# OHSU Public Meeting of the Board of Directors

**Thursday, January 22 2026**
**Rood Family Pavilion**
**3410 S Bond Ave, Portland, OR 97239**
**Rooms B-C**

**YouTube**
**https://youtube.com/live/p7r8idHVQlw?feature=share**
**Dial-in Only Public**
**+1-503-388-9555 Portland Oregon Toll**
**Access code: 263 476 81636**

**OREGON HEALTH & SCIENCE UNIVERSITY**
**SPECIAL MEETING of the BOARD OF DIRECTORS**
**Public Agenda**
**Thursday, January 22, 2025**
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| | | |
|---|---|---|
| 12:30pm | Call to Order/ Chair's Comments<br>President's Comments | Susan King, M.S., RN, CEN, FAAN<br>Shereef Elnahal, M.D. M.B.A. |
| 12:45pm | Public Testimony | Susan King, M.S., RN, CEN, FAAN |
| 1:45pm | Oregon National Primate Research Center (ONPRC):<br>*Review of Report the Legislature* | Nathan Selden, M.D., Ph.D., FACS, FAAP<br>Bonnie Nagel, Ph.D.<br>Skip Bohm, Jr., DVM, DACLAM<br>Julie Hanna<br>Alice Cuprill Comas, J.D.<br>Jeff Jones, M.B.A.<br>Huron Consulting, Principal, Zachary Belton |
| 4:00pm | Tentative adjournment | |

To: OHSU Board of Directors

From: Nathan Selden, M.D., Ph.D.
Dean, OHSU School of Medicine, Executive Vice President

Bonnie Nagel, Ph.D.
Interim Chief Research Officer, Executive Vice President

Date: January 16, 2026

Dear OHSU Board Members,

In the attached presentation is information about the Oregon National Primate Research Center (ONPRC), as well as details of our response to the budget note included in House Bill 5006 directing OHSU to provide a report to the legislature regarding the ONPRC.

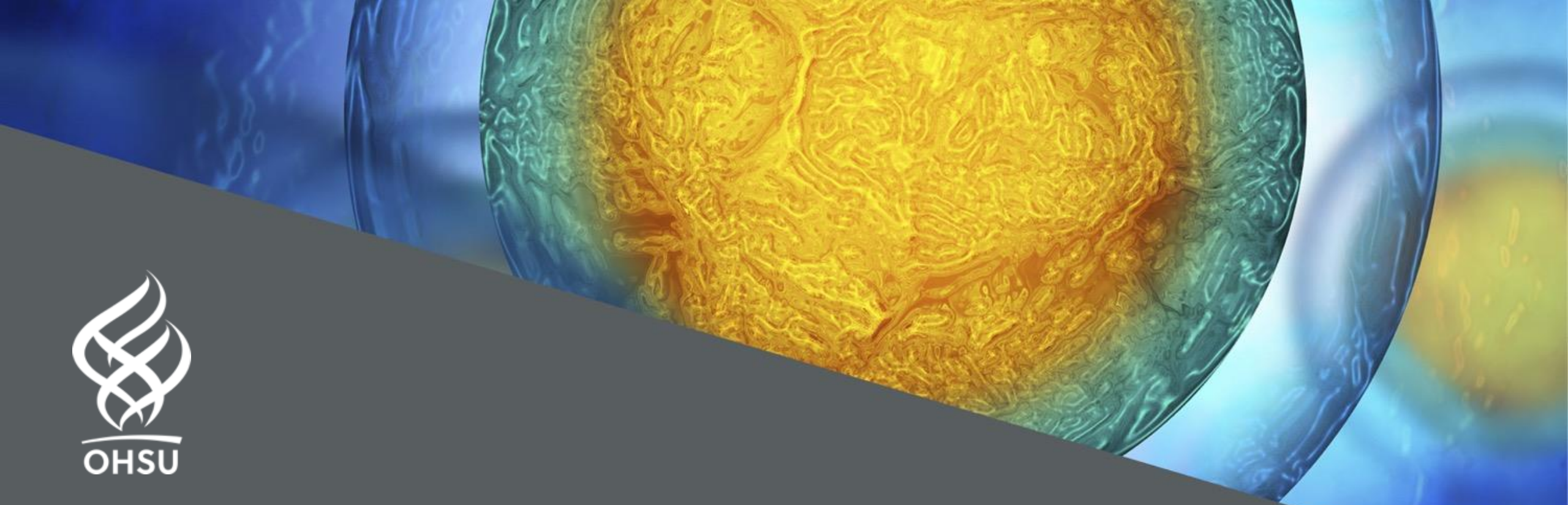
The ONPRC is a key component of OHSU's state-mandated biomedical research mission. Collectively, its staff and scientists are pursuing understanding of and treatments for complex health problems (see Appendices D & E for details).

The report to the legislature (Appendix E) outlines the costs and other considerations for 3 scenarios to appropriately manage the disposition of the ONPRC in the event of a significant reduction in National Institutes of Health funding or a major change in relevant federal government policy. We have also shared important information regarding the West Campus real estate, on which the ONPRC resides (Appendix B). Finally, Appendix A provides information relevant to the methodology used by Huron Consulting Group to carry out the analyses and projections contained in the report to the legislature.

Enclosed, in preparation for our upcoming public OHSU Board of Directors meeting on January 22, 2026, please find the following:

1. Presentation
2. Appendix A: Methodology
3. Appendix B: Real Property
4. Appendix C: Inventory of Current Active Research
5. Appendix D: Research Highlights
6. Appendix E. Report to the Legislature

We look forward to answering any questions you have during our upcoming meeting.



# Oregon National Primate Research Center (ONPRC)

Presentation to the OHSU Board of Directors
January 22, 2026

# Outline

- **Overview of ONPRC**
  - Science
  - Physical plant
  - Organization
  - Personnel
  - Finances
- **Budget note background and process**
- **Budget note response and scenarios**

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# ONPRC Overview

1. Established in 1962 (merged with OHSU in 1998)
2. Sits on 217-acre OHSU West Campus
3. 29 buildings (690,920 $ft^2$)
4. Five scientific divisions
5. Shared faculty members across OHSU
6. Second largest contributor to OHSU's total research grant revenue (11%)
7. One of 7 National Primate Research Centers in the U.S.

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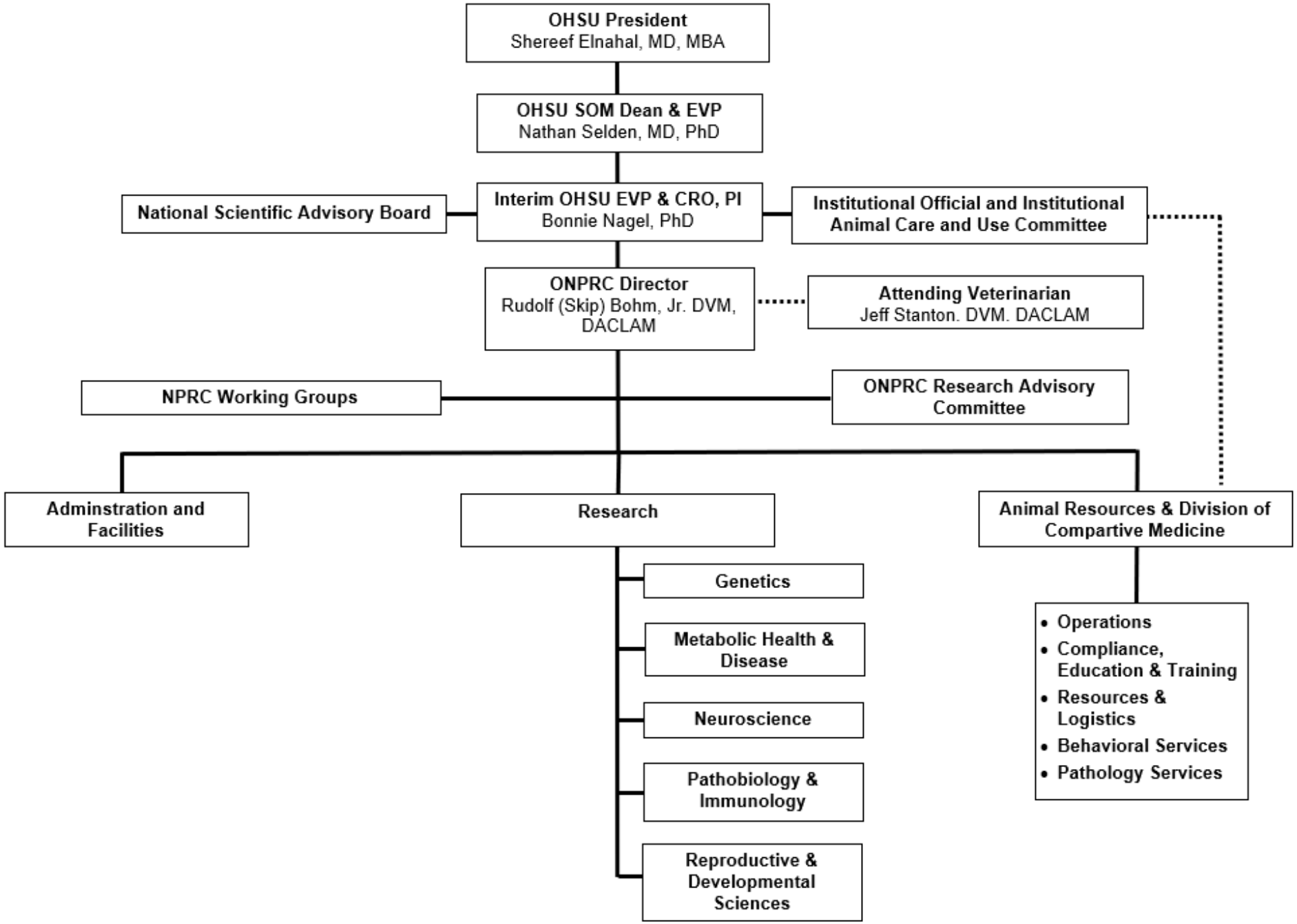
# Oregon National Primate Research Center Organizational Structure

