial reviews)*

*Research Compliance staff currently share responsibilities for supporting the IRB, IACUC, and IBC.
**The percentage of respondents with similar protocol volumes to UTRGV is also the median of all PRIM&R survey respondents.

HURON

SUPPORT: ORGANIZATIONAL STAFFING
TECHNOLOGY COMMERCIALIZATION

Recommended Organizational Structure

```
Director, Technology
Commercialization
1.0 FTE
    │
    ├── Licensing Associate
    │   2.0 FTE
    │
    └── Faculty Fellow
        1.0 FTE
```

Role	Current FTE Count	Rec'd FTE Count	Staffing Level +/-
Director, Technology Commercialization	1.0	1.0	-
Licensing Associate	2.0	2.0	-
Faculty Fellow	1.0	1.0	-
Total	**4.0**	**4.0**	-

HURON

SUPPORT: ORGANIZATIONAL STAFFING
TECHNOLOGY COMMERCIALIZATION

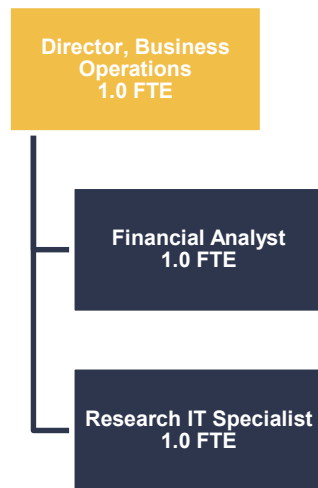| Technology Commercialization Staffing Metrics |
|---|

- UTRGV has a less volume of research expenditures per FTE relative to Peers as well as Aspirational Peers*, suggesting the University has adequate staffing coverage for its research enterprise and the existing staffing levels should be sufficient even as the research volume increases.
- UTRGV also has a lower level of invention disclosures per FTE, suggesting the Technology Commercialization staff have a manageable workload.
  - In our experience, workload volumes of 30 invention disclosures (or less) per FTE indicate a sufficient number of professionals in the office to manage new cases along with their other activities.
  - UTRGV's staffing levels also suggest that the existing staff within Technology Commercialization could provide added services and support to UTRGV's research base.

	UTRGV	Peers	Aspirational Peers
Total Research per FTE	$17.3M	$21.4M	$57.9M
Invention Disclosures per FTE	8	14.0	23.9

* Peer and Aspirational Peer institutions were self-identified in UTRGV's University Strategic Plan.

HURON

SUPPORT: ORGANIZATIONAL STAFFING
BUSINESS OPERATIONS

Recommended Organizational Structure

```
        ┌─────────────────────┐
        │ Director, Business  │
        │     Operations      │
        │       1.0 FTE       │
        └──────────┬──────────┘
                   │
          ┌────────┴────────┐
          │                 │
   ┌──────┴──────┐   ┌──────┴───────────┐
   │  Financial  │   │ Research IT      │
   │   Analyst   │   │ Specialist       │
   │   1.0 FTE   │   │   1.0 FTE        │
   └─────────────┘   └──────────────────┘
```

Role	Current FTE Count	Rec'd FTE Count	Staffing Level +/-
Director, Business Operations*	1.0	1.0	-
Financial Analyst**	1.0	1.0	-
Research IT Specialist***	1.0	1.0	-
Total	**3.0**	**3.0**	**-**

*Currently staffed as a Financial Analyst.
**Currently staffed as an Accountant I.
***Currently staffed as a Technology Support Specialist III.
Each of these roles currently reports to the Executive Director, Research Administration.

Business Operations Staffing Metrics

- In order to manage the planning financial investment in research and fulfill those responsibilities aligned to Business Operations in the future-state, UTRGV should dedicate FTEs to support this new function. Though formal benchmarks are not available for these functions, Huron recommends the staffing targets above based on our industry experience.
- Based on Huron's experience, dedicated research IT support is typically warranted at $50 million in sponsored expenditures to ensure Research Operations establishes efficiencies through technology.

HURON

SUPPORT: ORGANIZATIONAL STAFFING
STAFFING AND GROWTH

Planned Growth:

In addition to benchmarking, Huron used RADIUS, AAHRPP, and PRIM&R data to inform future state staffing requirements based on UTRGV's planned research portfolio growth. Huron made the following assumptions to inform this staffing model, as well as the resulting financial model:

- Existing Research Administration staff will be realigned to begin providing PI-focused (Research Services) support to research faculty.
- All staff will undergo a competency assessment.
- All staff will be trained on regulations, roles and responsibilities, and processes, and will achieve satisfactory performance levels.
- A more sophisticated systems infrastructure will reduce reliance on manual processes before reaching $75 million in sponsored expenditures.

HURON

SUPPORT: ORGANIZATIONAL STAFFING
STAFFING AND GROWTH

Recommendations

2   Prepare to address research program growth by planning for personnel increases aligned with an increase in research expenditures.
    • This model assumes 1 current FTE for Research Services in the existing Accountant III role reporting to the Executive Director, Research Administration. Anecdotally, we are aware there is departmental support provided at various levels throughout UTRGV, particularly within the School of Medicine. Because these duties are spread across multiple roles and generally not associated with an FTE count, Huron assumed 0 FTE support for the purposes of calculating future state needs.
    • **Prior to posting new Research Services positions, UTRGV should evaluate existing departmental support and confirm the need to create new positions to achieve target service levels.**

Operational Area	Recommended Current thru $50M	$75M	$100M
AVP, Research Operations	1.0	1.0	1.0
Research Administration	19.5	22.0	24.5
Research Services	16.0	17.0	18.5
Research Compliance	5.0	6.0	9.0
Animal Operations*	1.0	1.0	1.0
Technology Transfer	4.0	4.0	5.0
Business Operations	3.0	3.0	3.0
Total	**49.5**	**54.0**	**62.0**

*The 1.0 FTE represented is the Director. Huron did not conduct a detailed review of Animal Operations staffing. Appropriate staffing levels are highly dependent on animal census.

HURON

6

SOPHISTICATION

HURON

6.1

BUSINESS PROCESSES

HURON

7.1.1

BUSINESS PROCESSES: OFFICE OF SPONSORED PROJECTS

HURON

SOPHISTICATION: PROCESSES
PROPOSAL REVIEW & SUBMISSION

Recommendations
1   Codify UTRGV's existing OSP Handbook in a formal Proposal Review & Submission Policy defining the required levels and thresholds for review and approval for proposal submissions, including the specific focus and intent of each required approval.   • Define the authorities and responsibilities for approving proposal submissions based on the authority and accountability of UTRGV leadership (e.g. cost share commitments require approval by the entity making the financial commitment).

2   Adopt a tiered proposal review process to ensure that all proposals are submitted regardless of when they are submitted to OSP for review, while encouraging early submission by faculty.
      • RADIUS data indicates that only 10% of UTRGV's proposals are currently received 5 days prior to agency deadlines; this can place added stress on the OSP organization to conduct a detailed review with limited amounts of time and competing priorities prior to the sponsor deadline.
      • Proposals submitted without thorough review have a higher likelihood of being rejected for noncompliance with agency requirements, a risk that negatively impacts the PI as well as the University.
      • An example of tiered review standards include:
         • Proposals received 5 days in advance of the agency deadline receive the full benefit of central office review.
         • Proposals received between 2 – 5 days prior to the agency deadline receive limited central office review.
         • Proposals received between 0 – 2 days prior to the agency deadline receive minimal central office review.

HURON

SOPHISTICATION: PROCESSES
PROPOSAL REVIEW & SUBMISSION

Recommendations

3   Develop a consistent, institution-wide process to manage limited submission proposals, including clear responsibilities for the EVP-R and RAB to serve as a selection committee, to replace the existing practice of relying on school and department leadership alone to select proposals for limited submission funding opportunities.
    • Require an "intent to submit" pre-proposal for interested researchers well in advance of agency deadlines so applications can be vetted prior to interested investigators completing a full proposal.
    • Establish review criteria aligned with strategic goals, considering scientific merit and likelihood of success.

4   Evaluate and update UTRGV's guidance and procedures for proposal budget development and review so that proposal budgets incorporate all allowable costs required for the proposed research, maximize financial recovery and maintain compliance with federal cost principles.
    • Develop a standard UTRGV budget template to facilitate the budget development process and automatically incorporate UTRGV policy and common sponsor requirements (e.g., indirect cost rates, fringe rates, etc.).
    • Ensure that Modified Total Direct Cost exclusions (e.g., administrative support salaries, tuition, etc.) are excluded from this template and are a focus of OSP budget review procedures.

HURON

SOPHISTICATION: PROCESSES
CONTRACTING

Recommendations

5   Empower contract administrators to conduct contract negotiations with involvement from other offices only as needed.
     • Escalate contract negotiations to the Office of Technology Commercialization (OTC) and the Office of General Counsel (OGC) for expert assistance only when problematic or non-standard terms cannot be negotiated with the funding agency. By the pre-award contracting team.
     • Develop a library of intellectual property (IP), confidentiality, indemnification, publication, and other common research contract terms in collaboration with Office of Technology Commercialization (OTC) and the Office of General Counsel (OGC) so the contracting team can negotiate a majority of contracts and only escalates to OTC and/or OGC when reaching a stalemate.

HURON
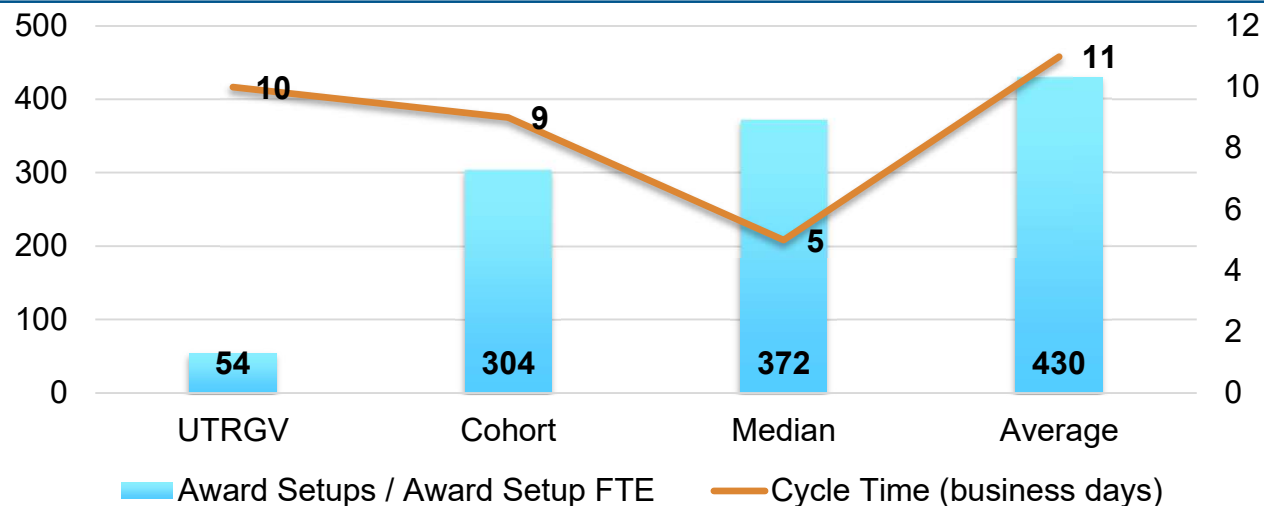
6.1.2

BUSINESS PROCESSES: GRANTS & CONTRACTS

HURON

SOPHISTICATION: PROCESSES
AWARD SETUP

Recommendations

6   Under the dedicated Award Setup function, streamline award setup processes and eliminate unnecessary reviews and handoffs to expedite the processing cycle times.
     • RADIUS data indicates that UTRGV's award setup cycle times are above the cohort average despite having nearly one sixth the number of setups per FTE. Eliminating handoffs between OSP, G&C, GCA, and Finance will allow for shorter cycle times.
     • Establish a single point of receipt via a central mailbox to receive all award notices. Restrict access to this email box to the Award Setup team to allow for triage and tracking of incoming transactions.
     • Set clear service-level expectations by which all incoming agreements must be triaged and logged into a comprehensive award setup tracking tool (e.g., Cayuse, PeopleSoft, or Excel) to consistently track and measure against a defined cycle time starting point.