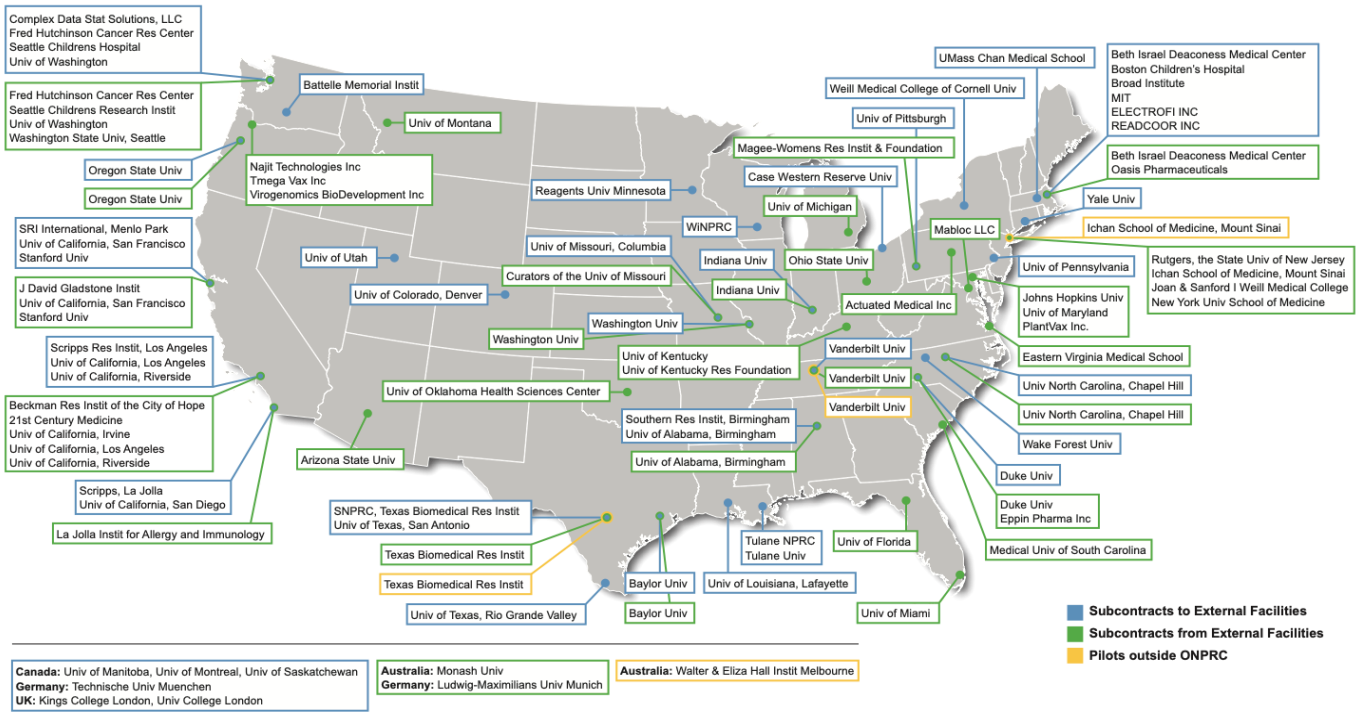


# ONPRC: Scientific Impact

## 514 peer-reviewed publications over the past 5 years (1/1/21-12/31/25)

- Average per year: 103
- Current P51 grant year (5/1/25-1/13/26): 79

**The locations of collaborative grants with external institutions**



# ONPRC: Scientific Impact Beyond OHSU Through Partnership

ONPRC has recently experienced success in pursuing industry and other external partnerships. These partnerships are increasingly important to establish in the rapidly changing research landscape.

**37** queries received from external academic and industry scientists regarding studies requiring primate models to advance a therapy or technology toward clinical use. (2025 Calendar Year)

**14** are pending/in process of completing a finalized research agreement.

**6** research/licensing agreements have been finalized

**8** queries in total received in 2024

**Pending/In Process: 14**

| Potential Partner | Research Area |
|---|---|
| Biotech company | Reproductive Technologies- Precision Medicine |
| Biotech company | Infectious Disease |
| International university | Reproductive Medicine- Infertility |
| Biotech startup | Reproductive Technologies- Ex vivo Pregnancy Support |
| National laboratory | Immunology- Lymphatics Program Project |
| Genomics biotech | Reproductive Technologies-Precision Medicine |
| Biopharma | Reproductive Medicine-Infertility |
| Biotech VC | Contract Research-Consulting |
| CRO/CDMO | Reproductive Technologies- NHP Assisted Reproductive Technologies |
| Private university | Physiology-Kidney Ion Transport |
| Tech services | Reproductive Technologies-NHP Model Development |
| Pharma | CAR-T Therapy- Cancer |
| Pharma | Neuroscience-Neuroinflammation/CNS Disorders |
| Public University | Precision Medicine-Kidney Disease |

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# 5 Scientific Divisions

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **Reproductive & Developmental Sciences** | **Neuroscience** | **Pathobiology & Immunology** | **Metabolic Health and Disease** | **Genetics** |
| 2025 research funding: $10,916,039 (avg. over past 5 years: $7,926,835) | 2025 research funding: $7,758,799 (avg. over past 5 years: $10,290,566) | 2025 research funding: $18,440,442 (avg. over past 5 years: $19,393,624) | 2025 research funding: $5,100,283 (avg. over past 5 years: $5,322,238) | 2025 research funding: $7,963,447 (avg. over past 5 years: $5,426,706) |
| 7 faculty scientists across OHSU | 11 faculty scientists across OHSU | 12 faculty scientists across OHSU | 4 faculty scientists across OHSU | 4 faculty scientists across OHSU |

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# ONPRC Scientific Divisions: Select Highlights Over the Past 5-10 Years

## Genetics

The Division was created to develop and use new tools to understand and control genetic diseases. **This division provides a unique research setting where scientists can explore important questions about the causes and treatments of genetic diseases.**

### Molecular characterization of NHP development

ONPRC scientists are building a comprehensive nonhuman primate developmental reference dataset and tissue bank to fill gaps left by adult-focused human genomics, enabling the study of gene expression changes, genetic variation, and the origins of childhood and developmental disorders.


The human and non-human primate developmental GTEx projects

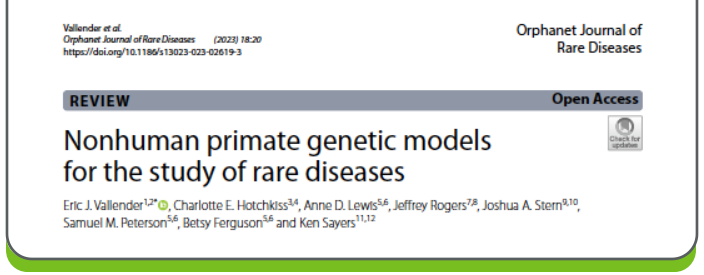
https://doi.org/10.1038/s41586-024-08244-9 Received: 14 June 2024

Tim H. H. Coorens[122], Amy Guillaumet-Adkins[1], Rothem Kovner[2], Rebecca L. Linn[2], Victoria H. J. Roberts[3], Amrita Sule[1], Patrick M. Van Hoose[2] & the dGTEx Consortium*

*Nature | Vol 637 | 16 January 2025 | 557*

### Genetic models of human disease

Collaborative work between pathologists and geneticists at ONPRC has identified naturally occurring nonhuman primate models of rare human diseases, enabling new opportunities to study disease mechanisms and develop treatments where no relevant models previously existed.


Vallender et al. Orphanet Journal of Rare Diseases (2023) 18:20 https://doi.org/10.1186/s13023-023-02619-3

Orphanet Journal of Rare Diseases

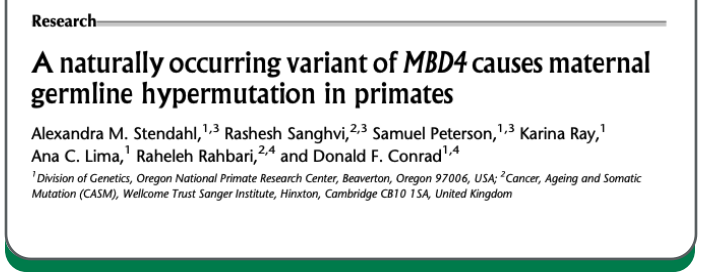
REVIEW Open Access

Nonhuman primate genetic models for the study of rare diseases

Eric J. Vallender[1,2*], Charlotte E. Hotchkiss[3,4], Anne D. Lewis[5,6], Jeffrey Rogers[7,8], Joshua A. Stern[9,10], Samuel M. Peterson[5,6], Betsy Ferguson[5,6] and Ken Sayers[11,12]

### Paternal contributions to offspring health

Children born to older fathers are at a higher risk of developing various diseases. ONPRC researchers utilize the genomes of large primate families to better understand the causes and consequences of these age-related mutations.


Research

A naturally occurring variant of *MBD4* causes maternal germline hypermutation in primates

Alexandra M. Stendahl,[1,3] Rashesh Sanghvi,[2,3] Samuel Peterson,[1,3] Karina Ray,[1] Ana C. Lima,[1] Raheleh Rahbari,[2,4] and Donald F. Conrad[1,4]

[1]Division of Genetics, Oregon National Primate Research Center, Beaverton, Oregon 97006, USA; [2]Cancer, Ageing and Somatic Mutation (CASM), Wellcome Trust Sanger Institute, Hinxton, Cambridge CB10 1SA, United Kingdom

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# ONPRC Scientific Divisions: Select Highlights Over the Past 5-10 Years

## Metabolic Health and Disease

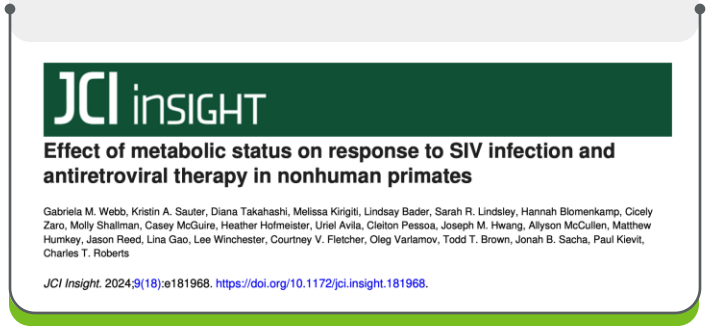
Obesity, high blood pressure, high cholesterol levels, fatty liver disease, and insulin resistance are signs that the body's metabolism isn't working properly. During the past 30 years, these issues have become much more common. **The goal of the Division and its investigators is to understand what causes these metabolic diseases so we can identify ways to treat them.**

### Fetal hematopoiesis and the role of maternal diet

Division researchers are investigating how maternal obesity and poor diet negatively affect fetal stem cells and immune system development, which results in an increased risk of inflammatory diseases later in life.

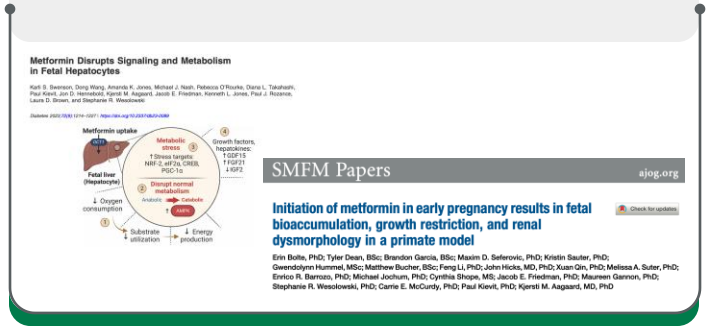

### Effects of obesity and insulin resistance on SIV infection and antiretroviral therapy (ART)

Using combined nonhuman primate models of obesity, HIV-like viral infection, and ART, researchers showed that long-term ART elevates cardiometabolic risk markers in lean animals to levels comparable to obesity.




### Treatment of metabolic disorders during pregnancy

Current research suggests that early-life exposure to metformin, especially alongside an obesogenic diet, may predispose offspring to obesity and insulin resistance and can disrupt proper kidney development during pregnancy.

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# ONPRC Scientific Divisions: Select Highlights Over the Past 5-10 Years

## Neuroscience

**The Division studies how essential brain functions contribute to health and disease across key life stages, from pregnancy through aging.** Using advanced clinical technologies and targeted interventions, researchers translate findings into real-world applications in collaboration with OHSU clinician-scientists. Core research areas include substance use disorders, neurodegenerative diseases such as Alzheimer's and related dementias, genetic neurological disorders, and hormonal and inflammatory processes.

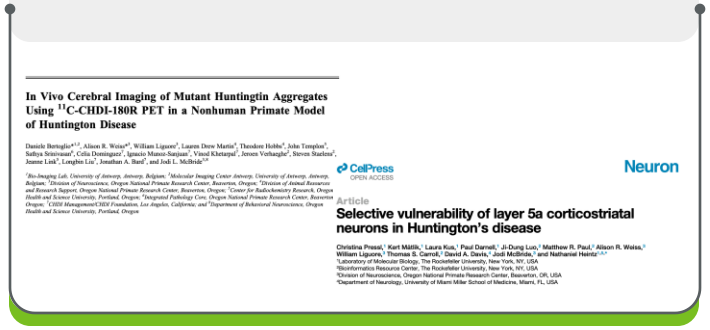
### Combatting multiple sclerosis

ONPRC researchers have discovered a naturally occurring disease in monkeys that resembles multiple sclerosis in humans—a discovery that will enable the development of new treatments for this disease.


GLIA
WILEY
RESEARCH ARTICLE
A modified flavonoid accelerates oligodendrocyte maturation and functional remyelination
Journal of Neuroimmunology
Immunopathology of Japanese macaque encephalomyelitis is similar to multiple sclerosis

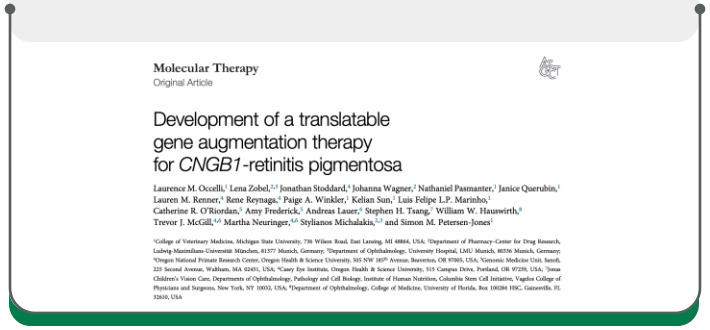
### Markers of Huntington's disease

A PET/MRI imaging approach was developed to visualize Huntington's disease–causing mutant proteins and their brain effects, a method now being applied in patients to monitor the effectiveness of drug and gene therapies.


In Vivo Cerebral Imaging of Mutant Huntingtin Aggregates Using $^{11}$C-CHDI-180R PET in a Nonhuman Primate Model of Huntington Disease
CellPress
OPEN ACCESS
Neuron
Article
Selective vulnerability of layer 5a corticostriatal neurons in Huntington's disease

### Curing blindness

ONPRC and OHSU's Casey Eye Institute have begun human clinical trials to treat macular degeneration, a major cause of blindness. The work is based on ONPRC research, developing multiple models of retinal degeneration and evaluating stem cell and gene therapy prior to human studies.


Molecular Therapy
Original Article
Development of a translatable gene augmentation therapy for *CNGB1*-retinitis pigmentosa

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# ONPRC Scientific Divisions: Select Highlights Over the Past 5-10 Years

## Pathobiology & Immunology

The World Health Organization estimates that at least 30 new diseases have emerged in the past 20 years, collectively threatening the health of hundreds of millions of people, many with no available treatments, cures, or vaccines. **Scientists in this Division are working to address these challenges by bringing together expert virologists, immunologists, and pathologists who use nonhuman primate models to advance understanding of infectious diseases and develop effective solutions.**

### Protecting babies born to mothers with HIV

ONPRC researchers are using human monoclonal antibodies to protect babies born to mothers with HIV by giving a single dose soon after birth. This safe and non-toxic treatment helps prevent the virus from taking hold in the baby's body, so no additional treatment is needed.

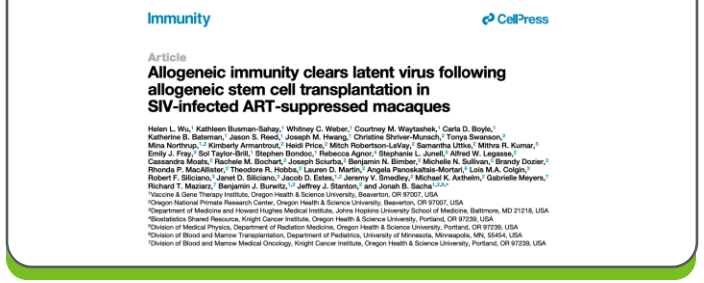

ARTICLES

Protection of Newborn Macaques by Plant-Derived HIV Broadly Neutralizing Antibodies: a Model for Passive Immunotherapy during Breastfeeding

Early short-term treatment with neutralizing human monoclonal antibodies halts SHIV infection in infant macaques

### HIV cure following stem cell transplantation

A macaque model for stem cell transplantation has revealed how this treatment can cure HIV, providing insight into how very rare cases of HIV cure occur in human patients. This discovery means researchers can test other therapies to cure HIV on their own without needing stem cell transplants.


Immunity

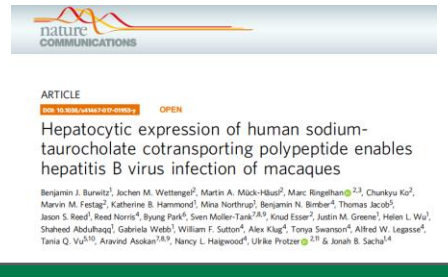
CellPress

Article

Allogeneic immunity clears latent virus following allogeneic stem cell transplantation in SIV-infected ART-suppressed macaques

### Curing Chronic Hepatitis B virus

Around 247 million people worldwide have chronic hepatitis B, which can lead to liver problems and cancer. Recently, a cure was found for hepatitis C, which has rejuvenated efforts to find a cure for hepatitis B. ONPRC is teaming up with drug companies and academic institutions to test new treatments aimed at curing chronic hepatitis B.


nature COMMUNICATIONS

ARTICLE

OPEN

Hepatocytic expression of human sodium-taurocholate cotransporting polypeptide enables hepatitis B virus infection of macaques

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# ONPRC Scientific Divisions: Select Highlights Over the Past 5-10 Years

## Reproductive & Developmental Sciences

**The Division performs basic and applied research to improve our understanding of reproduction and development, from conception to birth and beyond.** This knowledge is used to help treat reproductive disorders, manage fertility, and improve the health of women and their babies. The Division's research covers all stages of reproduction, including egg and sperm development, fertilization, embryogenesis, pregnancy, fetal growth, and early life.

### Preserving cancer survivors' ability to have children

Cancer treatments often damage a woman's eggs, but research over the past decade have yielded insight into approaches whereby patients can preserve or restore their fertility by protecting and preserving ovarian and testicular tissue. This research offers hope for having children after cancer treatment.


Vitrification preserves oocyte transcriptome in a 3D *in vitro* follicle development and oocyte maturation system

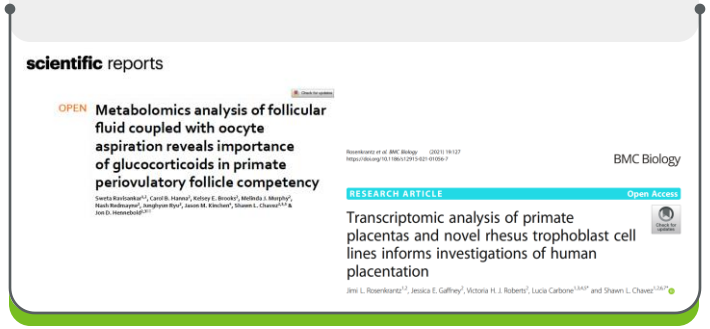
RESEARCH

REPRODUCTIVE BIOLOGY

Autologous grafting of cryopreserved prepubertal rhesus testis produces sperm and offspring

### Addressing low infertility therapy success rates

Because current infertility treatments succeed only 30–40% of the time, Division scientists are working to improve outcomes by identifying ovarian factors and advanced imaging methods that help select eggs and embryos most likely to implant and result in a healthy pregnancy.


scientific reports

OPEN Metabolomics analysis of follicular fluid coupled with oocyte aspiration reveals importance of glucocorticoids in primate periovulatory follicle competency

BMC Biology

RESEARCH ARTICLE Open Access

Transcriptomic analysis of primate placentas and novel rhesus trophoblast cell lines informs investigations of human placentation

### Curing Chronic Hepatitis B virus

Division researchers are studying how infections during pregnancy cause preterm birth and inflammation that lead to brain injury and other developmental health problems, while also developing therapies to prevent these outcomes.


TOPICAL REVIEW

Antenatal prevention of cerebral palsy and childhood disability: is the impossible possible?

Original Research

OBSTETRICS

Maternal azithromycin therapy for *Ureaplasma parvum* intraamniotic infection improves fetal hemodynamics in a nonhuman primate model

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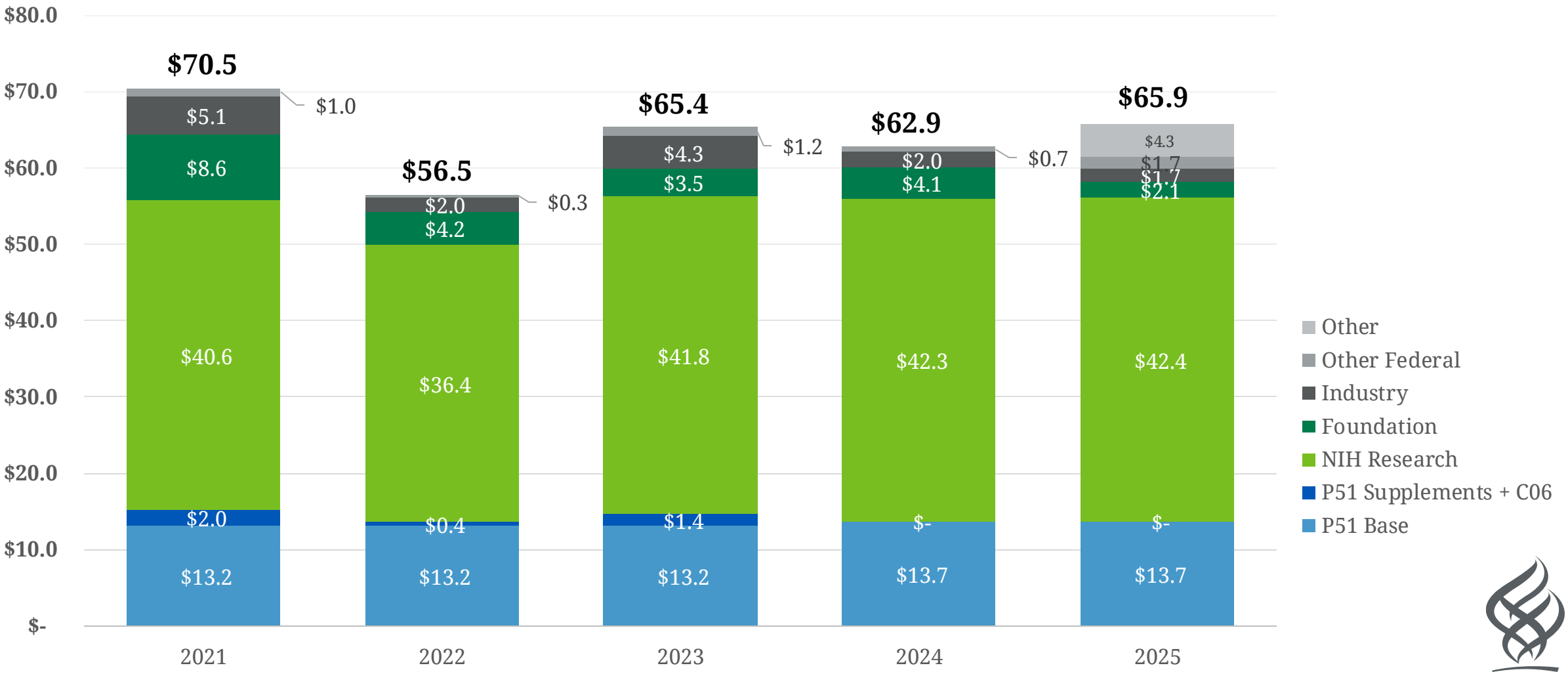
# ONPRC Awards FY 21- FY 25