Chart data:

	UTRGV	Cohort	Median	Average
Award Setups / Award Setup FTE	54	304	372	430
Cycle Time (business days)	10	9	5	11

HURON

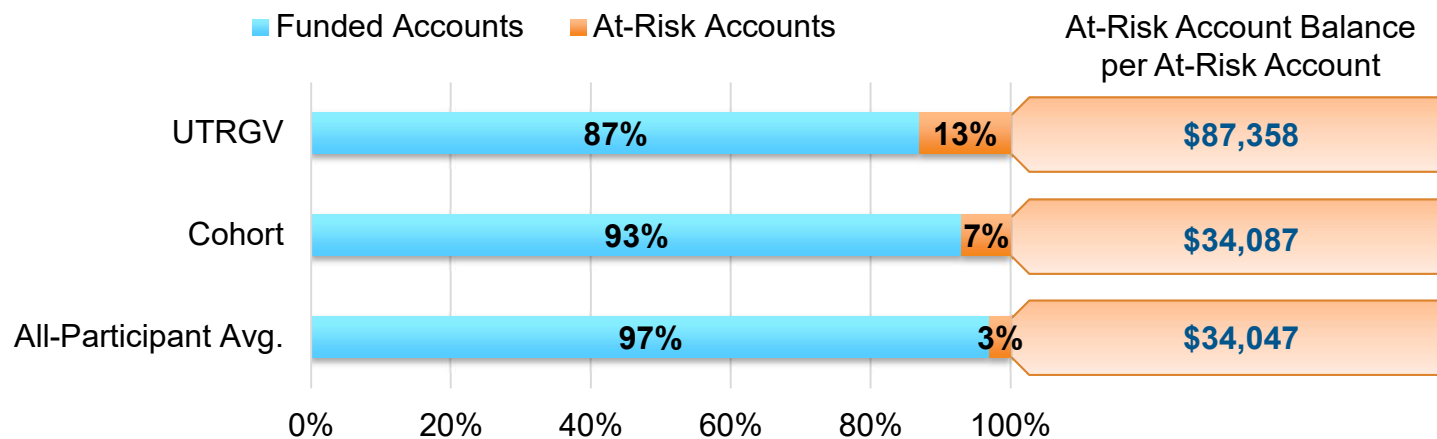# SOPHISTICATION: PROCESSES
AWARD SETUP

Recommendations
7 Empower a well-trained Award Setup team with the analytical and accounting system understanding to make the business decisions driving the transactional set-up tasks. • Establish a threshold for the level of funding reduction, such as greater than 20% of the initial proposal amount, that requires PI input to revise the budget if the reduction had not been previously approved by the PI as this may represent a change in scope or inability for UTRGV to accept the award. • Request OSP or Grants & Contracts Accounting expertise for uncommon or atypical awards and set-ups. • Consider implementing a quality assurance process during month-end close that reviews new account setups for accurate fund type (e.g., federal direct, federal pass-through, state pass-through, etc.) and bill type (e.g., cost reimbursable, fixed, etc.).

HURON

SOPHISTICATION: PROCESSES
AWARD SETUP

Recommendations: Processes
8   Develop a decision tree to appropriately categorize funding mechanisms, including gifts, sponsored projects, and other federal, state, and local funds.

9   Develop a procedure for monitoring and escalating use of at-risk accounts to mitigate compliance and financial risk.
   • RADIUS data indicates that UTRGV has a higher percentage of at-risk accounts to all sponsored project accounts and that its average at-risk account balance per account is over $50,000 higher than its cohort average.
   • At-risk accounts should continue to be used, particularly considering UTRGV's already-high number and dollar value of cost transfers, but should be reviewed by department and/or school leadership every 90 days to confirm the award is still expected and to reconfirm the department's willingness to cover charges should the award not materialize.

Legend: ■ Funded Accounts   ■ At-Risk Accounts   At-Risk Account Balance per At-Risk Account

	Funded Accounts	At-Risk Accounts	At-Risk Account Balance per At-Risk Account
UTRGV	87%	13%	$87,358
Cohort	93%	7%	$34,087
All-Participant Avg.	97%	3%	$34,047

HURON

SOPHISTICATION: PROCESSES
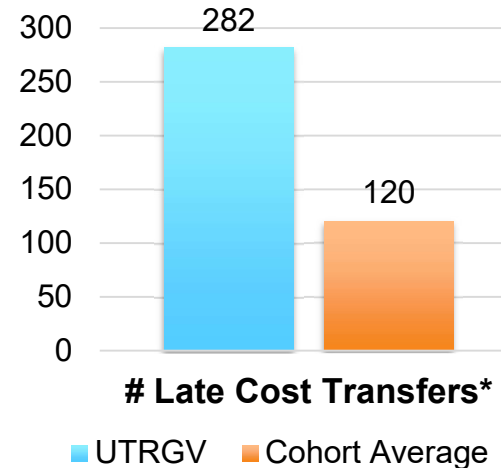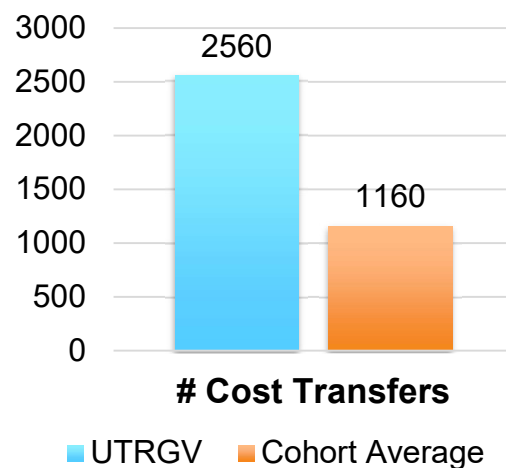## TRANSACTIONAL REVIEW

Recommendations

10 Develop and publish a Direct Charging / Allowability Policy and procedures that:
   • Identifies generally allowable charges aligned with Uniform Guidance cost principles, what constitutes a high-risk direct charge, and accountability for unallowable charges identified after-the-fact.
   • Ensures all purchase documentation incorporates sufficient detail to support allowability and allocability as part of the purchase record.
   • Provides cost allocation methodology guidance regarding the appropriate allocation of costs benefitting multiple awards (e.g., charging a direct cost such as pipettes or gloves to more than one sponsored project).

11 Develop and publish a Cost Transfer Policy and procedures that:
   • Establishes requirements for cost transfer justifications that document and support allowability and allocability prior to cost transfer approval.
   • Defines high-risk cost transfers as late cost transfers (those occurring more than 90 days after the date the original charge was incurred), cost transfers impacting closed or expiring awards (within 90 days of the award end date), and grant-to-grant cost transfers, and require additional justification to support allocability.
   • Identifies required approvals for both timely and late cost transfers, including escalated approvals for late cost transfers, and financial accountability for disallowed or rejected cost transfers.

HURON

SOPHISTICATION: PROCESSES
TRANSACTIONAL REVIEW

Recommendations

12   In addition to requiring justifications for cost transfers as discussed in the prior recommendation, conduct a root cause analysis to identify trends in cost transfers.
    • RADIUS data indicates that UTRGV has significant audit risk associated with the volume of cost transfers, particularly when compared to its cohort.
    • As determined by the root cause analysis, provide targeted training and/or update procedures to address and mitigate root causes in support of lowering UTRGV's cost transfer volume.

13   Use PeopleSoft functionality to facilitate the approval routing for all sponsored project cost transfers. Though UTRGV's use of cost transfers should decrease after conducting a root cause analysis and mitigation steps, system-based approvals will be critical to manage risk and document compliance as UTRGV's research grows.

 # Cost Transfers

- UTRGV: 2560
- Cohort Average: 1160

 # Late Cost Transfers*

- UTRGV: 282
- Cohort Average: 120

■ UTRGV   ■ Cohort Average   ■ UTRGV   ■ Cohort Average

*Late cost transfers are defined as cost transfers occurring more than 90 days from the date of the original charge.

HURON

SOPHISTICATION: PROCESSES
TRANSACTIONAL REVIEW

Recommendations

14   Continue to require Grants and Contracts' review of high-risk charges prior to charges hitting sponsored projects but update the definition of "high risk" to more appropriately align with financial and compliance risk.
    • Define high-risk purchase as those made:
        • On typically indirect cost codes (e.g., office supplies, computers, etc.),
        • On typically unallowable cost codes (e.g., meals and entertainment, visa fees, etc.),
        • Late in the award period, calling into question period of performance concerns (e.g., purchases made within 30 days of award end date), or
        • After the award period.
    • Define high-risk cost transfers (labor and non-labor) as those made:
        • Greater than 90 days from the original charge, and
        • Late in the award period (e.g., within 30 days of award end date), or
        • After the award period.
    • For both direct charges and cost transfers, require justification from departments at point-in-time to substantiate allowability. Justifications should specify how the purchase will directly benefit the award in question.

15   Work with Finance and other stakeholders to ensure encumbrances are captured on sponsored project accounts. Common encumbrances on sponsored project accounts are salary and purchase orders, including purchase orders for subcontracts.

HURON

SOPHISTICATION: PROCESSES
EFFORT MANAGEMENT

Recommendations

16   Update the existing Effort Reporting Policy and procedures to better align with federal regulations and minimize UTRGV's risk.
     • Include supplemental compensation for administrative assignments in the definition of Institutional Base Salary (IBS) to increase the amount of salary recovered on sponsored projects.
     • Incorporate reference to sponsor salary caps that restrict the amount of salary that can be charged to sponsored projects to mitigate compliance risk.
     • Require reconciliation of certified effort to IBS (or sponsor salary caps, as applicable) following each effort certification period to mitigate compliance risk.

HURON

SOPHISTICATION: PROCESSES
SUBAWARD MANAGEMENT

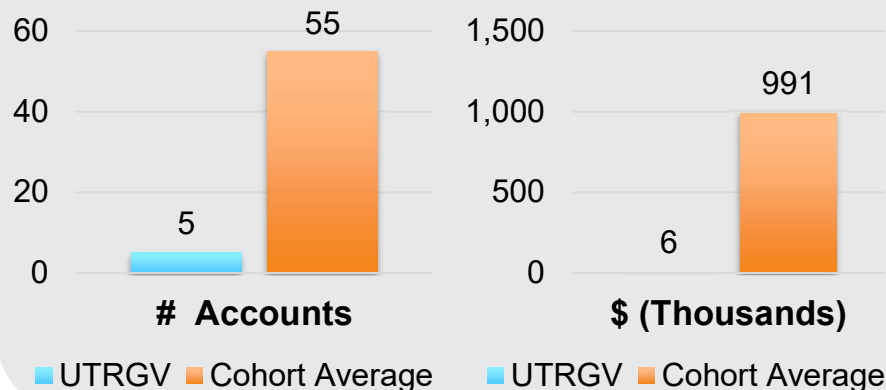| Recommendations |
|---|
| 17   Develop and publish a Subrecipient Monitoring Policy and procedures that outlines:
     • Considerations and qualifications for high-risk subrecipient institutions and subawards.
     • Considerations for adjusting subcontract terms as part of risk mitigation.
     • Monitoring requirements and roles and responsibilities for monitoring.
     • Sanction and enforcement approaches for high-risk and/or noncompliant subrecipients. |
| 18   Document subcontract invoice review procedures that include:
     • High-level allowability review by G&C (e.g., within period of performance, within budget, etc.).
     • Allowability review by the PI for detailed allowability (e.g., burn rate appropriate for work performed, deliverables of high quality and aligned with scopes of work, etc.). |

HURON

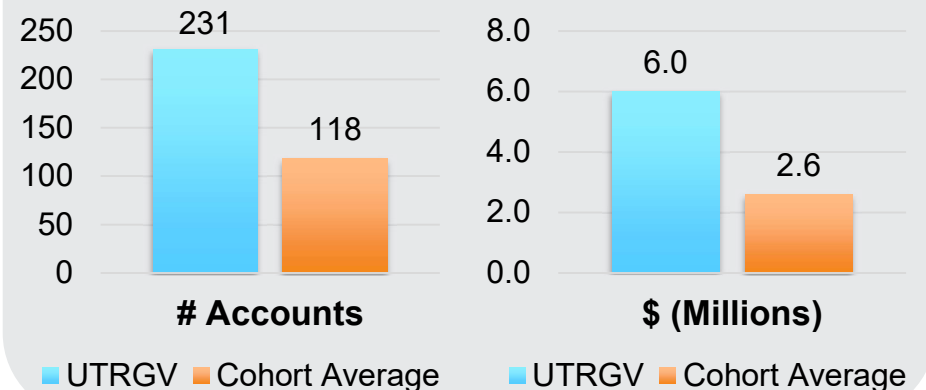# SOPHISTICATION: PROCESSES
FINANCIAL RECONCILIATION

Recommendations

19 Develop and publish a Financial Accountability Policy and procedures that outlines responsibility for sponsored project overdrafts and burn rate monitoring.
- RADIUS data indicates significantly lower than average closed accounts with negative budget balances, suggesting that UTRGV is not absorbing significant overspending on sponsored projects.
- Compared to its RADIUS cohort, UTRGV has nearly double the number of expired accounts with a positive budget balance. The value of those accounts is nearly triple the cohort, representing money left on the table.
- Formalize a mandatory quarterly financial expenditure reconciliation process that requires faculty and their administrators and G&C to review the status of their portfolio via face-to-face meetings to encourage spending planning.

Negative Budget Balance Accounts

Accounts — UTRGV: 5, Cohort Average: 55

$ (Thousands) — UTRGV: 6, Cohort Average: 991

Positive Budget Balance Accounts

Accounts — UTRGV: 231, Cohort Average: 118

$ (Millions) — UTRGV: 6.0, Cohort Average: 2.6

HURON

6.1.3

BUSINESS PROCESSES: GRANTS & CONTRACTS ACCOUNTING

HURON

SOPHISTICATION: PROCESSES
SPONSORED INVOICING

Recommendations

1   Begin reconciling Letter of Credit (LOC) draws against sponsor source systems to mitigate compliance risk of drawing unallowable expenditures and financial risk of untimely revenue recognition.
    • Ensure that the PeopleSoft budget <u>and</u> billing limit equal the amount authorized in the sponsor system.
    • Ensure that expenditures incurred in excess of sponsor authorized amounts are not drawn.
    • Reconcile cash applied in PeopleSoft to the cash drawn down (by award) per the sponsor system.