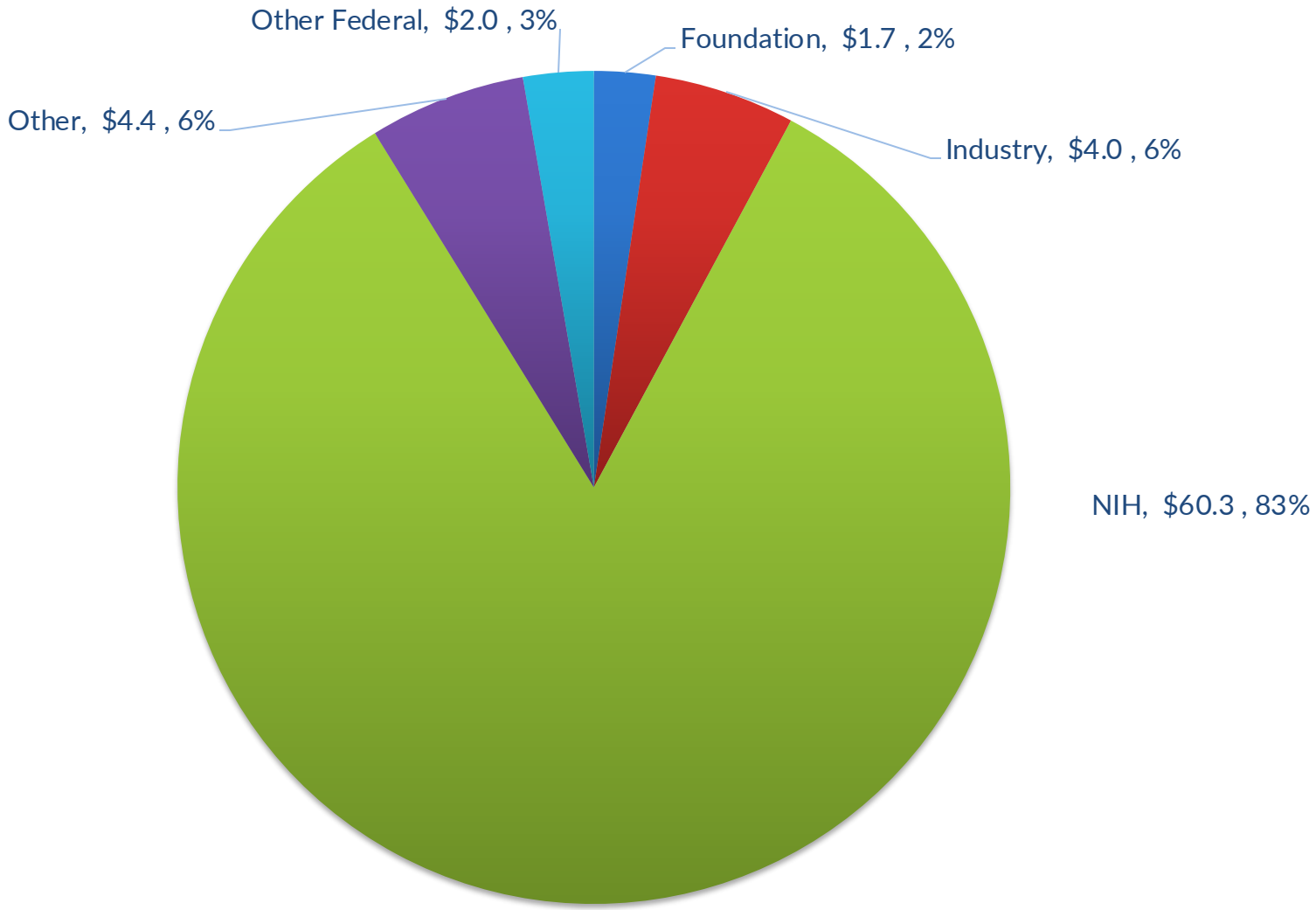
*(In millions)*



# ONPRC Open Active Awards $72.4 Million

as of January 13, 2026

(in millions)




**Snapshot of current open active awards, including awards that crossover fiscal years**

# ONPRC Employees

- Research Faculty & Scientists: 43^
- Research Staff: 115^
- Research Core Staff: 17^
- Trainees (students & post-docs):
  - Graduate students:30*
  - Undergraduate: 42*
  - Veterinary trainees: 5*
- Administration: 29^
- Animal Care:
  - Veterinary and Behavioral Sciences faculty: 15^
  - Animal care staff: 165^

^01/06/26 ONPRC HR personnel report
* NIH P51 RPPR (annual progress report 05/01/24-04/30/25

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# ONPRC Financial Overview

ONPRC's income statement encompasses P51-funded center operations and ONPRC awards. The FY2025 Income statement resulted in a $12.2m loss.

| FY2025 ONPRC Income Statement | |
|---|---|
| **(000)** | |
| Grants & Contracts | $65,445 |
| Gifts applied to operations | 363 |
| Other revenues | 185 |
| Research mission support | 1,935 |
| **Operating revenues** | **67,928** |
| Salaries & benefits | 49,382 |
| Supplies & services | 19,936 |
| Allocated overhead costs, net | 10,787 |
| **Operating expenses** | **80,105** |
| **Current year operating income (loss)** | **(12,177)** |

## Grants and contracts

The majority of revenue support for ONPRC is from grant funding

## Research mission support

Faculty development and program support

## Allocated overhead

Allocated overhead includes human resources, information technology, financial services, central and research administration, building and equipment depreciation, operations and maintenance, etc.

* In FY2025, there was also a write-off for accumulated deficits from FY21-FY24

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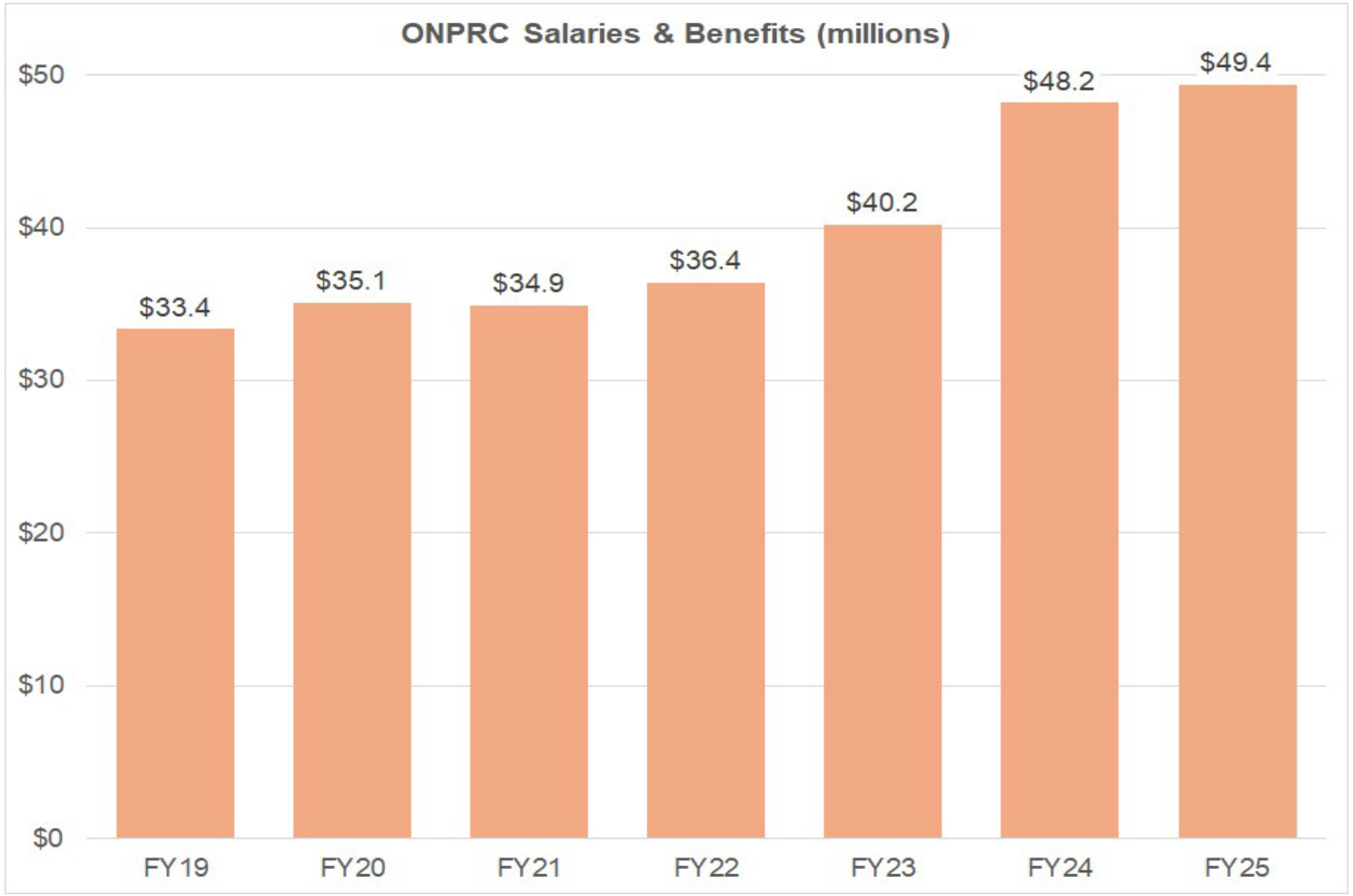
# ONPRC Financial Overview

Rising personnel costs are due to increased staffing necessary to support a new building and wage increases.

A major contributor the deficit are rising personnel costs, in contrast with flat NIH funding