2   Develop and publish a Sponsored Projects Billing Policy and procedures that require all invoices be generated out of PeopleSoft, allowing for an exception process that requires creation of a receivable in PeopleSoft that matches outside-the-system bills.
    • For cost-reimbursable, non-LOC (CRNONLOC) awards:
       • Define a specific process for pre-final invoices and final / terminal invoices based on the final reportable expenditures provided by the G&C Award Manager as part of the final invoice / closeout process. Do not issue a final invoice until final invoiceable expenditures have been confirmed by the G&C Award Manager.
       • Provide copies of invoices to G&C Award Managers and departments.
    • For fixed price awards:
       • Resolve outstanding issues with PeopleSoft processes impacting deferred revenue and revenue recognition so that revenue can be recognized and deferred revenue relieved on a timely basis without manual intervention.
       • Require Research Services or department administrators notify GCA when a milestone has been met on milestone-based awards.
       • Leverage PeopleSoft milestone functionality to automatically trigger notification to GCA when a scheduled invoice is due.

HURON

SOPHISTICATION: PROCESSES
CASH MANAGEMENT

Recommendations

3   Continue reviewing, identifying, and applying unapplied payments coordinated through Finance.
     • If PeopleSoft activity is not identified, apply the payment to the sponsor (On-Sponsor).
     • If PeopleSoft activity is identified but the specific receivable is not, apply payment to the award (On-Award).
     • If neither the sponsor nor the receivable can be identified, apply the payment to a generic sponsored projects unapplied account (Suspense).

4   Develop and publish a Sponsored Projects Cash Management Policy and procedures that outlines financial accountability for outstanding / unpaid accounts receivable, including what entity will provide funding to absorb the resulting bad debt.
     • Document a formal Accounts Receivable Management procedure for follow-up, collections, and escalation, taking escalation steps based on number of days a payment is outstanding (e.g., 60 days, 90 days, 120 days, 180 days).
     • Formalize procedures to monitor A/R follow-up and track detailed collection statuses.
     • Formalize bad debt write-off procedures.
     • Incorporate dunning into CRNONLOC and fixed price award invoicing.

HURON

SOPHISTICATION: PROCESSES
AWARD CLOSEOUT

Recommendations

5   Develop a standard reporting and closeout timeline supporting the preparation and submission of all financial reports and/or final invoices and all account closeouts.

- Develop a standard reconciliation workbook supporting final report and invoice preparation and provide reconciliations to departments no later than 30 days before the final invoice or report is due.
- Clarify roles and responsibilities for departments and central offices using a closeout checklist, outlining tasks to be completed beginning 90 days prior to the award period ending through account closeout.

Department / Research Services Activity:
Spending, Programmatic, and Reconciliation Review

| 90 days Before | 60 days Before | 30 days Before | Grant Close | 90 days After | 120 days After Complete award closeout |

Central Activity:
Reconciliation, Report Submission, and Closeout

HURON

SOPHISTICATION: PROCESSES
AWARD CLOSEOUT

Recommendations

6   Define institutional accounting and finance requirements for sponsored project closeout.
     • In accordance with standard fund accounting practices, require a zero-dollar balance on the entirety of the account where Revenue = Expenses = Payment Received / Applied = Budget, and Deferred Revenue = 0.
     • For federal, state, and flow-through awards, transfer specific unallowable charges identified during closeout at the object code level (as opposed to lump sum amounts) to clearly demonstrate compliance with sponsored project regulations.
     • Define appropriate access and authority for G&C Award Managers to request transfers of unallowable sponsored project costs to discretionary accounts if the department does not take timely closeout action.
     • Document and track all record retention periods and purge documentation when the minimum retention period has lapsed to prevent UTRGV from having to produce documentation for audit.

HURON

6.1.4

BUSINESS PROCESSES: RESEARCH SERVICES

HURON

SOPHISTICATION: PROCESSES
RESEARCH SERVICES

Recommendations
1   Maintain a close partnership and strong communication between OSP and their Research Services counterparts during the proposal development process. Research Services, with a strong, broad knowledge of sponsored projects administration, can both serve the PIs by administratively preparing a comprehensive, compliant proposal package; and serve UTRGV by preparing an initial proposal package that generally meets all University and sponsor requirements prior to submission to OSP.
2   Aligned with the Financial Accountability Policy, support research faculty with sponsored project stewardship. • Conduct quarterly reconciliations and ensure allowability and allocability of charges can be supported, including maintaining source documentation as required (e.g., purchase orders, subrecipient invoices, etc.). • Consistently monitor burn rates on sponsored projects to specifically promote fiscal stewardship, ensuring all available funds are spent on allowable charges while preventing deficits. • Ensure encumbrances are relieved appropriately as expenditures are incurred. • Track and support preparation of programmatic reporting requirements, such as progress reports and invention reports.
3   Meet with PIs on an established cadence, likely every month, to address all ongoing and outstanding activities (e.g., contract negotiations, awards pending setup, closeout approvals, etc.) and address questions and concerns from research faculty.

HURON

6.1.5

BUSINESS PROCESSES: RESEARCH COMPLIANCE

HURON

SOPHISTICATION: PROCESSES
RESEARCH COMPLIANCE

Recommendations
1 Update oversight committee composition and representation to ensure appropriate expertise and sophistication of members respective to the protocols under their jurisdiction. • Establish staggered three-year terms of service to continually refresh membership and ensure a majority of members have at least 1.5 years of service at any given time. • Review submission volume to ensure scientific background of committee members aligns with review workload. Use consultants for reviews when expertise is not present on the committee. • Formally recognize oversight committee member service, for example with protected time or tenure credit.
2 Provide ongoing training to regulatory oversight committee members and support staff to improve understanding of role of regulatory oversight committees. • Training for IRB and IBC members should include general protocol review, environmental health & safety, vulnerable populations, informed consent and privacy, biological specimens, and post-approval monitoring. • Training for IACUC members should include general protocol review and "the 3 Rs," congruency review, environmental health & safety, disaster and emergency planning, vivaria and facilities, end-of-study considerations, and post-approval monitoring. • Consider using national experts to conduct training to ensure best practices are addressed.
3 Provide thorough training to IACUC committee members in order to commence with delegated reviews, including allowing the IACUC Chair and designees to conduct Designated Member Reviews.

HURON

SOPHISTICATION: PROCESSES
RESEARCH COMPLIANCE

Recommendations
4	Explore opportunities to create efficiencies with IRB review while maintaining compliance, including: • Contracting with an external IRB for industry-sponsored high-risk studies, where costs can be passed through to industry sponsors. • Allowing the IRB Chair and designees to conduct expedited review without convening the full Board for qualifying studies. • Allowing IRB staff to conduct exempt review without convening the full Board for qualifying studies.
5	Begin conducting post-approval monitoring of all IRB, IACUC, and IBC-approved research to ensure compliance with committee approvals and mitigate compliance risk.
6	Continue partnering with Environmental Health & Safety (EHS) on biosafety compliance issues. • If additional types of high-risk research begin to be consistently pursued as the research portfolio grows, consider forming oversight committees to leverage the specialized expertise of committee members to oversee high-risk research, such as Chemical Safety, Radiation Safety, Human Embryonic Stem Cell Oversight, etc.
7	Conduct general training on Export Controls processes with all research faculty and staff, focusing on deemed exports, especially to manage UTRGV's increased risk given the proximity to the Mexico border. Conduct targeted training with: • Faculty who conduct Export Controlled research, • Individuals authorized to ship research materials, and • Individuals responsible for negotiating research contracts, including material transfer and data use agreements.

HURON

SOPHISTICATION: PROCESSES
RESEARCH COMPLIANCE

Recommendations

8. Establish coordination points with ICO, OSP, and Research Compliance in the COI disclosure and review process:
   - Charge ICO with reviewing *Investigator* disclosures for *relatedness* and *conflict** with the individual's research portfolio.
     - Review annual and updated disclosures against all active research.
     - Review new awards received and human subjects protocols initiated against the active disclosure. Review at proposal submission is not required under the regulations and creates unnecessary additional administrative burden.
     - Review any changes in scope to active awards or protocols against the active disclosure.
     - Ensure ICO has access to reports of *Investigator's* research portfolios to conduct this review.
   - Charge pre-award staff with confirming that an active disclosure is on file and COI training is current for all individuals identified as *Investigators* by the Principal Investigator prior to proposal submission.
     - Ensure pre-award staff have access to reports confirming *Investigators'* most recent date of training and disclosure to conduct this review.
   - Charge Research Compliance with assisting with *relatedness* and *conflict* determinations and management plan development, including coordinating with regulatory oversight committees as needed.

*Italicized terms are defined under 42 C.F.R. Part 50 Subpart F—Promoting Objectivity in Research.

HURON

6.1.6

BUSINESS PROCESSES: ANIMAL OPERATIONS

HURON

SOPHISTICATION: PROCESSES
ANIMAL OPERATIONS

Recommendation
1 Address faculty concerns and frustration over animal per diem rates. Though Huron did not conduct detailed analysis of current per diem rates, the distributed nature of UTRGV's campuses and animal operations may contribute to increased rates. • Conduct benchmarking analyses of peer institutions to validate that current rates are reasonable. • Calculate cost-based rates and review rates through the RAB on an annual basis. • Standardize data from all facilities in the rate calculation model. • Post per diem and technical service rates and charge rates consistently across users and campuses. • Evaluate the list of species and services that necessitate separate billing rates as part of the rate-setting process.
2 Conduct a formal initiative to plan space, equipment, and capital needs for animal research in the near, medium, and long term to identify critical facility needs as part of the overall space allocation approach, addressing concerns over: • Readiness to support high-census research and • Scalability of environmental and biosecurity controls in existing vivaria.
3 Create an escalation procedure that empowers animal care technicians, facilities staff, and other animal research stakeholders to resolve issues in animal facilities (e.g., humidity, lighting, etc.). • Ensure that animal care technicians have 24/7 access to emergency facilities staff so that animal facility issues can be resolved as emergent needs arise. • Train facilities and animal care technicians on the escalation procedure and on the significance of environmental controls impacting animal research.

HURON

6.1.7

BUSINESS PROCESSES: BUSINESS OPERATIONS

HURON

SOPHISTICATION: PROCESSES
BUSINESS OPERATIONS

Recommendations

1   Develop a process to report on UTRGV's research finance metrics for internal and external stakeholders.
    • Prepare and analyze institutional reports to monitor sponsored research funding, expenditures, and revenue trends, including those success measures identified in the Research Strategic Plan.
    • Partner with the Office of Strategic Analysis and Institutional Reporting to prepare financial and other reports required by regulations and funding agencies (e.g., NSF HERD Survey, THECB Survey of Research Expenditures, NIH BRDPI Survey, etc.).

2   Develop a process to support evaluation and operations of core facilities and service centers.
    • Require that new core facilities and service centers provide a business case demonstrating existing demand for goods or services by multiple internal customers.
    • Require the core facility or service center "owner" complete a business plan, cost / benefit and return on investment analyses, and proposed operating budget to the EVP-R for consideration by the RAB.
    • Establish rates in compliance with Cost Accounting Standards and monitor rates considering operating costs, service volume, and anticipated demand.

3   In collaboration with Facilities, develop and publish a research space allocation and space survey policy.   • Require annual review of space utilization and space surveys to validate vacancy / occupation, percentage of activity based on cost reporting categories, names of occupants, and location and speedtype for all research activity.

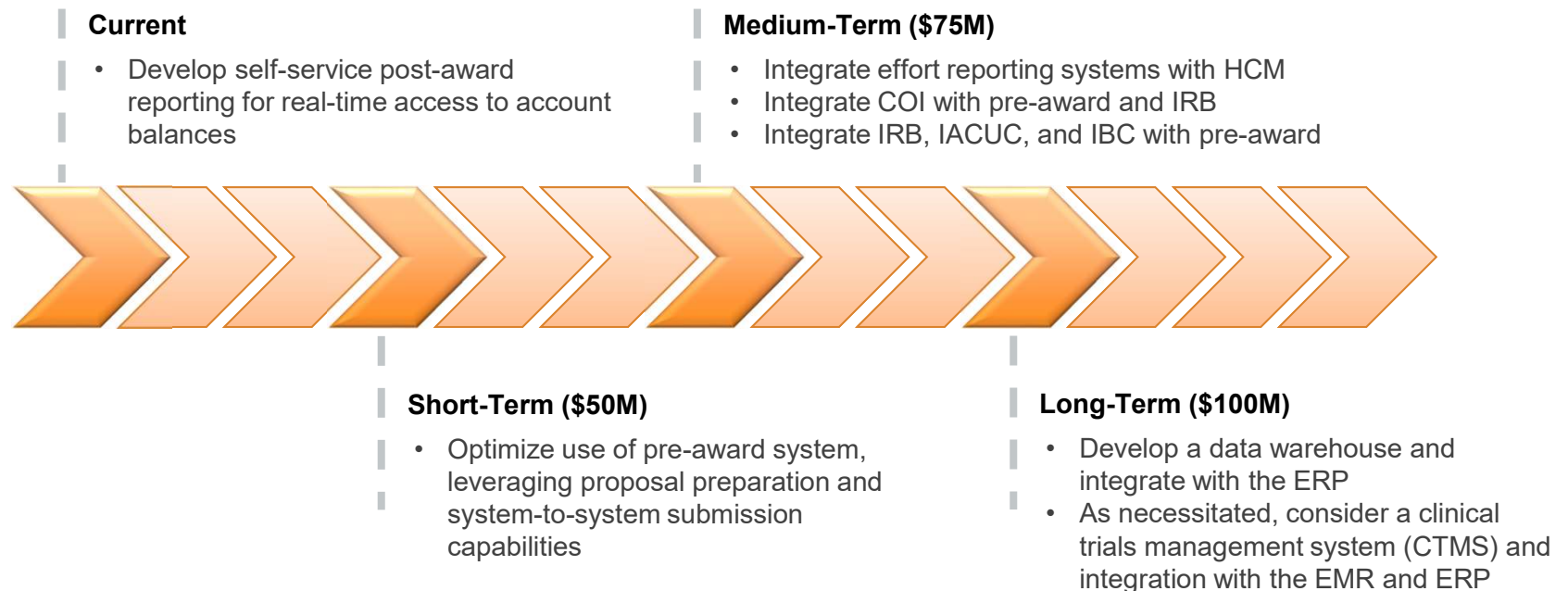HURON

6.2

SYSTEMS AND MEASUREMENT

HURON

SOPHISTICATION: SYSTEMS AND MEASUREMENT
SYSTEMS ROADMAP

Recommendations

1   Prepare a research technology and systems roadmap to plan for technology-enabled effective and efficient research administration that automates processes and increases information transparency.
   - Include planned and potential activities associated with software deployment aligned with strategic goals.
   - Identify the types of systems to be deployed, how those systems will be integrated, and implementation timing.

Current
- Develop self-service post-award reporting for real-time access to account balances

Medium-Term ($75M)
- Integrate effort reporting systems with HCM
- Integrate COI with pre-award and IRB
- Integrate IRB, IACUC, and IBC with pre-award

Short-Term ($50M)
- Optimize use of pre-award system, leveraging proposal preparation and system-to-system submission capabilities

Long-Term ($100M)
- Develop a data warehouse and integrate with the ERP
- As necessitated, consider a clinical trials management system (CTMS) and integration with the EMR and ERP

HURON

SOPHISTICATION: SYSTEMS AND MEASUREMENT
SYSTEM OPTIMIZATION

Recommendations

1 Begin using Cayuse to its full potential to capitalize on reporting capabilities and reduce reliance on manual processes such as using Excel for proposal budget development.
    • Ensure the Cayuse proposal record captures key data points and fields that flag a proposal as high-risk, such as identifying when cost share is involved or when foreign engagement may be possible.
    • Develop reports and queries that can be accessed on-demand by research administration leadership to monitor for high-risk proposals and general research activity.

2 Develop self-service sponsored project financial reports that provide real-time data on budget, expenditures, encumbrances, and burn rates.   • Report parameters should include PI, department, school, and institution.

HURON

SOPHISTICATION: SYSTEMS AND MEASUREMENT
KEY PERFORMANCE INDICATORS

Recommended Key Performance Indicators		
1	Develop and monitor key performance indicators (KPIs) to evaluate progress toward strategic goals and to equip management with support needed to make changes in support of continuous improvement. Common KPIs include:	

Research Strategy [1]	Research Administration Operations [2]	Research Compliance/Risk Mitigation [3]
• Proposals submitted • Awards received • Funding success rates • Sponsored program expenditures by sponsor type • Technology transfer metrics (invention disclosures, licenses executed, licensing income, etc.) • Institutional cost sharing • "Effective" F&A recovery rates • Institutional financial support of research • Seed funding conversion rates • Research dollar density (space utilization) • Faculty financial research productivity • Research Profit & Loss	• Proposals received by deadline (5 days) • Average number of days to set-up awards • Average number of days to prepare and set-up subcontracts • Monthly unbilled balance ($) • Financial reports submitted on time (%) • Late financial reports submitted (#) • Average accounts receivable balance ($) • Average days outstanding for accounts receivable	• Effort reporting % completion • Late effort reports submitted (#) • Effort recertifications • Cost transfers in quarter (# and $) • Late cost transfers (# and $) • Sponsored accounts in overrun (# and $) • Delinquent financial closeouts (# of active awards 90+ days past award end-date) • Expired cost sharing accounts with unexpended balance • Active IRB protocols by exempt, expedited, and full board review (#) • New IACUC protocols (#) • IACUC triannual reviews (#) • New IBC protocols (#) • IBC quadrennial reviews (#) • Awards with active COI management plans (#)

1) Measures the success of the research enterprise (and corresponding research units) at UTRGV (data measured longitudinally).
2) Measures the performance of research administration operations (efficiency, effectiveness, service).
3) Measures key risk indicators related to conducting the business of research.

HURON

SOPHISTICATION: SYSTEMS AND MEASUREMENT
PERFORMANCE METRICS

Recommended Performance Measurement Metrics
2   Develop and monitor metrics against best practice standards to quickly identify and address issues in business processes, systems, and staff performance.

Metric	Target
Operational	
Proposals received by UTRGV internal deadline	100%
Proposals submitted by agency deadline	100%
Average days to review and approve a proposal	5 business days
Average days to set up an award	5 business days
Outgoing subcontract turnaround time (award received to fully executed)	15 days
Number of late effort reports	0%
Number of effort forms re-certified after initial certification	0
Number of active awards past award end-date (+120 days)	0%
Average days for regulatory oversight committee review	30 business days
Protocols monitored post-approval	100%

HURON

SOPHISTICATION: SYSTEMS AND MEASUREMENT
PERFORMANCE METRICS

Metric	Target
Financial	
Monthly unbilled balance ($)	1/12 of yearly invoiced amount
Average accounts receivable balance ($)	1/6 of yearly invoiced amount
Average days outstanding for accounts receivable	45-60 days
Accounts in overdraft/$ of accounts in overdraft	0/$0
Number of late invoices	0%
Number of late cost transfers	0
Number of late financial reports	0
FFR backlog	0
People / Customer Service	
Hours/days to respond to a departmental or PI inquiry	24 hours
Number of people that met their professional development plan	100%
Customer service survey satisfaction ratings	Excellent

HURON

7

NEXT STEPS

HURON

NEXT STEPS
IMPLEMENTATION APPROACH

UTRGV's ability to successfully grow its research program is heavily contingent on its ability to develop and execute on a cohesive research growth strategy. At the same time, discrete operational steps can be taken to more immediately alleviate burden on faculty that will support building a culture of support around research.

Huron recommends implementing the recommendations contained in this report in three workstreams:

Update Leadership and Governance Structures	Develop the Research Strategic Plan	Make Operational Enhancements
Foundation	*Contingent*	*Independent & Contingent*
The organizational transition underpins UTRGV's ability to elevate beyond a functional baseline toward a sophisticated, efficient research enterprise.	A well-defined Research Strategic Plan is critical to focus investment and measure progress. Savvy leadership and governance structures are needed to ensure the Research Strategic Plan is appropriately developed and executed against.	Though many operational enhancements are contingent on the Research Strategic Plan, several enhancements can be made immediately, require minimal financial investment, and are not contingent on confirming UTRGV's research strategy.

HURON

NEXT STEPS
IMMEDIATE ACTIONS

Update Leadership and Governance Structures

- Update leadership roles, including the recruitment of the AVP of Research Operations role.
- Establish and convene the RAB and ROC committees.

Develop the Research Strategic Plan

- Reaffirm and continue messaging support for UTRGV's research mission.
- After updating the leadership and governance structures, initiate the strategic planning process.
- Evaluate and confirm Research Priority Areas.

Make Independent Operational Enhancements

- Update and publish operational roles and responsibilities aligned with recommendations in this Report.
- Survey schools and departments to identify existing administrative support and train, realign, and/or hire as needed to fill faculty support gaps.

- Educate existing school, department, and administrative leadership on research.
- Evaluated oversight committee membership.
- Develop and publish a Financial Accountability Policy and associated work tools and reports.
- Evaluate animal per diem rates.

HURON

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APPENDICES

HURON

APPENDIX A
INTERVIEW LIST

Huron met with the following 37 stakeholders during the course of the engagement. These individuals were instrumental in developing Huron's understanding of the institution's research administration infrastructure.

Name	Title
Guy Bailey, PhD	President
Janna Arney, PhD	Deputy President
Parwinder Grewal, PhD	Executive Vice President for Research, Graduate Studies, & New Program Development
John Krouse, MD, MBA	Executive Vice President for Health Affairs & Dean of the School of Medicine
Patricia McHatton, PhD	Executive Vice President for Academic Affairs and P-16 Integration
Kelly Scrivner, PhD	Executive Vice President, Institutional Advancement
Rick Anderson	Executive Vice President for Finance and Administration
Diane Sheppard	Chief Compliance Officer
Susan Brown	Assistant Vice President for Strategic Analysis & Institutional Reporting
Mike James	Chief Human Resources Officer
Elia Lopez	Associate Comptroller

HURON

APPENDIX A
INTERVIEW LIST

Name	Title
Karen Martirosyan, PhD	Associate Vice President for Research Enhancement
Rosalinda Salazar	Executive Director of Research Administration
Alicia Moreno	Director of Grants Accounting
Suelema Gonzalez	Director of Grants and Contracts
Mari Perez	Director of Sponsored Programs
J. Fernando Gonzalez	Director of Technology Commercialization
Glorimar Colon, JD	Executive Director of Research Compliance & Export Control
Cordelia Rasa	Director of Animal Care Programs
Andrew Tsin, PhD	Senior Associate Dean of Research, School of Medicine
Michael Patriarca	Sr. Assoc VP for Health Affairs and Executive Vice Dean, School of Medicine
Melba Sanchez	Assistant Vice President for Finance & Administration, School of Medicine
Laura Seligman, PhD	Chair, IRB; Professor, Psychological Science, College of Liberal Arts

HURON

APPENDIX A
INTERVIEW LIST

Name	Title
Ala Qubbaj, PhD	Professor and Dean, College of Engineering and Computer Science
Sarah Williams-Blangero, PhD	Director, South Texas Diabetes and Obesity Institute (STDOI), School of Medicine
John Blangero, PhD	Director, Genomics Computing Center, STDOI, School of Medicine
Subhash Chauhan, PhD	Director, Institute for Cancer Immunotherapy, School of Medicine
Rupesh Kariyat, PhD	Assistant Professor, Biology, College of Sciences
Michael Persans, PhD	Professor, Biology, College of Sciences
Christopher Vitek, PhD	Associate Professor, Biology, College of Sciences
Fred Zaidan, PhD	Professor, Biology, College of Sciences
M. Jasim Uddin, PhD	Assistant Professor, Chemistry, College of Sciences
Karen Lozano, PhD	Professor, Engineering, College of Engineering and Computer Science
David Hicks, PhD	Director, School of Earth, Environmental, and Marine Sciences (SEEMS), College of Sciences
Alexis Racelis, PhD	Assistant Professor, SEEMS, College of Sciences
Christopher Grabler, PhD	Assistant Professor, SEEMS, College of Sciences
Cynthia Paccacerqua, PhD	Associate Professor, Philosophy, College of Liberal Arts
Volker Quetschke, PhD	Associate Professor, Physics, College of Sciences

HURON

APPENDIX B
FEDERAL FUNDING FOR RPAS

The following pages identify FY2019 federal research funding for potential research focus areas identified as *Research Strengths* or *New Research Program Development* by funding agency and by **largest university recipients**. Keywords were used to identify funding sources and are identified by RPA on each page.

Aerospace & Astronautical Sciences	**Opioids**
Materials Sciences	**Infectious Disease**
Cybersecurity	**HIV Treatment and Prevention**
Artificial Intelligence & Machine Learning	

The following abbreviations are used throughout Appendix B to identify federal funding agencies:

Department of Health and Human Services (DHHS)
- *Agency for Healthcare Research and Quality (AHRQ)*
- *Centers for Disease Control (CDC)*
- *National Institutes of Health (NIH)*
- *Office of the Assistant Secretary for Preparedness Response (OASPR)*
- *Substance Abuse and Mental Health Services Administration (SAMHSA)*

Department of Defense (DOD)
- *Department of the Air Force (DAF)*
- *Department of the Army (DA)*
- *Department of the Navy (DN)*
- *Office of Economic Adjustment (OEA)*

National Science Foundation (NSF)

National Aeronautics and Space Administration (NASA)

Department of Energy (DOE)

Department of Education (DEd)

United States Department of Agriculture (USDA)
- *National Institute of Food and Agriculture (NIFA)*

Department of Commerce (DOC)
- *National Institute of Standards and Technology (NIST)*

United States Agency for International Development (USAID)
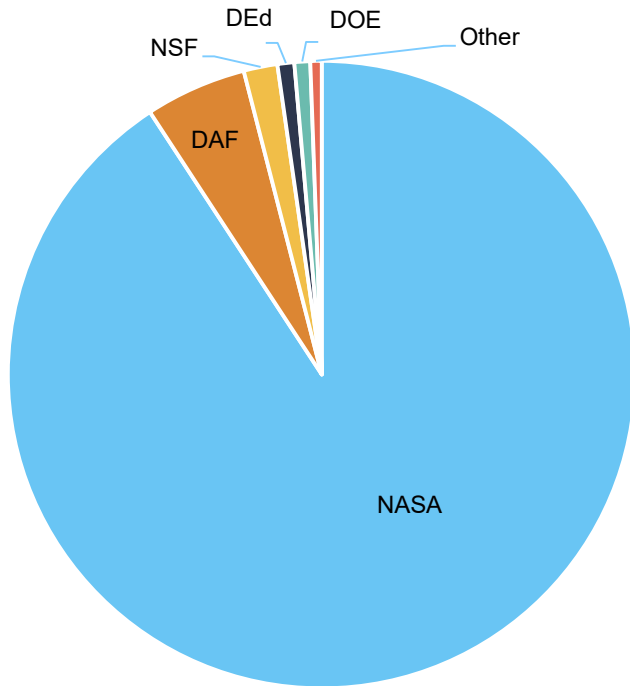
Department of Justice (DOJ)
- *Office of Justice Programs (OJP)*

Department of Homeland Security (DHS)