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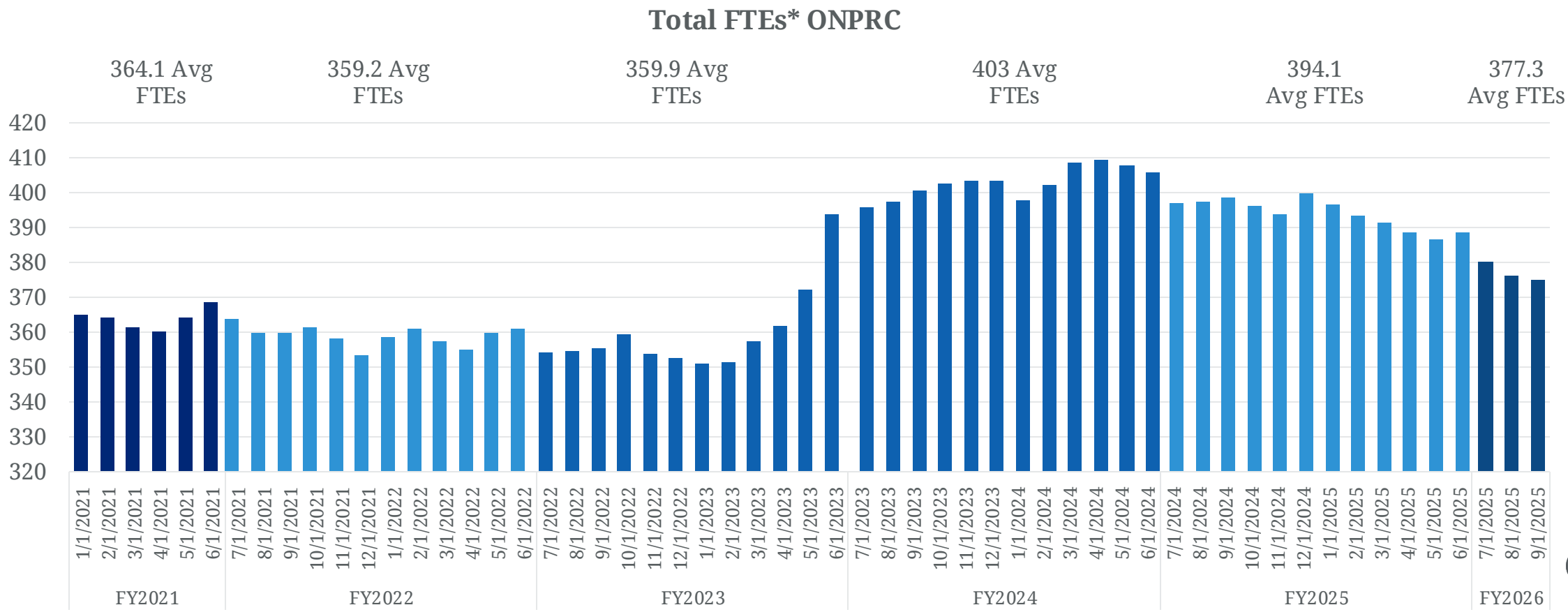
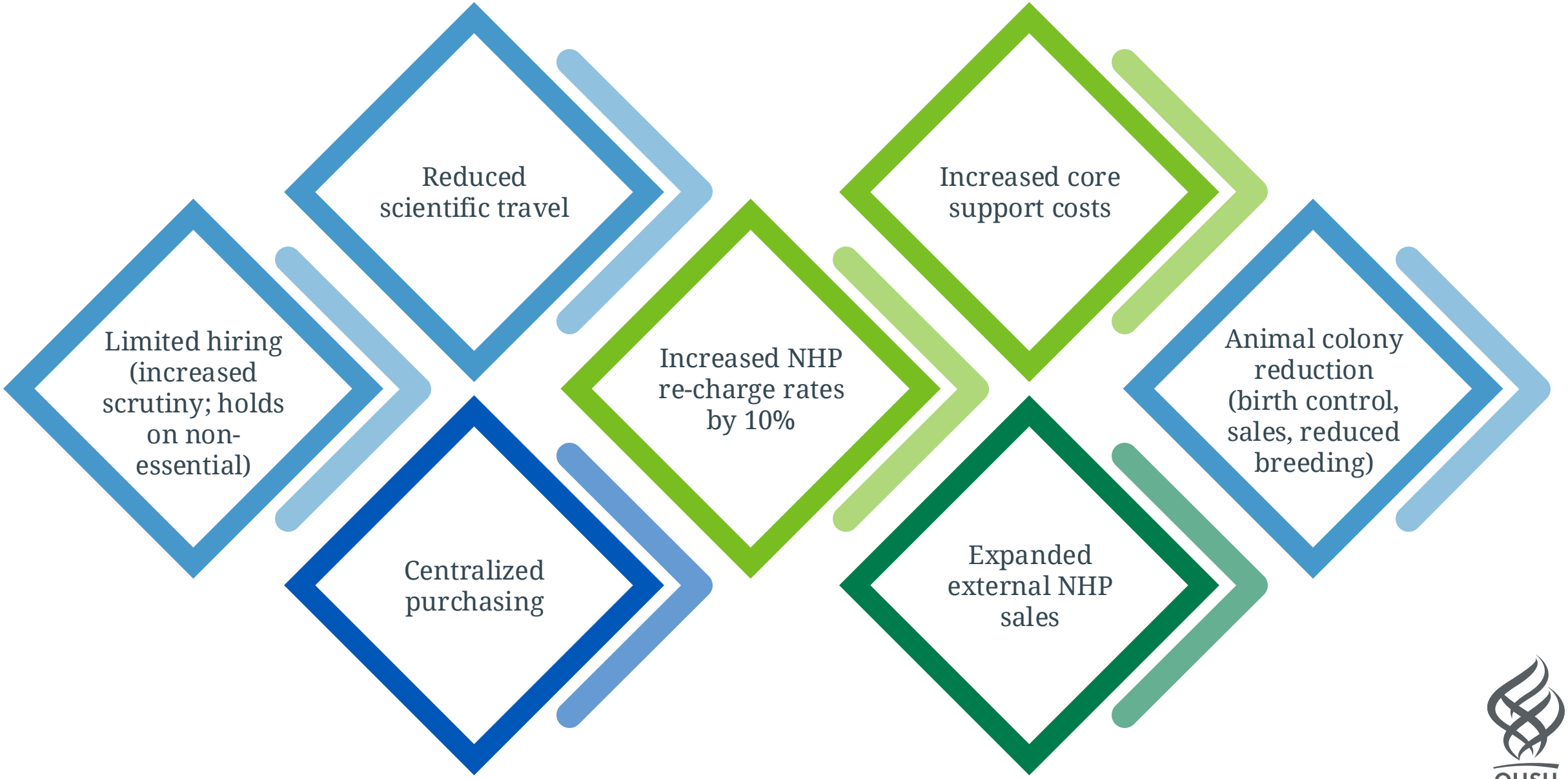
# ONPRC Financial Overview

Total FTEs increased between FY2023 and FY2024 and then have steadily decreased. Payroll costs increased in later years despite slight decrease in FTEs.




* Reflects ONPRC personnel across all funding sources (P51 and non-P51)

# Current Strategies Toward Deficit Reduction – Started Dec. 2024

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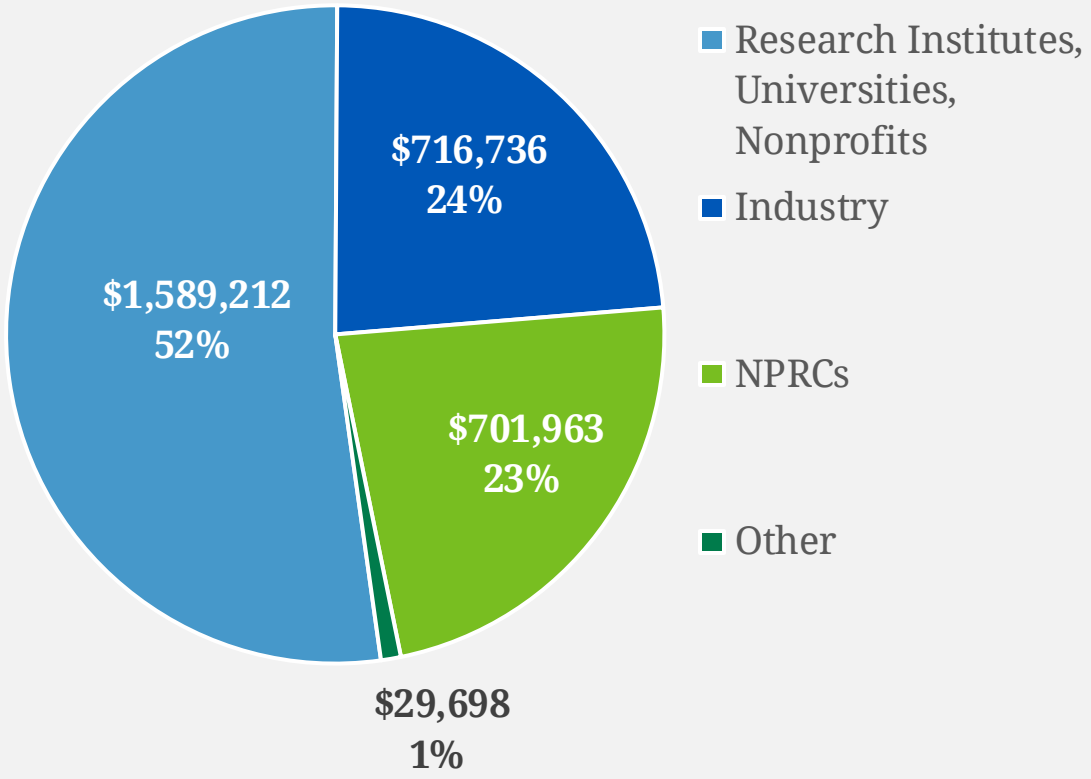
# External Sales

Profile of External Sales of NHPs for Prior 3 NIH P51 Award Years (May 1, 2022 – April 30, 2025)

## External Sales by Buyer Type
## Last 3 Award Years (63, 64, 65)*




- Award years are May 1 – April 30 of each year. Award Year 65 was May 1, 2024 – April 30, 2025

## Top 20 Buyers by External Sales Amount
## Last 3 Award Years (May 1, 2022 – April 30, 2025)

| Buyer | Amount |
|---|---|
| University of Washington/NPRC | $ 397,453 |
| Virscio, Inc | $ 360,609 |
| Legacy Research Institute | $ 323,323 |
| University of Georgia | $ 187,555 |
| AbCellera Biologics | $ 164,558 |
| University of California Davis/NPRC | $ 159,138 |
| Population Council | $ 141,477 |
| Vanderbilt University | $ 137,414 |
| Magee-Womens Research Inst & Fdn | $ 86,172 |
| Emory Univ/Yerkes NPRC | $ 75,812 |
| IMMC Diagnostics, Inc | $ 71,845 |
| Tulane University/NPRC | $ 68,869 |
| University of Cape Town | $ 55,794 |
| University of California Berkeley | $ 54,344 |
| University of Pittsburgh | $ 51,284 |
| Fractyl Laboratories | $ 42,408 |
| Eastern Virginia Medical School (CONRAD) | $ 40,743 |
| Boston University | $ 38,147 |
| InnovaGyn Inc | $ 35,679 |
| University of Maryland | $ 32,933 |

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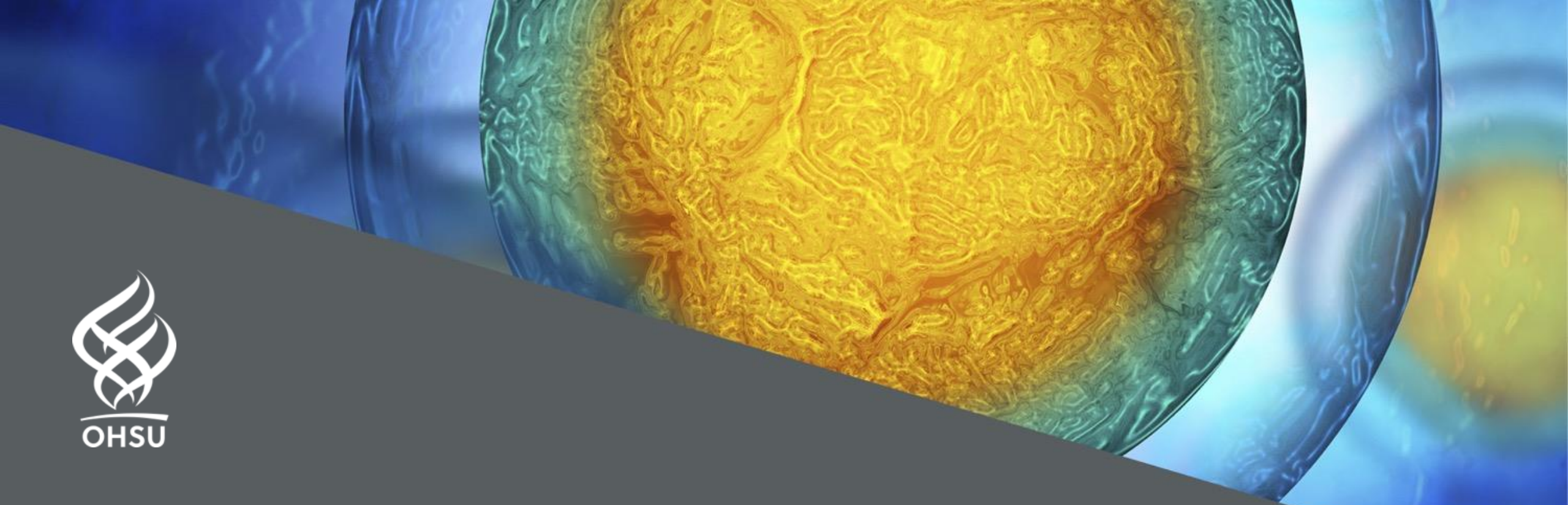

# Congressional and Administration actions on NIH

# Federal policy on basic science and biomedical research:

## National Institutes of Health | Budget

*The National Institutes of Health (NIH) is the largest public funder of biomedical research in the world. A longstanding bipartisan consensus in Congress has grown the NIH and federal research partnerships with universities to drive advancements in scientific understanding, the development of lifesaving cures, and as a fundamental investment in the United States' continued leadership in research and innovation, economic competitiveness and national security.*

- **Real, sustained growth in NIH funded research has occurred in two distinct periods in the last three decades**
  - FY1998 to FY2003, Congress doubled annual appropriations to NIH
    - *$13.7 billion $27.1 billion*
  - FY2016-FY2023, NIH received year-over-year increases in annual appropriations
    - *$30 billion $47.7 billion*
- **Congress has enacted reforms to NIH about once every decade**
  - Establishing the primary statutory authorities and institute structure of the NIH in 1985, Congress has since enacted three major pieces of NIH reform legislation
    - 1993: *NIH Revitalization Act*
    - 2006: *NIH Reform Act*
    - 2016: *21st Century Cures Act*
  - These distinct laws share common features: Congress' further modification of NIH's administrative and research functions, a focus on strengthening research integrity, oversight and coordination across its institutes and centers, the establishment of new NIH research programs and funding, and the reauthorization of appropriations

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# Federal policy on basic science and biomedical research:

National Institutes of Health | Budget

## ADMINISTRATION

➢ **White House/Office of Management and Budget**

- **Indirect Costs.** On February 5, 2025, NIH issued supplemental guidance capping federal share of research infrastructure investments, placing immediate 15% cap on indirect cost reimbursements to universities without prior Congressional approval.
- **FY2026 Budget.** Proposed to Congress 40% cut to NIH budget and a significant consolidation of NIH's institutes and centers; continues to support policy action to cap indirect cost reimbursements, potentially through administrative mechanism

## CONGRESS

➢ **US Senate and House Appropriations Committees**

- **Indirect Costs.** Collaboration with associations representing universities, medical schools, and research institutions to develop new model for indirect costs (*Financial Accountability in Research, or FAIR Model)*
- **FY2026 Budget.** Increases funding to NIH by $400 million; expressly prohibits OMB, NIH or other federal agencies from changing indirect cost rates; maintains prior NIH agency structure over proposed consolidation
- Includes funding for the NPRCs program (P51 grants)

** Reflects Senate version of Labor-HHS appropriations bill, awaiting final language*

## COURTS

➢ **Federal Judicial Review**

- **Indirect Costs.** On February 10, 2025, coalition of 22 state attorneys general filed suit on behalf of states' public research universities to block implementation of NIH supplemental guidance.
- On January 5, 2026, the US Court of Appeals (First Circuit) issued a final ruling upholding the lower district court finding that the NIH supplemental guidance capping indirect cost rates violated Congressional appropriations law and administrative regulations

OHSU

# Federal policy on basic science and biomedical research:

## National Institutes of Health | Non-human Primate Research Policy

- *"NIH continuously seeks new strategies for advancing reproducible and replicable biomedical approaches, and is planning to develop new, targeted funding mechanisms and programs that foster culture change across the research enterprise.*
- *"NIH is also identifying areas in which more tools are needed to deliver replicable, translatable, and efficient results such as human-based research technologies and expansion of efforts of the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM)."*

-- *Leading in Gold Standard Science*, NIH Implementation Plan, August 2025

**Key Actions**

- **March 31, 2025** – Extended the NPRC funding opportunity announcement deadline until May 25, 2026
- **April 3, 2025** – Announced partnership between the Complement Animal Research In Experimentation (Complement-ARIE) and the Foundation for the National Institutes of Health (FNIH) to enhance adoption of NAMs
- **April 29, 2025** – Launched initiative to reduce and eventually replace animal models with NAMs
- **June 5, 2025** – Renewed funding for the Oregon NPRC
- **July 9, 2025** – The NIH National Institute for Allergy and Infectious Disease (NIAID) announced the early expiration of a K01 award for early stage investigators using nonhuman primate research models
- **July 10, 2025** – Announced that it will no longer issue NOFOs solely for the development of animal models
- **August 22, 2025** – Published agency plan to promote "Gold Standard Science" which includes plans to "prioritize and fund human-based research technologies," including NAMs
- **September 9, 2025** – Further extended the NPRC NOFO deadline until September 25, 2026
- **September 25, 2025** – Announced that allowable costs for animals under NIH grants now include expenses related to the rehoming/retirement of experimental animals; Announced an investment of $87 million for the establishment of the Standardized Organoid Modeling (SOM) Center to advance NAMs development

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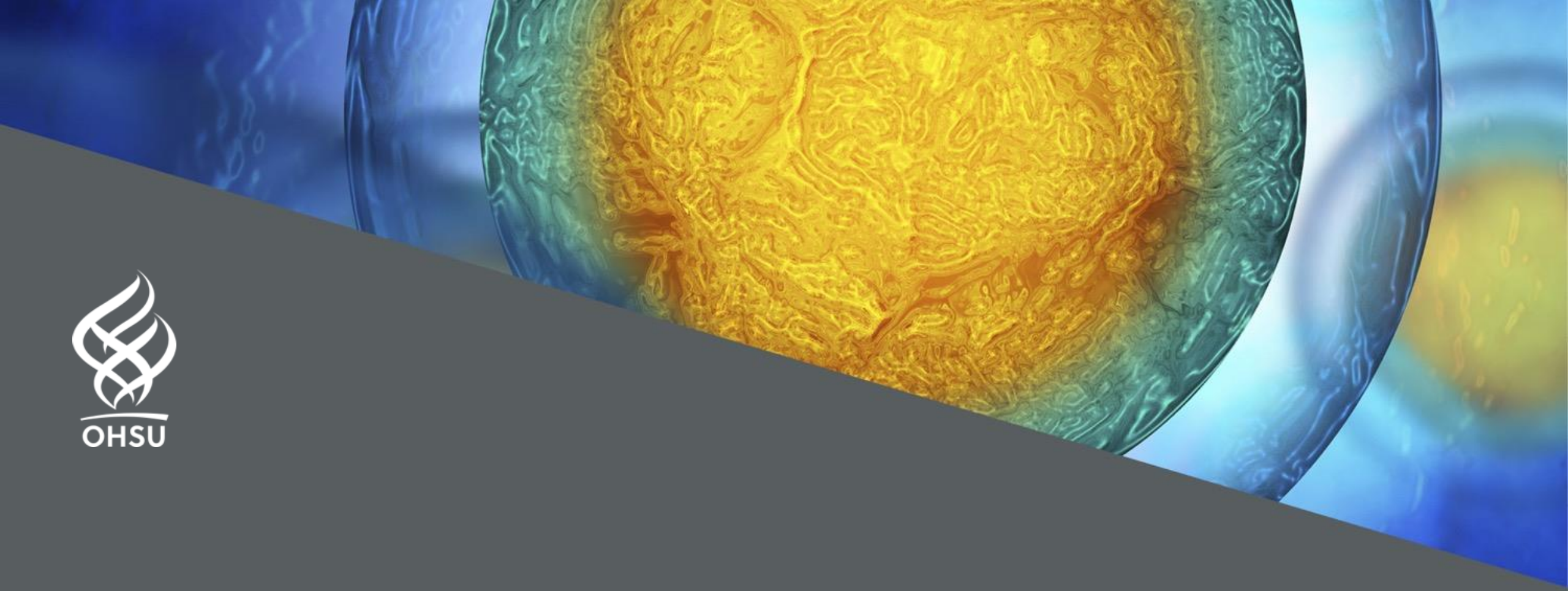


# Legislative Budget Note

# What is a Budget Note?

## Ken Rocco, Former Legislative Fiscal Officer, 2007 memo:

- There is **no statutory, administrative, or formal legislative definition** of a budget note for the State of Oregon.
- In short, a budget note is a **formal directive to a state agency expressing legislative intent for a particular budget issue**.
- A budget note is technical in nature, **directing an agency to take administrative and managerial action** relating to the agency's execution of its biennial budget.
- A budget note is of **limited scope, not intended to circumvent, supplant, or replace other substantive or policy measures or law**. The directive of a budget note typically expires at the end of the biennium for which it pertains.
- Budget notes adopted by subcommittees of the Joint Ways and Means Committee are not formally approved by the Legislative Assembly, and are not part of any legislation. For this reason, **budget notes are not legally binding; they are solely advisory in nature.**" - Former Oregon Federal Judge James A. Redden
- Thus, **a budget note is advisory and has no legal effect**. It is a note of legislative intent.

OHSU

# ONPRC Budget Note – HB 5006 (2025)

The Oregon Health and Science University (OHSU) will study and review the current and future financial viability of the Oregon National Primate Research Center (ONPRC). OHSU shall complete a report and submit it to the House Emergency Management, General Government, and Veterans Committee of the Oregon State Legislature by no later than January 1, 2026. The report shall include:

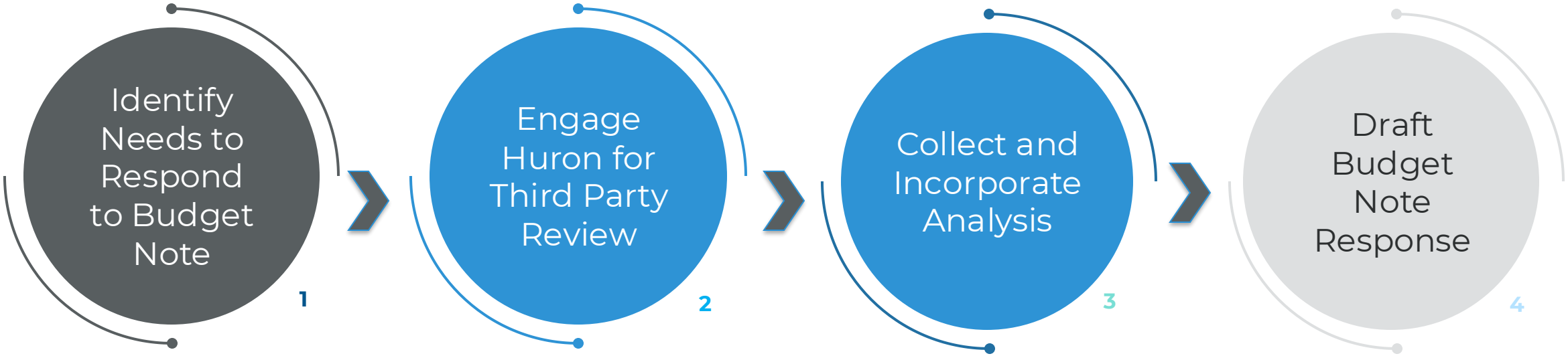
- All funding sources used for ONPRC operations since 2023, and including projected funding sources through the 2027 fiscal year.
- The projected impact of funding reductions from the National Institutes of Health (NIH) and any other federal sources.
- Confirmation that no state general funds (including direct appropriations, indirect allocations, or pass-through funds) are or will be used for any costs associated with the operation, maintenance, administration, or research activities of the ONPRC. Such costs include, but are not limited to, personnel costs, infrastructure support, utility expenses, or any institutional overhead that directly or indirectly support ONPRC activities.
- A comprehensive plan and a proposed agreement for timely closure in the event that ONPRC experiences a reduction exceeding 25% of its total NIH grant income compared to fiscal year 2024 levels, or if state general funds (including direct appropriations, indirect allocations, or pass-through funds) are needed to be used for any costs associated with the operation, maintenance, administration, or research activities of the ONPRC. Such costs include, but are not limited to, personnel costs, infrastructure support, utility expenses, or any institutional overhead that directly or indirectly support ONPRC activities.
    - The plan for closure shall include:
        - A detailed timeline for closure.
        - Disposition of animals.
        - Staff transition and retraining planning.
        - Reallocation or repurposing of state supported infrastructure.
        - Potential impacts to university operations and mitigation plans.