HURON

AEROSPACE / ASTRONAUTICAL SCIENCES

FY 2019: $212,724,750

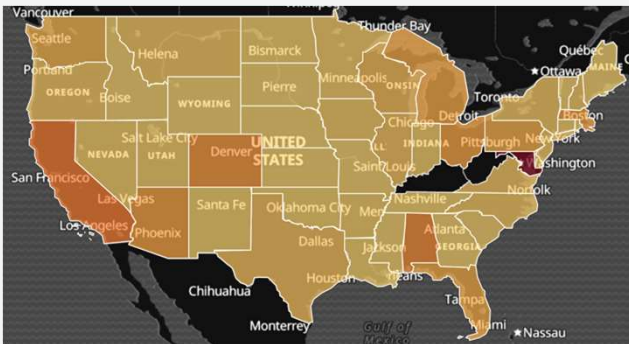| Sub-Agency	Office	Federal Obligation
NASA	NASA SHARED SERVICES CENTER	$152,833,211
NASA	NASA GODDARD SPACE FLIGHT CENTER	$26,091,959
NASA	NASA MARSHALL SPACE FLIGHT CENTER	$13,178,890
DEPT OF AIR FORCE	FA8650 USAF AFMC AFRL PZL RAK RXK	$7,314,893
DEPT OF AIR FORCE	FA8650 USAF AFMC AFRL/RQK	$2,915,175
DEPT OF EDUCATION	OFFICE OF POSTSECONDARY EDUCATION	$1,849,006
DEPT OF ENERGY	ADVANCED RSRCH PROJ AGENCY ARPA-E	$1,714,940
NSF	Other	$1,536,355
NSF	DIV OF RESEARCH ON LEARNING IN	$1,182,819
NASA	NASA AMES RESEARCH CENTER	$990,890
NSF	DIVISION OF ATMOSPHERIC AND	$974,959
DEPT OF THE AIR FORCE	Other	$908,995
OTHER	Other	$1,232,658

Keywords
("space science" OR "space sciences" OR "rocket science" OR "space exploration" OR "aerospace" OR "astronaut" OR "launch vehicle" OR SPACEX OR (space AND satellite)

HURON

APPENDIX B
AEROSPACE / ASTRONAUTICAL SCIENCES

Heatmap of Federal Funding

- $44,926 – $13,325,673
- $13,325,673 – $26,606,420
- $26,606,420 – $39,887,167
- $39,887,167 – $53,167,915

Recipients	Value	Awards
UNIVERSITY SYSTEM OF MARYLAND	$47,448,460	72
STATE OF CALIFORNIA	$14,605,229	78
UNIVERSITY OF ALABAMA IN HUNTSVILLE	$13,178,890	3
UNIVERSITY OF COLORADO	$11,545,126	70
UNIVERSITY OF DAYTON	$9,048,117	2
UNIVERSITY OF ARIZONA	$5,931,169	20
UNIVERSITY OF WASHINGTON	$5,653,192	34
UNIVERSITY OF MICHIGAN	$5,554,537	23
MASSACHUSETTS INSTITUTE OF TECHNOLOGY	$5,422,111	26
ARIZONA STATE UNIVERSITY	$4,906,337	7
JOHNS HOPKINS UNIVERSITY	$4,726,679	18
CARNEGIE MELLON UNIVERSITY	$4,169,803	5
UNIVERSITY SYSTEM OF FLORIDA	$3,904,507	32
UNIVERSITY OF WISCONSIN SYSTEM	$3,749,065	16
UNIVERSITY OF HAWAII SYSTEMS	$3,118,153	14
THE UNIVERSITY OF TEXAS SYSTEM	**$1,967,120**	**18**
THE TEXAS A&M UNIVERSITY SYSTEM	**$1,522,633**	**15**

HURON

APPENDIX B
AEROSPACE / ASTRONAUTICAL SCIENCES

Recipients (Texas Based Companies	Value	Awards
HEICO CORPORATION	$31,701,084	683
SOUTHWEST RESEARCH INSTITUTE INC	$23,759,397	8
AIR LIQUIDE INDUSTRIAL U.S. LP	$6,881,107	117
THE BOEING COMPANY	$5,301,877	1
LOCKHEED MARTIN CORPORATION	$4,211,400	10
AIRBUS DEFENSE AND SPACE INC.	$3,623,500	3
TEXAS AEROSPACE SERVICES LTD. L.L.P.	$3,452,107	63
MARATHONNORCO AEROSPACE INC	$3,161,306	64
STONE AEROSPACE INC.	$2,713,891	2
TRANSDIGM GROUP INCORPORATED	$2,459,396	39
BRISTOL BAY NATIVE CORPORATION	$2,116,951	2
LONE STAR AEROSPACE INC.	$1,733,618	18
BAINBRIDGE AEROSPACE L.L.C.	$1,247,823	3

HURON

APPENDIX B
MATERIAL SCIENCES

FY 2019: $71,316,494
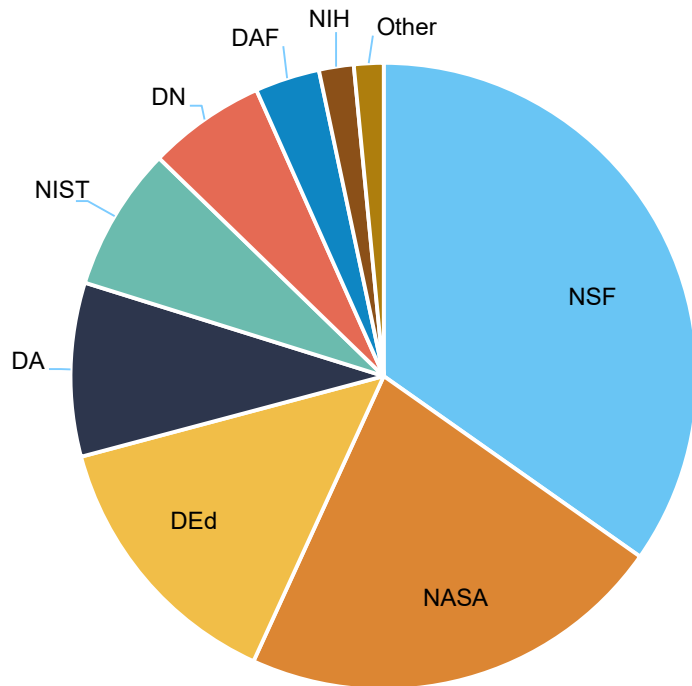
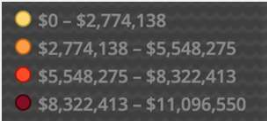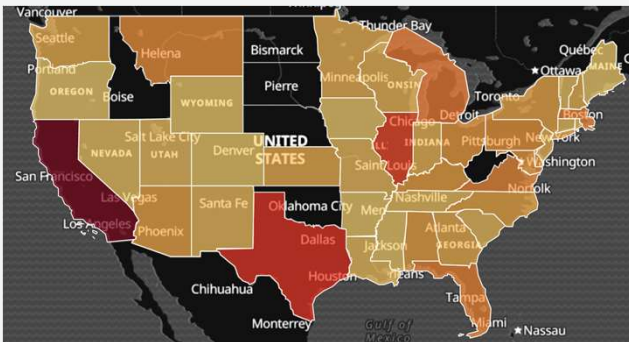| Sub-Agency	Office	Federal Obligation
NASA	NASA SHARED SERVICES CENTER	$15,730,706
NSF	DIVISION OF MATERIALS RESEARCH	$12,779,963
DEPT OF ARMY	W6QK ACC-APG DURHAM	$6,174,710
NIST	DEPT OF COMMERCE NIST	$5,300,000
DEPT OF NAVY	OFFICE OF NAVAL RESEARCH	$4,333,555
DEPT OF ENERGY	NATIONAL ENEERGY TECHNOLOGY LAB	$3,871,650
DEPT OF ENERGY	ADVANCED RSRCH PROJ AGENCY ARPA-E	$3,807,482
NSF	DIV OF CIVIL. MECHAN MANUF INNOV	$3,553,082
DEPT OF THE AIR FORCE	FA9550 AFRL AFROSR	$1,911,140
NSF	DIVISION OF CHEMISTRY	$1,883,070
DEPT OF EDUCATION	OFFICE OF POSTSECONDARY EDUCATION	$1,774,356
NSF	OFFIC OF INTEGRATIVE ACTIVITIES	$1,300,000
OTHER	Other	$8,896,780

Keywords
(ceramic OR nanofiber OR polymer OR nano OR carbon OR microfiber OR "micro fiber" OR "micro fibers" OR biomaterials OR "organic materials" OR "advanced materials") AND (materials OR composite OR composites OR fibers OR fiber))

HURON

APPENDIX B
MATERIAL SCIENCES

Heatmap of Federal Funding

Legend:
- $0 – $2,774,138
- $2,774,138 – $5,548,275
- $5,548,275 – $8,322,413
- $8,322,413 – $11,096,550

Recipients	Value	Awards
STATE OF CALIFORNIA	$7,517,172	24
NORTHWESTERN UNIVERSITY	$5,078,134	2
WILLIAM MARSH RICE UNIVERSITY	**$3,435,667**	4
MONTANA TECHNILOGICAL UNIVERSITY	$2,750,000	1
MICHIGAN TECHNILOGICAL UNIVERSITY	$2,500,000	1
UNIVERSITY OF DELAWARE	$2,184,056	6
MASSACHUSETTS INSTITUTE OF TECHNOLOGY	$2,021,023	8
UNIVERSITY OF KENTUCKY	$1,869,432	4
BOARD OF GOVERNERS STATE UNIVERSITY SYSTEM OF FLORIDA	$1,791,014	11
THE TEXAS A&M UNIVERSITY SYSTEM	**$1,607,288**	**5**
ARIZONA STATE UNIVERSITY	$1,521,215	5
THE PENNSYLVANIA STATE UNIVERSITY	$1,501,831	5
REGENTS OF THE UNIVERSITY OF MICHIGAN	$1,421,280	6
THE JOHNS HOPKINS UNIVERSITY	$1,336,644	2
CALIFORNIA INSTITUTE OF TECHNOLOGY	$1,267,956	4
THE UNIVERSITY OF TEXAS SYSTEM	**$1,201,479**	**6**
REGENTS OF THE UNIVERSITY OF MINNESOTA	$1,188,756	5

HURON

APPENDIX B
MATERIAL SCIENCES

Recipients (Texas Based Companies	Value	Awards
SOUTHWEST RESEARCH INSTITUTE	$1,817,052	3
ARES MATERIALS INC.	$750,000	1
C-CRETE TECHNOLOGIES, LLC	$686,137	1
TEXAS RESEARCH INTERNATIONAL INC.	$569,144	2

HURON

APPENDIX B
CYBER SECURITY

FY 2019: $55,133,840
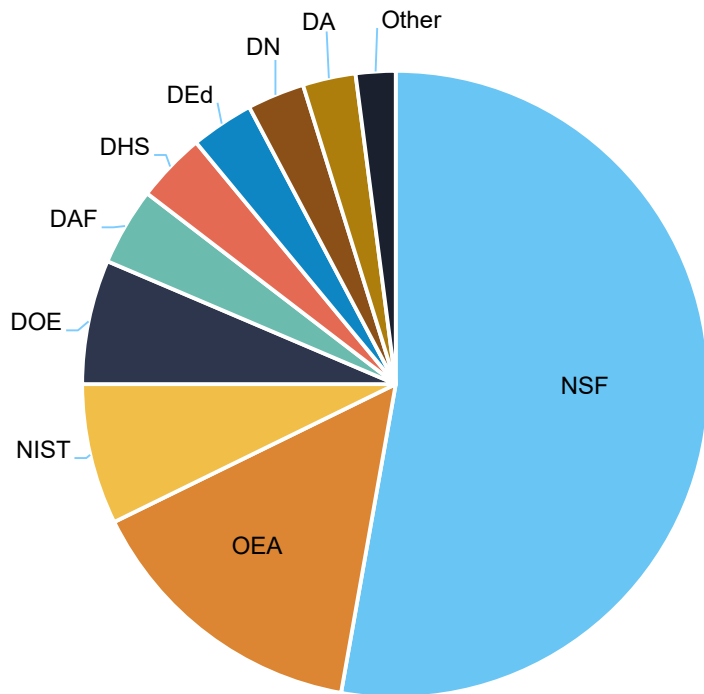
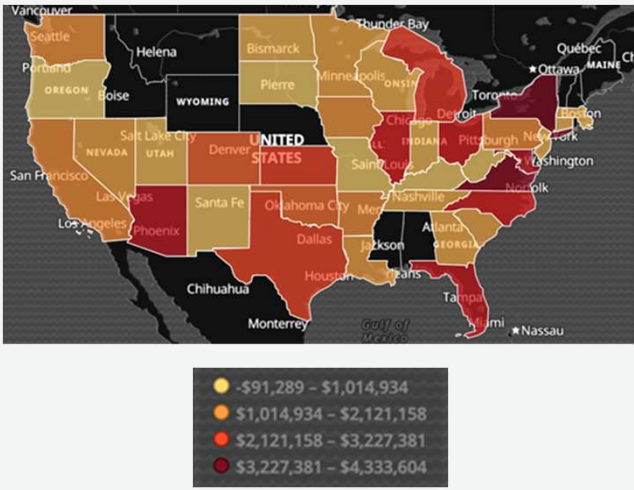| Sub-Agency	Office	Federal Obligation
NSF	DIVISION OF GRADUATE EDUCATION	$13,090,070
NSF	DIV OF COMPUTER NETWORK SYSTEMS	$9,128,837
OEA	OFFICE OF ECONOMIC ADJUSTMENT (OEA)	$8,257,710
NIST	DEPT OF COMMERCE NIST	$4,001,224
NSF	Other	$3,570,313
NSF	DIVISION OF UNDERGRADUATE EDUCATION	$3,310,783
DEPT OF ENERGY	GOLDEN FIELD OFFICE	$2,110,790
DEPT OF HOMELAND SECURITY	GRANTS AND FINANCIAL ASSISTANCE DIVISION	$1,986,791
DEPT OF THE AIR FORCE	FA8750 AFRL RIK	$1,982,411
DEPT OF EDUCATION	OFFICE OF POSTSECONDARY EDUCATION	$1,650,447
DEPT OF THE ARMY	W6QK ACC-APG DURHAM	$1,512,454
DEPT OF ENERGY	NATIONAL ENERGY TECHNOLOGY LAB	$1,400,000
OTHER	Other	$3,132,010