OHSU

# Process for Developing the Report

# Budget Note

Process  to respond to Budget Note



# Budget Note

## Methodology to Address Budget Note Response – Huron Team

### TIM PATTERSON
MANAGING DIRECTOR

- Nearly 30 years in higher education and healthcare, with experience in strategic planning, operational assessments, organizational restructuring, and building shared services.
- Deep expertise in research administration, including grant and contract management, financial and effort reporting, compliance, audit resolution, office assessments, interim leadership, service center reviews, policy development, and process improvement.

### KEVIN COOK
MANAGING DIRECTOR

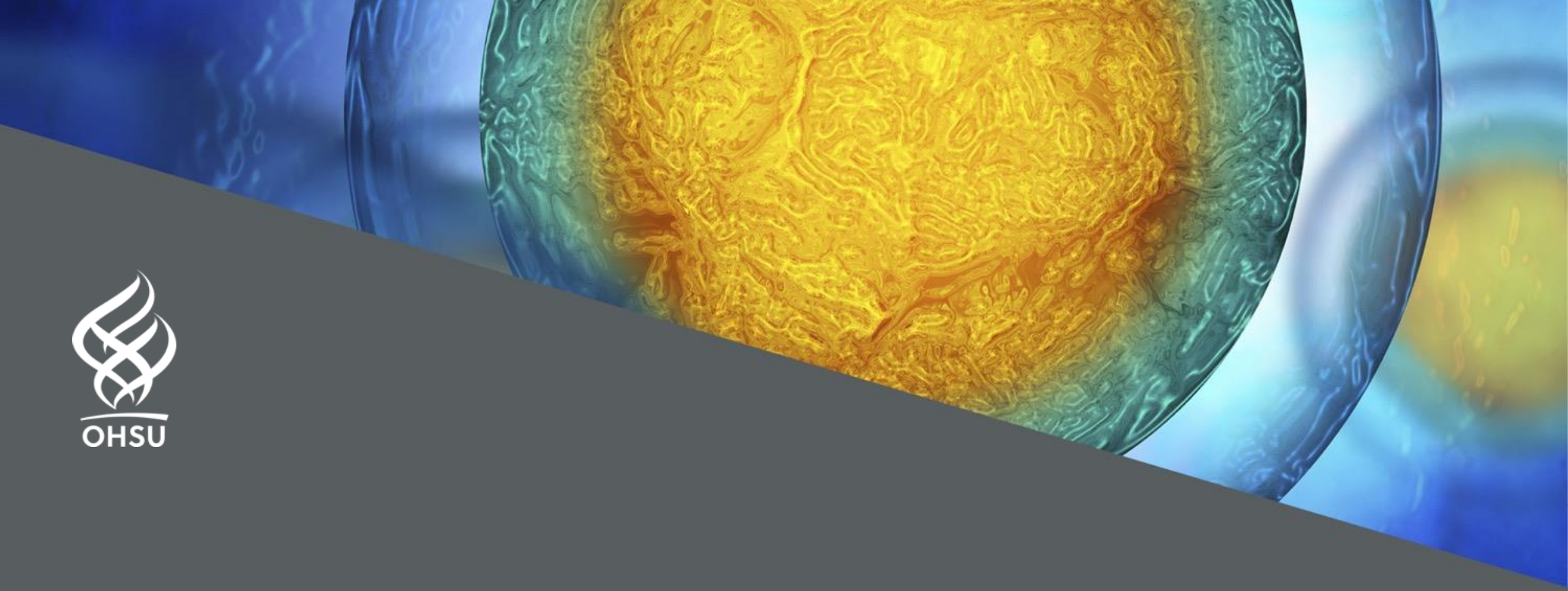
- Over twenty years of experience assisting higher education institutions, including 15 R1s, academic medical centers, and research hospitals with compliance, financial, and system matters.
- Expertise with research office assessments, interim management of research offices, specialized service center reviews, policy and procedure writing, business process improvement, system implementation, and post-go-live system stabilization.

### ZACH BELTON
PRINCIPAL

- Over twenty-five years of consulting experience in higher education.
- Has worked with over 50 premier universities, academic medical centers and research institutes.
- Notable clients in addition to OHSU include Harvard Medical School, University of Oklahoma Health Sciences Center, Columbia University, Mayo Clinic.
- Expertise with primate and animal center operations, service centers, research administration transformation, change management.

### JENNA LEE
DIRECTOR

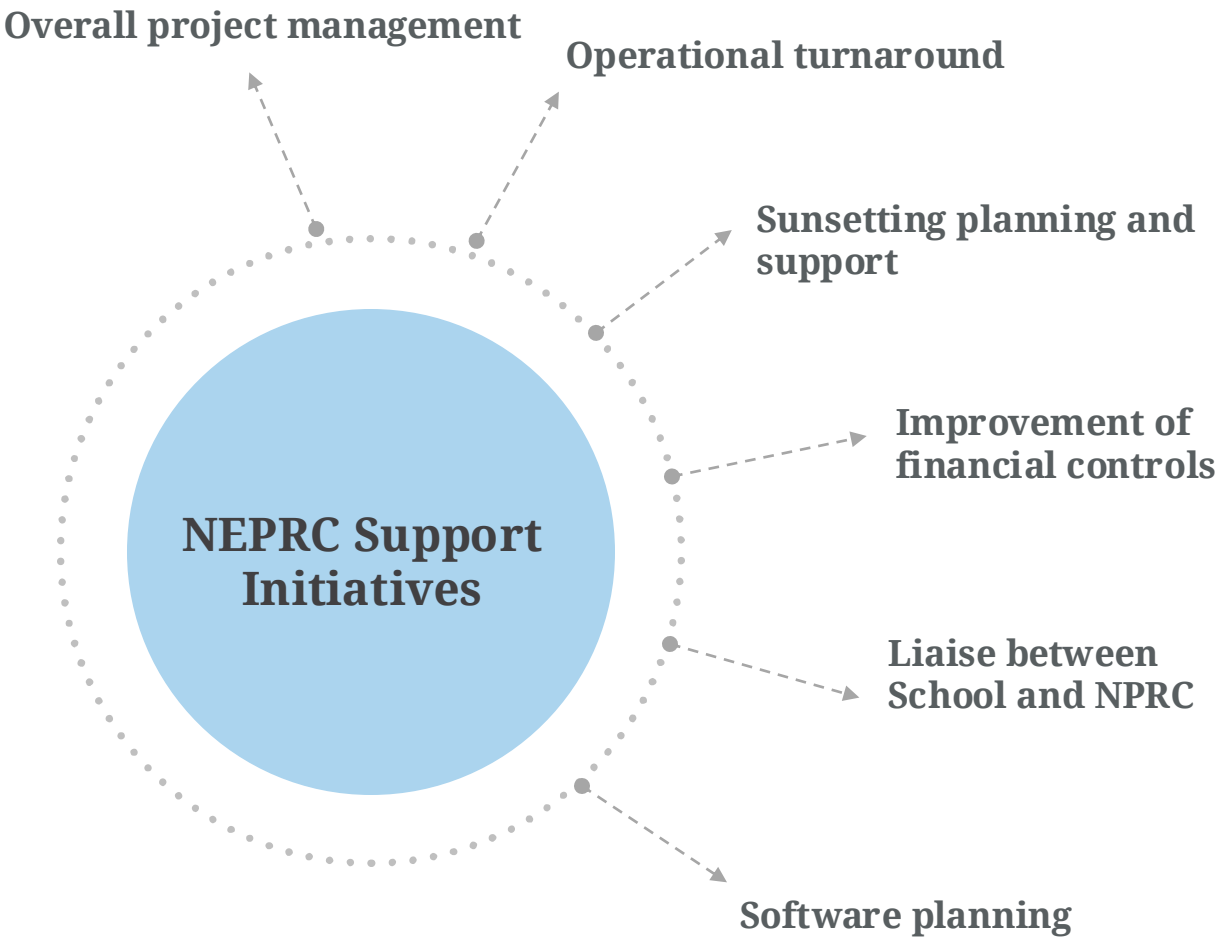
- Twenty+ years of experience partnering with clients in higher education in both pre-and post-award administration
- Assists universities and academic medical centers with research administration including organizational assessments, system implementations, research transformation projects, and interim staffing opportunities.
- Her experience includes research shared service redesign, developing and implementing data delivery dashboards for research administration, and effective use of business intelligence.



# Overview of Report

# Introduction: The Case of Harvard University's NPRC Closure

Huron partnered with Harvard School of Medicine to assist with the closure of the New England Primary Research Center (NEPRC)




- Partnered on a 4 -year initiative to provide oversight and assistance across a variety of operational initiatives.
- Huron provided program management, serving as the liaison between the NEPRC staff and leadership, and School leadership throughout the engagement.
- Huron assisted management in planning a closeout effort for the facility, which resulted from a mission-driven decision to end operations.

OHSU

# Lessons Learned: Harvard University

Center closure reinforced the needs to plan for animals, invest in personnel, and to engage both NPRC and university stakeholders

**Prioritize animal welfare** and plan operational decisions and timelines based on continued provision of high-level care.

**Dedicate leadership to engage the market on colony placement** and to manage the significant logistics of transitioning large numbers of animals. Partner with other NPRCs to assist with the transition of scientific and animal resources.

**Plan for high turnover across faculty and staff** and make the necessary investments to address. Staff at a higher level through the transition, especially for roles critical to animal care and research finalization. Develop retention programs.

**Balance the need to optimize financial recovery for external placement** with the need for timely colony reduction.

**Work closely with researchers and research divisions** to understand needs and best support the transition.

**Develop a cross functional team of NPRC and University leaders** to oversee plan execution. Directly involve university and school leadership in ongoing planning through the duration.