Keywords
("nuclear security" ((information OR cyber) AND (secure OR error OR protecting Or security OR spoof OR maliciousness OR threat))   OR cybersecurity)

HURON

APPENDIX B
CYBER SECURITY

Heatmap of Federal Funding

Legend:
- -$91,289 – $1,014,934
- $1,014,934 – $2,121,158
- $2,121,158 – $3,227,381
- $3,227,381 – $4,333,604

| Recipients	Value	Awards
ROCHESTER INSTITUTE OF TECHNOLOGY (INC)	$2,959,199	3
NORTH CAROLINA STATE UNIVERSITY	$2,817,245	2
BOARD OF GOVERNERS STATE UNIVERSITY SYSTEM OF FLORIDA	$2,379,195	8
UNIVERSITY OF ARIZONA	$2,321,796	3
KANSAS STATE UNIVERSITY	$2,209,417	2
THE JOHNS HOPKINS UNIVERSITY	$1,998,791	2
UNIVERSITY OF ILLINOIS	$1,900,379	5
WRIGHT STATE UNIVERSITY	$1,845,337	1
REGENTS OF THE UNIVERSITY OF MICHIGAN	$1,534,858	2
UNIVERSITY SYSTEM OF MARYLAND	$1,501,405	11
GEORGETOWN UNIVERSITY	$1,396,735	2
UNIVERSITY OF ARKANSAS SYSTEM	$1,158,424	3
NORTHERN ARIZONA UNIVERSITY	$1,050,000	1
IOWA STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY	$1,000,000	2
PIKES PEAK COMMUNITY COLLEGE	$998,874	1

HURON

APPENDIX B
CYBER SECURITY

Recipients (Texas Based Companies	Value	Awards
DENALI HOLDING INC	$198,658,398	261
CNF TECHNOLOGIES CORPORATION	$50,955,389	3
ELBIT SYSTEMS LTD.	$36,217,648	1
BMC SOFTWARE INC.	$21,047,875	3
X TECHNOLOGIES INC.	$16,484,426	2
ALLIANTCORPS LLC	$15,550,729	2
M2 TECHNOLOGY INC.	$11,903,735	9
BAE SYSTEMS PLC	$10,907,076	81
IPSECURE INC	$8,827,572	13
ON ASSIGNMENT INC.	$8,795,095	2
J. DIAMOND GROUP INC. THE	$6,868,059	24
HAWAIIAN NATIVE CORPORATION	$6,675,804	3
GCC MCCARTHY JOINT VENTURE IV	$5,968,800	1
L3 TECHNOLOGIES INC.	$5,349,937	2
L-3 COMMUNICATIONS CORPORATION	$5,213,915	2

HURON

APPENDIX B
ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

FY 2019: $299,345,030
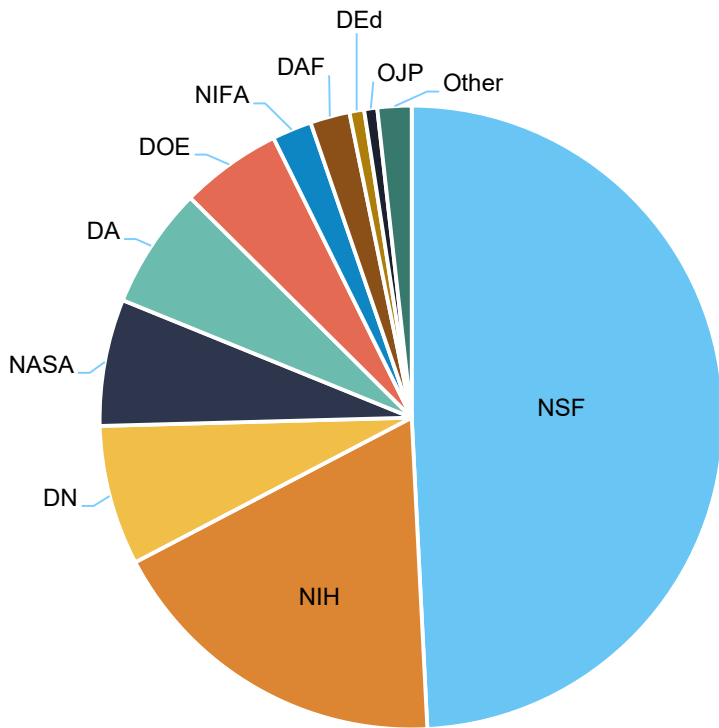
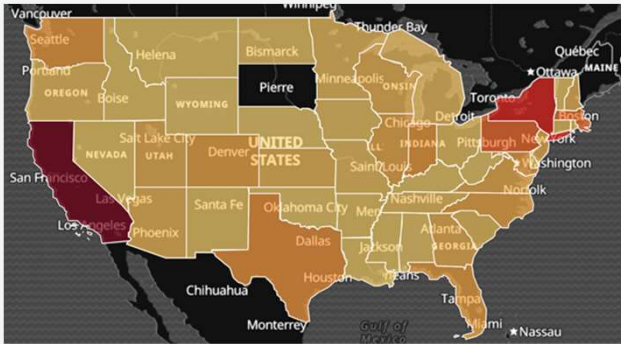| Sub-Agency	Office	Federal Obligation
NSF	DIV OF INFOR INTELLIGENT SYSTEMS	$25,428,548
NSF	DIV OF COMPUTER COMM FOUNDATIONS	$20,685,143
NASA	NASA SHARED SERVICES CENTER	$19,690,261
NSF	DIVISION OF UNDERGRADUATE EDUCATION	$18,573,720
NSF	DIV OF COMPUTER NETWORK SYSTEMS	$18,200,855
NSF	OFC OF ADV CYBERINFRASTRUCTURE	$17,681,073
DEPT OF NAVY	OFFICE OF NAVAL RESEARCH	$17,292,734
DEPT OF ARMY	W6QK ACC-APG DURHAM	$13,450,887
NIH	NIH NIGMS	$10,373,823
NSF	DIVISION OF GRADUATE EDUCATION	$7,058,321
NSF	DIV OF RESEARCH ON LEARNING IN	$6,749,720
DEPT OF ENERGY	SC CHICAGO SERVICE CENTER	$6,632,372
Other	Other	$117,527,573

Keywords
("machine learning" OR "ML" OR "neural network" OR "self organizing" OR "data science" OR "metasearch" OR "natural language processing" OR "Artificial Intelligence" OR "AI" OR "Cognitive Science")

HURON

ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Heatmap of Federal Funding

- $26,300 – $12,792,080
- $12,792,080 – $25,557,860
- $25,557,860 – $38,323,639
- $38,323,639 – $51,089,419

| Recipients	Value	Awards
STATE OF CALIFORNIA	$25,716,869	67
CARNEGIE MELLON UNIVERSITY	$16,335,473	20
UNIVERSITY OF WASHINGTON	$12,153,897	24
PURDUE UNIVERSITY	$9,950,968	13
MASSACHUSETTS INSTITUTE OF TECHNOLOGY	$9,917,367	21
CORNELL UNIVERSITY	$9,161,455	17
THE LELAND STANFORD JUNIOR UNIVERSITY	$6,997,588	24
NEW YORK UNIVERSITY	$6,408,429	7
THE REGENTS OF THE UNIVERSITY OF COLORADO	$6,308,324	16
WILLIAM MARSH RICE UNIVERSITY	**$6,207,094**	**6**
BOARD OF GOVERNERS STATE UNIVERSITY SYSTEM OF FLORIDA	$5,580,519	15
UNIVERSITY OF HAWAII SYSTEMS	$5,487,106	2
UNIVERSITY SYSTEM OF MARYLAND	$5,057,785	19
GEORGIA TECH RESEARCH CORPORATION	$4,975,936	21
UNIVERSITY OF WISCONSIN SYSTEM	$4,792,877	17
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	$4,751,570	1
THE UNIVERSITY OF TEXAS SYSTEM	**$2,186,922**	**13**

HURON

APPENDIX B
ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Recipients (Texas Based Companies	Value	Awards
SPECTRAL MD INC.	$27,338,284	1
TEXTRON INC.	$24,920,996	135
THE BOEING COMPANY	$8,517,506	18
BRISTOL BAY NATIVE CORPORATION	$4,060,960	1
AERO COMPONENTS INC	$3,678,609	80
BELL BOEING JOINT PROJECT OFFICE	$3,480,021	240
ELBIT SYSTEMS LTD.	$2,242,432	6

HURON

APPENDIX B
OPIOIDS

FY 2019: $299,383,357
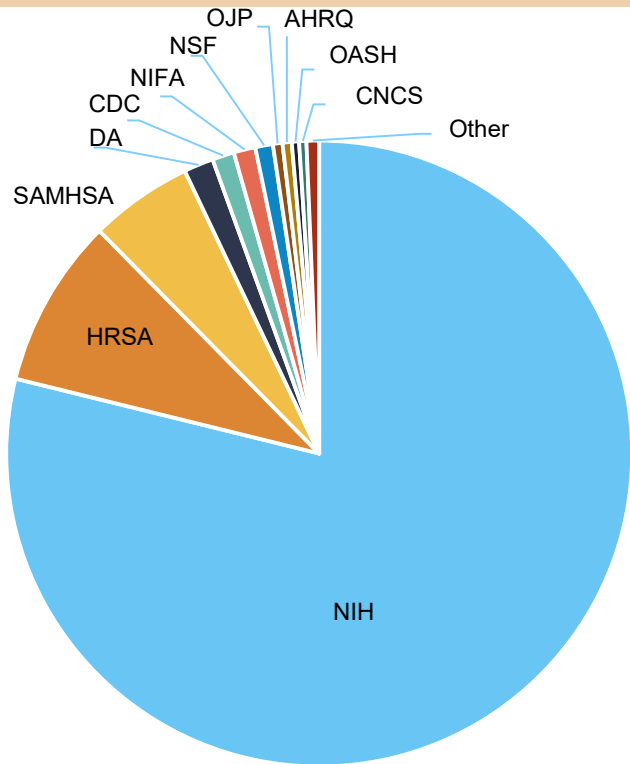
Sub-Agency	Office	Federal Obligation
NIH	NIH NIDA	$179,391,848
HRSA	HRSA OFFICE OF FEDERAL ASSISTANCE MANAGEMENT	$26,189,344
NIH	NIH NHLBI	$19,615,927
SAMHSA	SAMHSA DIVISION OF GRANTS MANAGEMENT	$15,973,543
NIH	NIH NIDDK	$13,873,514
NIH	NIH NCCIH	$7,742,187
DEPT OF THE ARMY	W4PZ USA MED RSCH ACQUIS ACT	$4,572,175
NIH	NIH NCATS	$3,832,152
NIH	Other	$3,432,365
NIH	NIH NINDS	$3,430,105
CDC	CDC OFFICE OF FINANCIAL RESOURCES	$3,401,987
NIFA	IYFC	$2,862,878
OTHER	Other	$15,065,332

Keywords
(opiod OR opiods OR opioid OR opioids)

HURON

APPENDIX B
OPIOIDS

Heatmap of Federal Funding

- $-150,690 – $16,145,319
- $16,145,319 – $32,441,327
- $32,441,327 – $48,737,336
- $48,737,336 – $65,033,345
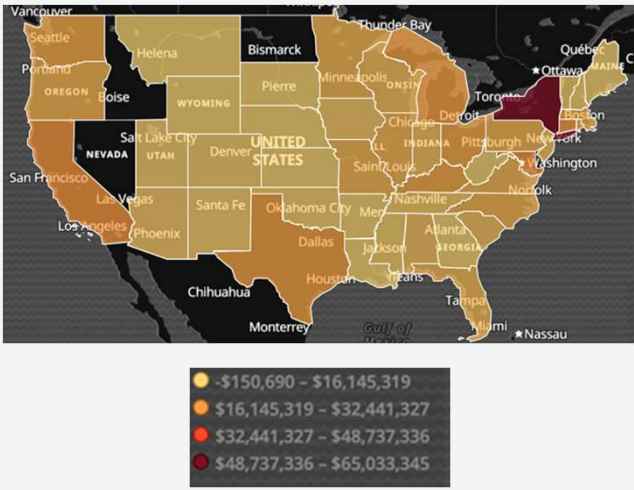
Recipients	Value	Awards
NEW YORK UNIVERSITY	$24,964,449	13
THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK	$22,510,844	1
YALE UNIVERSITY	$14,938,190	17
THE JOHNS HOPKINS UNIVERSITY	$14,913,489	17
UNIVERSITY OF KENTUCKY	$10,486,884	15
THE UNIVERSITY OF TEXAS SYSTEM	**$10,093,761**	**17**
UNIVERSITY OF WASHINGTON	$8,954,979	16
ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	$8,233,650	2
REGENTS OF THE UNIVERSITY OF MINNESOTA	$7,644,906	8
STATE OF CALIFORNIA	$7,306,334	24
THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA	$7,242,944	9
REGENTS OF THE UNIVERSITY OF MICHIGAN	$6,793,387	18
WAYNE STATE UNIVERSITY	$6,317,859	5
ALBERT EINSTEIN COLLEGE OF MEDICINE	$6,131,562	7
OREGON HEALTH & SCIENCE UNIVERSITY	$5,339,698	14
UNIVERSITY OF ILLINOIS	$5,135,553	5
TEXAS CHRISTIAN UNIVERSITY INC	**$2,744,772**	**2**

HURON

APPENDIX B
OPIOIDS

Recipients (Texas Based Companies	Value	Awards
FOUNDATION SYSTEMS AND ANCHORS INC	$70,360,678	2
HARRIS, COUNTY OF	$2,079,506	1
CERILLIANT CORPORATION	$1,777,000	3
HOUSTON, CITY OF	$1,200,000	2
COALITION OF HEALTH SERVICES INC	$1,000,000	1

HURON

APPENDIX B
INFECTIOUS DISEASE

FY 2019: $188,567,337
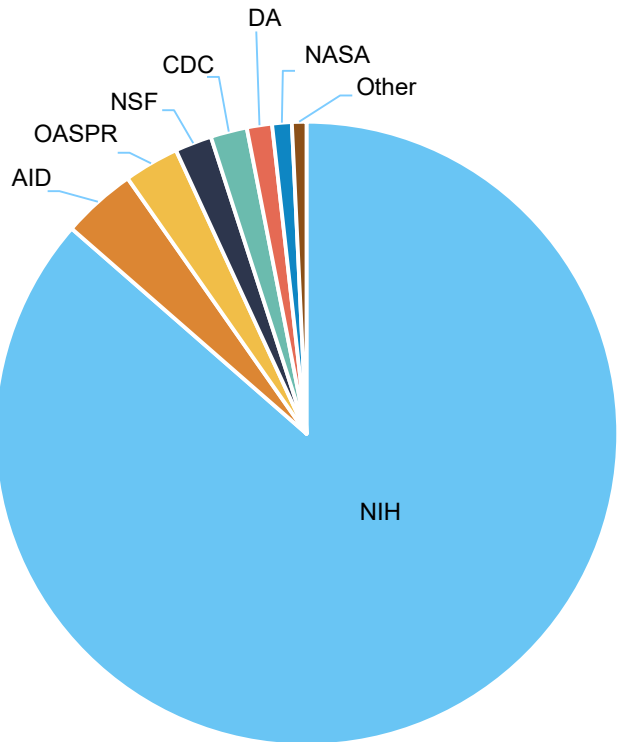
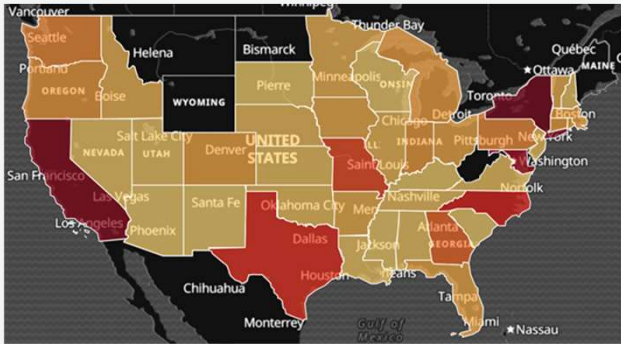| Sub-Agency	Office	Federal Obligation
NIH	NIH NIAID	$137,474,093
AID	USAID M	$7,256,286
OASPR	ASPR OFFICE OF RESOURCE MANAGEMENT	$5,397,501
NIH	NIH NHGRI	$5,121,518
NIH	NIH NIGMS	$4,815,998
NIH	NIH NHLBI	$3,708,326
CDC	CDC OFFICE OF FINANCIAL RESOURCES	$3,549,991
NIH	NIH NINDS	$3,183,556
NSF	DIVISION OF ENVIRONMENTAL BIOLOGY	$3,053,145
NIH	NIH NIA	$2,648,602
NIH	NIH NICHD	$2,597,209
DEPT OF THE ARMY	W4PZ USA MED RSCH ACQUIS ACT	$2,177,566
OTHER	Other	$7,583,546

Keywords
("Infectious disease" OR ebola OR coronavirus OR Malaria OR "smallpox" OR "west nile" OR MERS OR Marburg OR "influenza virus" OR "flu virus" OR "virus infection" OR "viral infection" OR dengue)

HURON

APPENDIX B
INFECTIOUS DISEASE

Heatmap of Federal Funding

- $-$143,839 – $5,719,016
- $5,719,016 – $11,581,872
- $11,581,872 – $17,444,727
- $17,444,727 – $23,307,582

Recipients	Value	Awards
STATE OF CALIFORNIA	$13,023,774	33
THE JOHNS HOPKINS UNIVERSITY	$12,730,286	21
THE UNIVERSITY OF TEXAS SYSTEM	**$11,905,138**	**20**
MOUNT SINAI HOSPITAL	$10,952,934	14
THE WASHINGTON UNIVERSITY	$9,694,808	21
NORTH CAROLINA STATE UNIVERSITY	$9,093,342	21
EMORY UNIVERSITY	$8,540,411	7
UNIVERSITY SYSTEM OF MARYLAND	$6,946,360	15
UNIVERSITY OF WASHINGTON	$6,664,431	16
DUKE UNIVERSITY	$5,208,899	14
THE LELAND STANFORD JUNIOR UNIVERSITY	$4,887,428	9
OREGON HEALTH & SCIENCE UNIVERSITY	$4,806,268	9
THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA	$4,574,718	16
YALE UNIVERSITY	$3,987,994	6
BROWN UNIVERSITY IN PROVIDENCE IN THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS	$3,716,032	4
MICHIGAN STATE UNIVERSITY	$3,507,457	4
THE TEXAS A&M UNIVERSITY SYSTEM	**$1,121,450**	**2**

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APPENDIX B
INFECTIOUS DISEASE

Recipients (Texas Based Companies	Value	Awards
THE GLOBAL FUND TO FIGHT AIDS, TUBERCULOSIS AND MALARIA (THE GLOBAL FUND)	$849,353,924	1
CHEMONICS INTERNATIONAL INC	$279,887,527	3
EMERGENT BIOSOLUTIONS INC.	$169,988,000	1
HENRY M. JACKSON FOUNDATION FOR THE ADVANCEMENT OF MILITARY MEDICINE, INC., THE	$141,360,700	6
UNITED NATIONS	$65,290,866	8
POPULATION SERVICES INTERNATIONAL	$55,711,216	3
CSL LIMITED	$40,620,795	16
CENTRE FOR INFECTIOUS DISEASE RESEARCH IN ZAMBIA LIMITED	$29,399,054	5
SIGA TECHNOLOGIES INC	$25,867,960	1
MANAGEMENT SCIENCES FOR HEALTH INC.	$24,193,124	4
SAIC INC.	$22,145,611	6
SABIN ALBERT B VACCINE INST	$20,545,754	1
REGENERON PHARMACEUTICALS INC	$19,552,893	1
INTERNATIONAL RESCUE COMMITTEE, INC.	$16,902,537	1
INFECTIOUS DISEASES INSTITUTE LIMITED	$15,741,487	1

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APPENDIX B
HIV TREATMENT AND PREVENTION

FY 2019: $138,149,360
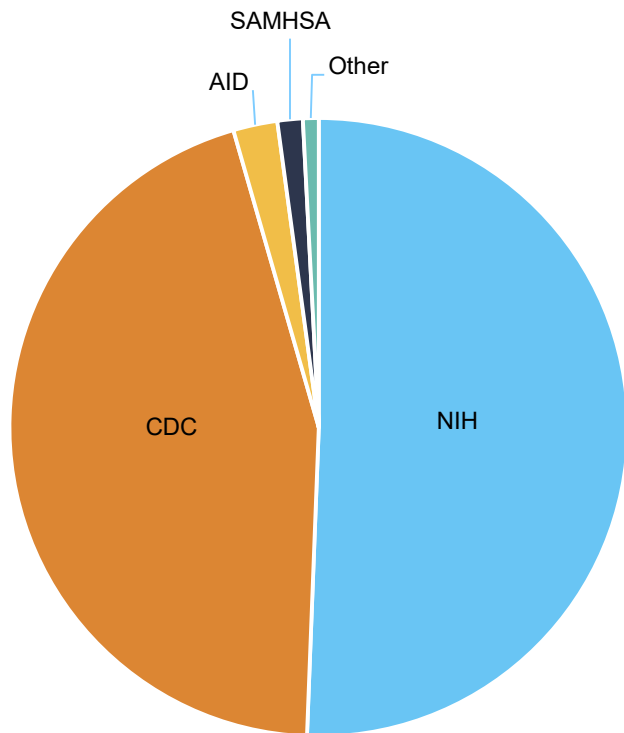
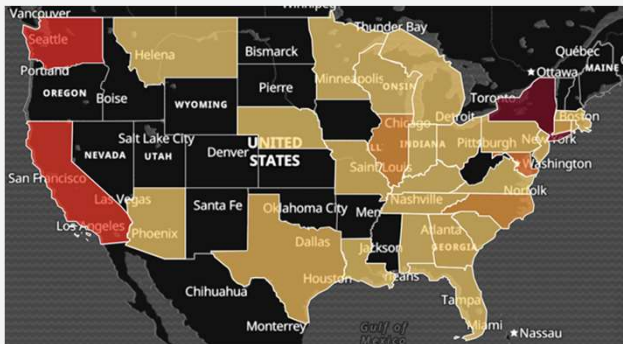| Sub-Agency	Office	Federal Obligation
CDC	CDC OFFICE OF FINANCIAL RESOURCES	$59,641,951
NIH	NIH NIAID	$20,869,089
NIH	NIH NIMH	$16,849,638
NIH	NIH NIDA	$13,418,130
NIH	NIH NICHD	$7,731,054
NIH	NIH NIMHD	$4,496,522
NIH	NIH NINR	$3,931,084
AID	USAID/ INDIA	$3,183,014
CDC	CDC OFFICE OF ACQUISITION SERVICES	$2,447,172
SAMHSA	SAMHSA DIVISION OF GRANTS MANAGEMENT	$1,823,206
NIH	NIH NIAAA	$1,749,183
DEPT OF THE NAVY	NAVSUP FLT LOG CTR SAN DIEGO	$1,366,464
OTHER	Other	$643,123

Keywords
("HIV prevention" OR "HIV treatment" OR "prevent HIV" OR "treat HIV")

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APPENDIX B
HIV TREATMENT AND PREVENTION

Heatmap of Federal Funding

- $0 – $8,619,090
- $8,619,090 – $17,238,179
- $17,238,179 – $25,857,269
- $25,857,269 – $34,476,358

Recipients	Value	Awards
TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK	$27,476,342	8
UNIVERSITY OF WASHINGTON	$20,561,171	10
STATE OF CALIFORNIA	$14,995,494	26
THE JOHNS HOPKINS UNIVERSITY	$12,243,352	18
UNIVERSITY TEACHING HOSPITAL	$9,687,044	1
NORTHWESTERN UNIVERSITY	$4,568,892	4
RESEARCH TRIANGLE INSTITUTE	$2,983,455	5
YALE UNIVERSITY	$2,788,409	7
UNIVERSITY OF ILLINOIS	$2,654,060	4
RESEARCH TRIANGLE INSTITUTE INC	$2,447,172	2
THE CITY UNIVERSITY OF NEW YORK	$2,365,887	6
TEXAS BIOMEDICAL RESEARCH INSTITUTE	**$1,940,385**	**1**
BROWN UNIVERSITY IN PROVIDENCE IN THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS	$1,677,036	7
NORTH CAROLINA STATE UNIVERSITY	$1,517,451	5
EMORY UNIVERSITY	$1,500,932	5
CHARLES DREW UNIVERSITY OF MEDICINE AND SCIENCE	$1,386,439	1
MAGEE-WOMENS RESEARCH INSTITUTE AND FOUNDATION	$1,350,893	1

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APPENDIX B
HIV TREATMENT AND PREVENTION

Recipients (Texas Based Companies	Value	Awards
STATE HEALTH SERVICES, TEXAS DEPARTMENT OF	$18,704,643	3
HOUSTON, CITY OF	$8,965,333	4
TEXAS BIOMEDICAL RESEARCH INSTITUTE	$1,940,385	1
BEAT AIDS INC	$1,052,278	2

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APPENDIX C
CLINICAL RESEARCH FUNDING OPTIMIZATION

The following table represents studies registered with ClinicalTrials.gov that are:
- Focused on Hispanic patient populations,
- Phase 2, 3, or 4 interventional trials or observational studies, and
- Currently recruiting or not yet recruiting, including potential collaborating institutions.

Study Name	Type	Sponsor
Effects of Stellate Ganglion Block on Hot Flashes in Hispanic Women With Breast Cancer	Phase 2	Northwestern University
Patient Empowered Strategy to Reduce Asthma Morbidity in Highly Impacted Populations; PeRson EmPowered Asthma RElief	Phase 4	Brigham and Women's Hospital
Study to Assess Disease Activity and Biomarkers in Minority Participants With Relapsing Multiple Sclerosis (RMS) Before and During Treatment With Ocrelizumab	Phase 4	Genentech, Inc.
Postpartum HPV Vaccination	Phase 4	University of Alabama at Birmingham
Effects of Sucralose on Drug Absorption and Metabolism (The SweetMeds Study)	Phase 2	Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
A 12-Month Study of Lasmiditan (LY573144) Treatment in Children Aged 6 to 17 With Migraine	Phase 3	Eli Lilly and Company
A Study of Lasmiditan (LY573144) Treatment in Children Aged 6 to 17 With Migraine	Phase 3	Eli Lilly and Company

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APPENDIX C
CLINICAL RESEARCH FUNDING OPTIMIZATION

Study Name	Type	Sponsor
New IDEAS: Imaging Dementia--Evidence for Amyloid Scanning Study	Observational	American College of Radiology
Screening for Cardiac Amyloidosis Using Nuclear Imaging for Minority Populations	Observational	Columbia University
Northern Manhattan Study of Metabolism and Mind	Observational	Columbia University
Latina Adolescent Depression Treatment Study	Observational	Duke University
Psychosocial, Environmental, and Chronic Disease Trends in Puerto Rico	Observational	Harvard School of Public Health
Characteristics of COVID-19 Infection Among PREGnant Women	Observational	Inova Health System
Patient and Physician Perspectives on Non-Alcoholic Fatty Liver Disease	Observational	M.D. Anderson Cancer Center
Voice Changes During ECT	Observational	Medical University of South Carolina
BRCA Mutations in Latinas	Observational	National Cancer Institute
Gut Microbiota Composition in Hispanic and Non-Hispanic Children.	Observational	Nemours Children's Clinic
Chronic Kidney Disease and Cardiovascular Disease Risk Assessment	Observational	Pacific Northwest University of Health Sciences
Adherence of Hispanic / Latina Breast Cancer - Patients to Adjuvant Aromatase Inhibitors	Observational	Texas Tech University Health Sciences Center, El Paso
Molecular Profiling After Neoadjuvant Chemotherapy for Triple-negative Breast Cancer	Observational	Texas Tech University Health Sciences Center, El Paso
Impact of Plasma Soluble Prorenin Receptor in Obese and Type 2 Diabetic Patients	Observational	Tulane University

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APPENDIX C
CLINICAL RESEARCH FUNDING OPTIMIZATION

| Study Name	Type	Sponsor
Epigenetics of TNBC in Overweight and Obese Hispanic & Non-Hispanic White Women	Observational	University of Arizona
Pharmacogenomics of Warfarin in Hispanics and Latinos	Observational	University of Arizona
Mitochondrial Methylation in Type 2 Diabetes	Observational	University of Arizona
Patient-Derived Xenografts to Reduce Cancer Health Disparities	Observational	University of California, Davis
Ethnic Influences on Stress, Energy Balance and Obesity in Adolescents	Observational	University of California, Irvine
Recovery and Outcomes From Stroke	Observational	University of Cincinnati
Genetic and Environmental Risk Factors for Hemorrhagic Stroke	Observational	University of Cincinnati
Environmental Health Effects on Your Physiology	Observational	University of Colorado, Boulder
Characteristics and Disease Progression of Mixed Connective Tissue Disease and Systemic Lupus Erythematosus	Observational	University of Miami
Familial Colorectal Cancer Registry in Hispanics	Observational	University of Puerto Rico
The Effects of Natural Sugars in Breast Milk on Healthy Infant Growth and Development	Observational	University of Southern California
Cardiovascular Implications of COVID-19	Observational	University of Texas Southwestern Medical Center
APOL1 Long-term Kidney Transplantation Outcomes Network (APOLLO)	Observational	Wake Forest University Health Sciences
pCHIP: Prostate Cancer Health Impact Program	Observational	Weill Medical College of Cornell University

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APPENDIX D
IP LEAKAGE ANALYSIS

Existing UTRGV patent inventors / co-inventors were reviewed to determine if those individuals had other IP not attributed to UTRGV. This population of individuals was assessed for IP leakage risk.

Inventor	Status	Risk	Risk Notes
Choi Yoonsu	UTRGV	Low	Patents from Prior Employers
Foltz Heinrich	UTRGV	Low	Patents from Prior Employers
Haider Waseem	UTRGV	Low	
Kumar Sanjeev	UTRGV	Low	
Lee Kyehwan	UTRGV	Low	
Li Jianzhi	UTRGV	Low	
Lozano Karen	UTRGV	Low	
Macossay-Torres Javier	UTRGV	Low	
Nambiar Rajiv	UTRGV	Low	
Rane Yatinkumar N.	UTRGV	Low	Fiberio
Sarkar Kamal	UTRGV	Low	
Wongkasem Nantakan	UTRGV	Low	
Yang Yingchen	UTRGV	Low	
Chen Banglin	Former UTRGV	Med	Former staff member now at UTSA - Patents with Chinese co-inventor
Kim Bong Kyun	Former UTRGV	Med	Former grad student now at Korea Institute of Science
Hu Yingbin	Former UTRGV	Low	Former grad student now at Miami
Wu Xiaodong	Former UTRGV	Low	Former staff member now at Iowa

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APPENDIX D
IP LEAKAGE ANALYSIS

Existing UTRGV patent inventors / co-inventors were reviewed to determine if those individuals had other IP not attributed to UTRGV. This population of individuals was assessed for IP leakage risk.

Inventor	Status	Risk	Risk Notes
Ajayan Pulickel M.	CO-Inventor		
Bell Nelson	CO-Inventor		
Bell Nelson S.	CO-Inventor		
Chen Danny Z.	CO-Inventor		
Flores Idhaliz	CO-Inventor		
Li Kang	CO-Inventor		
Missert Nancy A.	CO-Inventor	Sandia	
Sonka Milan	CO-Inventor		
Xiang Shengchang	CO-Inventor	Chinese co-inventor	
Yaghi Omar M.	CO-Inventor		

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APPENDIX E
ORGANIZATIONAL STRUCTURE

Recommended Organizational Roles

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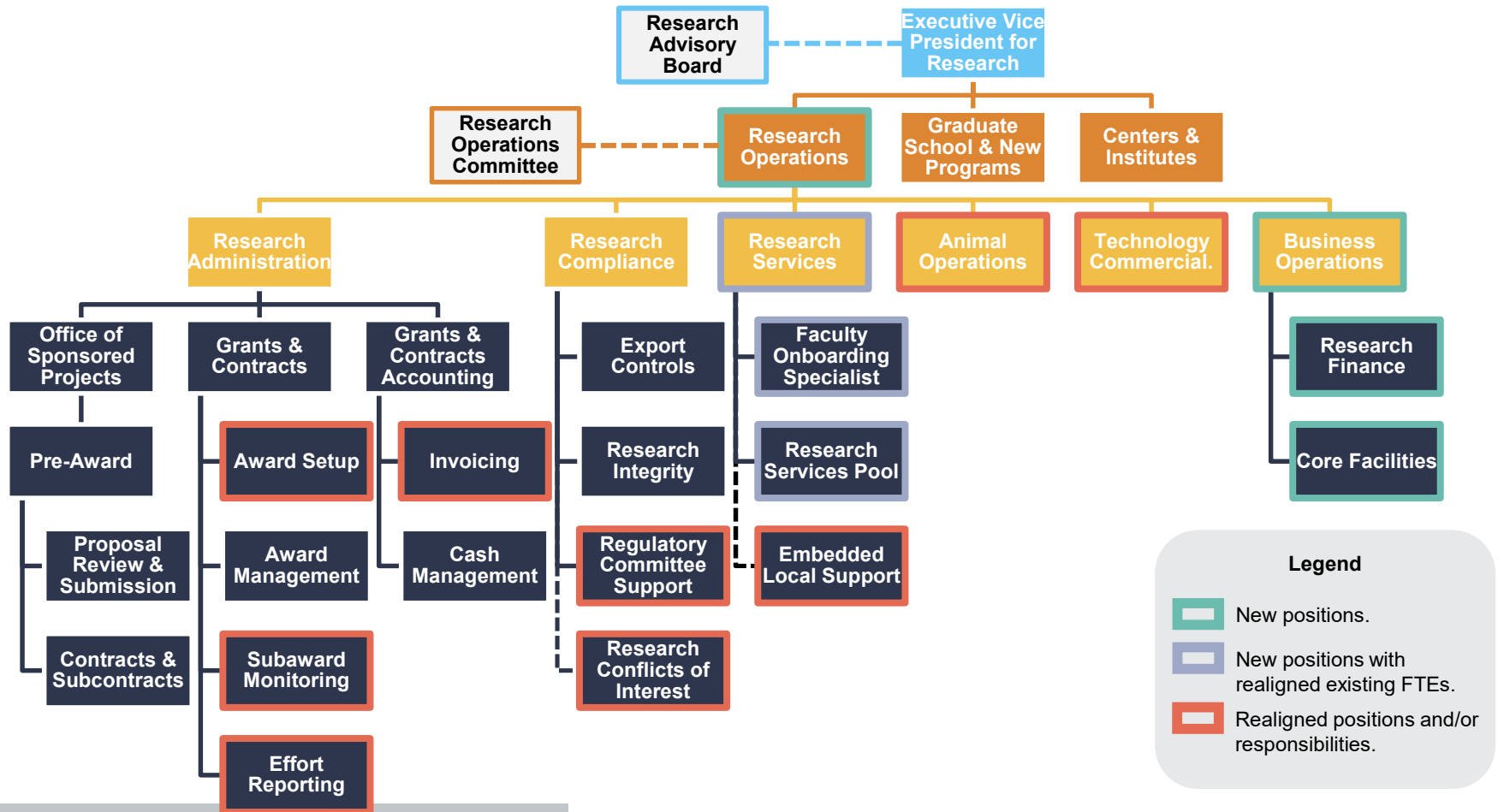
APPENDIX F
STAFFING AND GROWTH: RES. ADMINISTRATION

Pre-Award Administration Staffing Metrics

FTE / $100M Sponsored Project Funding:
- The metrics below from RADIUS illustrate the FTEs dedicated to each pre-award function per $100M in sponsored project funding. Data is broken out for the averages of UTRGV's cohort, as well as quartiles and averages for the full population of RADIUS participants.

Functional Area	UTRGV	UTRGV Cohort Average	All Participant Average	All RADIUS Participant Spectrum		
				1st Quartile	Median	3rd Quartile
Proposal Development	0.7	0.9	1.0	0.0	0.3	2.0
Proposal Review	4.5	1.9	5.0	1.6	4.0	7.8
Contract Negotiations	0.6	1.1	5.5	1.3	3.5	8.2
Progress Reports	0.4	0.4	1.4	0.3	1.0	1.8
Award Setup	3.2	1.3	2.6	0.7	1.4	3.3

◆ Represents UTRGV's placement on the "All RADIUS" spectrum for each metric.

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APPENDIX F
STAFFING AND GROWTH: RES. ADMINISTRATION

Post-Award Administration Staffing Metrics

FTE / $100M Sponsored Project Funding:
- The metrics below from RADIUS illustrate the FTEs dedicated to each post-award function per $100M in sponsored project funding. Data is broken out for the averages of UTRGV's cohort, as well as quartiles and averages for the full population of RADIUS participants.

Functional Area	UTRGV	UTRGV Cohort Average	All Participant Average	1st Quartile	Median	3rd Quartile
				All RADIUS Participant Spectrum		
Financial Reporting	2.5	1.5	3.6	0.7	2.0	4.5
Invoicing	2.8	1.3	2.4	0.9	1.7	2.8
Other Cash Management	1.9	0.9	1.7	0.5	1.0	2.0
Financial Compliance	4.4	2.3	3.4	1.0	2.0	3.8
Effort Reporting	0.8	0.7	0.8	0.3	0.7	1.0
Account Closeout	1.0	0.8	1.7	0.5	1.0	2.0

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APPENDIX F
STAFFING AND GROWTH: RES. ADMINISTRATION

Management and Support Administration Staffing Metrics

FTE / $100M Sponsored Project Funding:
- The metrics below from RADIUS illustrate the FTEs dedicated to research administration management and support functions per $100M in sponsored project funding. Data is broken out for the averages of UTRGV's cohort, as well as quartiles and averages for the full population of RADIUS participants.

Functional Area	UTRGV	UTRGV Cohort Average	All Participant Average	All RADIUS Participant Spectrum		
				1st Quartile	Median	3rd Quartile
Pre-Award Management	0.1	0.5	2.6	0.9	1.1	4.1
Post-Award Management	1.8	0.7	2.7	1.0	1.8	3.9
Other (Pre-Award)	0.1	0.6	1.9	0.1	1.1	2.5
Other (Post-Award)	0.9	0.6	2.8	0.3	1.0	2.2
Clerical / Administrative Support	1.2	1.6	1.9	0.2	1.2	2.5

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APPENDIX G
KEY POLICIES

Topic	Topic
Investigator Eligibility	Indirect Cost Rate
Proposal Submission	Space Allocation
Research Agreements	Recharge Centers
Pre-Award Expenditures	Responsible Conduct of Research
Account Setup	Export Controls
Allowable Costs	Intellectual Property
Fund Monitoring	Equipment Management
Time and Effort	Conflicts of Interest
Sponsored Project Billing	Conflicts of Commitment
Cash Management	Human Subjects Protections
Sponsor-Driven Reporting	Animal Subjects Protections
Program Income	Animal Operations
Cost Sharing	Environmental Health and Safety / Biohazards
Subrecipient Monitoring	
Account Closeout	

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THANK YOU