OHSU

# Executive Summary

## Huron's evaluation

| Budget Note Requirement | Data Provided |
|---|---|
| Historical funding sources for last 3 years | Identified sources for direct expenditures and program income for FY2023, FY2024, and FY2025 |
| Projected funding sources through 2027 | Projected future funding for FY2026 and FY2027 for continuing operations |
| Confirmation of no state funding | Identified funding that is not provided by federal, foundation, other university, or industry sponsors |
| Comprehensive plan and proposed agreement | Develop a roadmap that will change based on decisions for site disposition |
| Timeline for closure | Proposed planning timeline and structure for closure |
| Disposition of animals | Identified projection considerations versus planning considerations |
| Staff transition and retraining planning | Identified affected personnel and need for additional planning |
| Reallocation or repurposing of state supported infrastructure | Financial considerations for the site |
| Impacts to university operations | Summarized impacts identified during the review |

OHSU

# Executive Summary

| | |
|---|---|
| **Disposition of animals** | The disposition of the animals would present unique challenges and could take more than five years. The current census for animals at the ONPRC is approximately 4,793. The transition of a large number of non-human primates in a closure will require distribution across many recipient types. |
| **Staff transitions** | ONPRC has approximately 267 full-time employees supported by the base grant*; 212 are union represented. Internal transfer options within OHSU will require more intensive engagement and would be dependent on the timing of any closure. |
| **Disposition of property** | The NIH has legal interest in the land and structures of the ONPRC. Sale of the property or closure of the center would require negotiation with NIH on its financial interest. OHSU would need to relocate the Vaccine and Gene Therapy Institute and OHSU data center that are co-located on the ONPRC parcel. This cost would be in addition to any of the closure scenarios. |
| **Impacts to OHSU** | Closure of the primate center would reduce OHSU's research portfolio by over $100M annually. OHSU will need to make significant added investments into its scientific endeavors to replace this amount of the portfolio. |

*Per July 2025 data request

OHSU

# Executive Summary

## Timeline Considerations

Closure efforts would require a multi-year period to accomplish. Considerations for a timely closure include:

- **Fulfilling existing commitments** - ONPRC has ongoing commitments to funded research projects that will need to be met, which could impact the timeline for colony reduction.
- **Addressing limited placement options** - Rapid reduction of colony size may be difficult to achieve as there are few institutions that have the unique infrastructure and expertise to care for NHP.
- **Leveraging mechanisms for current reduction plans** - ONPRC is planning to reduce the colony by 20% over 3 years by attrition, outside sales, and decreasing production where possible as part of its deficit reduction strategy. This is not in response to decreased demand, but a financial decision. ONPRC may need to further develop and staff these functions in the case of a closure.
- **Obtaining NIH Approval** - Approval from NIH is required for significant colony reduction as this is a requirement for NIH P51 funding. Current NASEM and NIH projections indicate that the supply of nonhuman primates will not meet future demand.

OHSU

# Response Methodology

Huron Consulting Group conducted an operational and financial review of ONPRC to inform future planning. As part of that review, Huron pursued the following steps:


**Reviewed operations to understand contributions to expenditures and recoveries**

- Grant and financial performance of P51 and primate center awards
- Award and AAALAC accreditation documentation of the Center
- Staffing and operational data

**Interviewed personnel to understand operations and potential impact of future scenarios**

- OHSU Research Leadership, Legal Counsel, Campus Planning and Real Estate, Facilities, Human Resources, Finance and Administration, Proposal and Award Management
- ONPRC leadership and management for Center operations

**Applied leading practices from prior engagement with primate center operational improvement projects and closures**

- Harvard University/NEPRC closure
- Regional baboon resource closure
- Prior ONPRC cost reduction engagement

**Conducted analysis to compile data in support of a Budget Note response**

- Historical analysis of operating and funding data
- Financial projections for scenarios
- Initial identification of non-financial impacted areas

OHSU

# Budget Note

Confirmation of no state general funds used

The Budget Note requires: "Confirmation that no state general funds (including direct appropriations, indirect allocations, or pass-through funds) are or will be used for any costs associated with the operation, maintenance, administration, or research activities of the ONPRC. Such costs include, but are not limited to, personnel costs, infrastructure support, utility expenses, or any institutional overhead that directly or indirectly support ONPRC activities."

Oregon's Chief Financial Officer defines "State General Funds" as: *Money available for the state budget that is not dedicated to a specific agency or purpose and that can be used for general purposes of state government. Most General Fund money in Oregon derives from personal and corporate income taxes. Some revenue from liquor, cigarettes, and other sources go into the General Fund.*

OHSU

# Budget Note

Overview of OHSU allocated state general funds

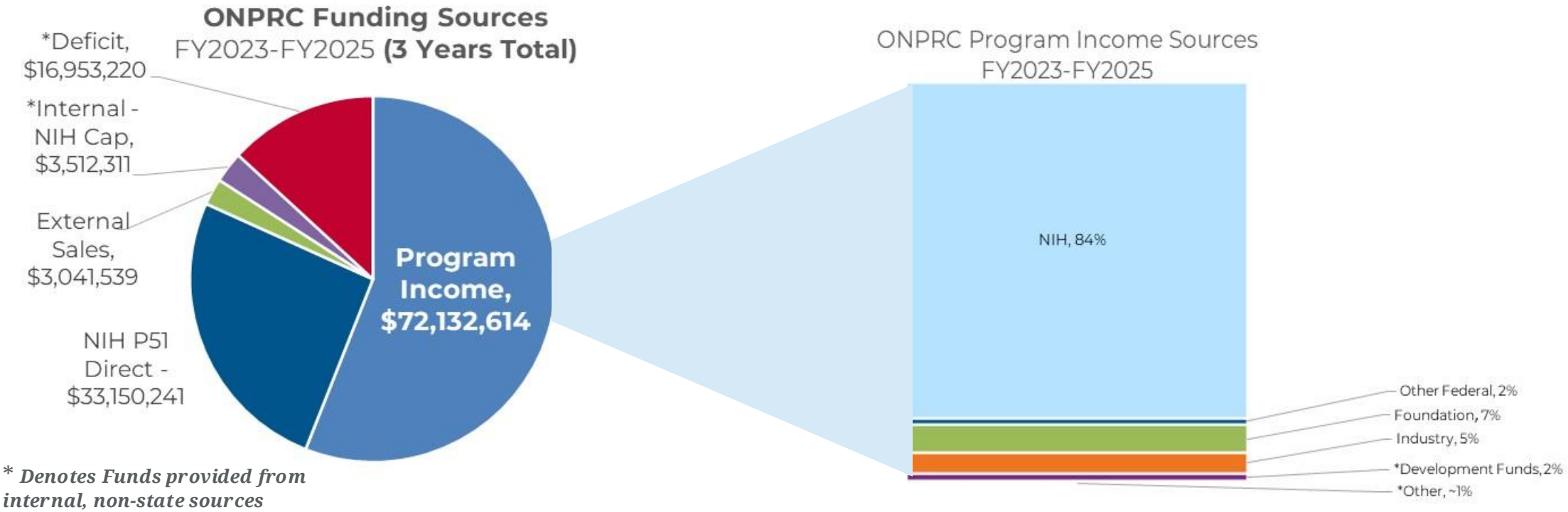
| 2025–27 Legislatively Approved Budget | |
|---|---|
| Education and General | $125,359,752 |
| School of Medicine | $32,355,546 |
| School of Nursing | $27,981,933 |
| School of Dentistry | $13,113,519 |
| Area Health Education Center and Office for Rural Health | $5,732,885 |
| OHSU 30-30-30 | $46,175,870 |
| Child Development and Rehabilitation Center | $10,403,097 |
| Oregon Poison Center | $4,291,994 |
| Children's Integrated Health Database | $2,140,000 |
| Statewide Behavioral Health Capacity Dashboard | $4,280,000 |
| Oregon Perinatal Collaborative | $500,000 |
| **Total** | **$146,974,843** |

OHSU

# Overview of Funding Sources

"All funding sources used for ONPRC operations since 2023"

- ONPRC is funded primarily through external sources
- Funding for deficits, federal compliance restrictions, and some development funds may be provided from internal, non-state sources.
- Internal, non-state sources exclude state general funds (SGFs).



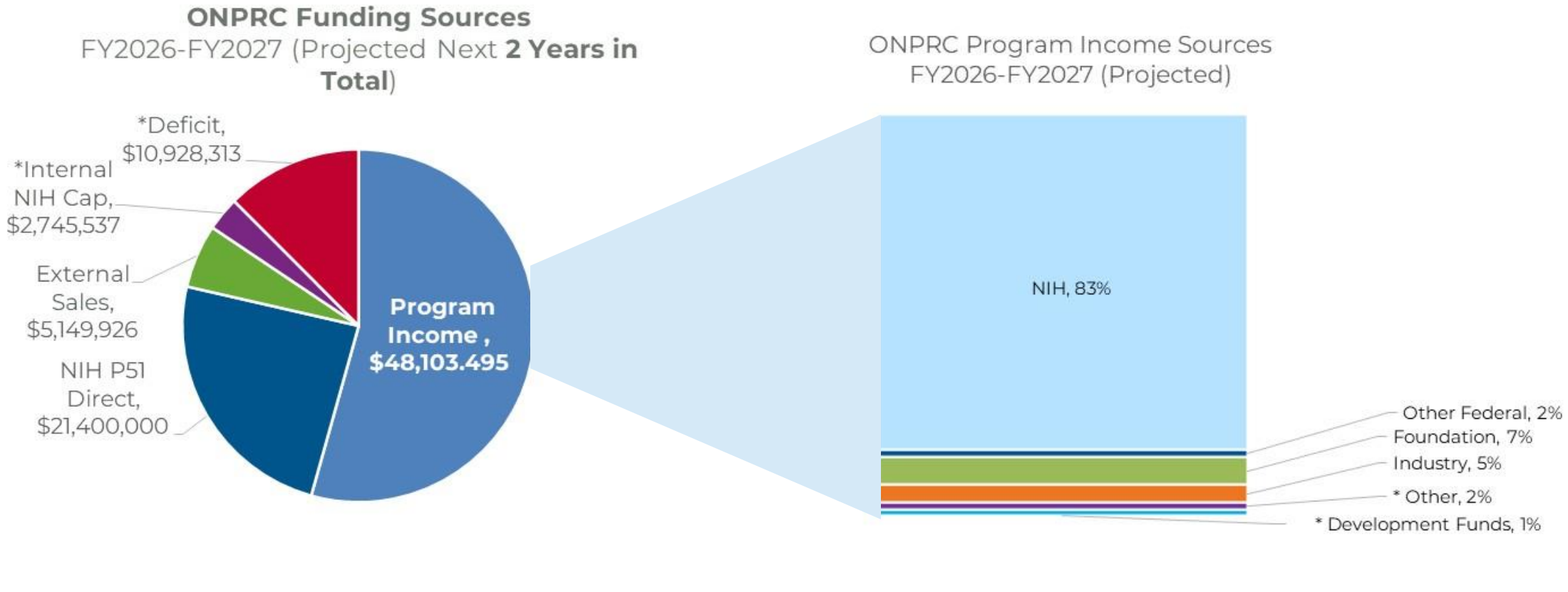

* ***Denotes Funds provided from internal, non-state sources***

# Projected Funding Sources

"Projected funding sources through the 2027 fiscal year"

For FY2026 – FY2027, federal money will continue to be the primary source of future funding, although ONPRC is actively seeking expanded industry partnerships.

Funding for deficits, federal compliance restrictions, and some development funds may continue to be provided from internal, non-state sources.

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# Budget Note

"A comprehensive plan and a proposed agreement for timely closure in the event that ONPRC experiences a reduction exceeding 25% of its total NIH grant income compared to fiscal year 2024 levels, or if state general funds (including direct appropriations, indirect allocations, or pass-through funds) are needed to be used for any costs associated with the operation, maintenance, administration, or research activities of the ONPRC. Such costs include, but are not limited to, personnel costs, infrastructure support, utility expenses, or any institutional overhead that directly or indirectly support ONPRC activities."

OHSU

# Budget Note

"Comprehensive plan for closure"

Closure would occur in three primary phases. Specific timing will be based on Phase I planning.

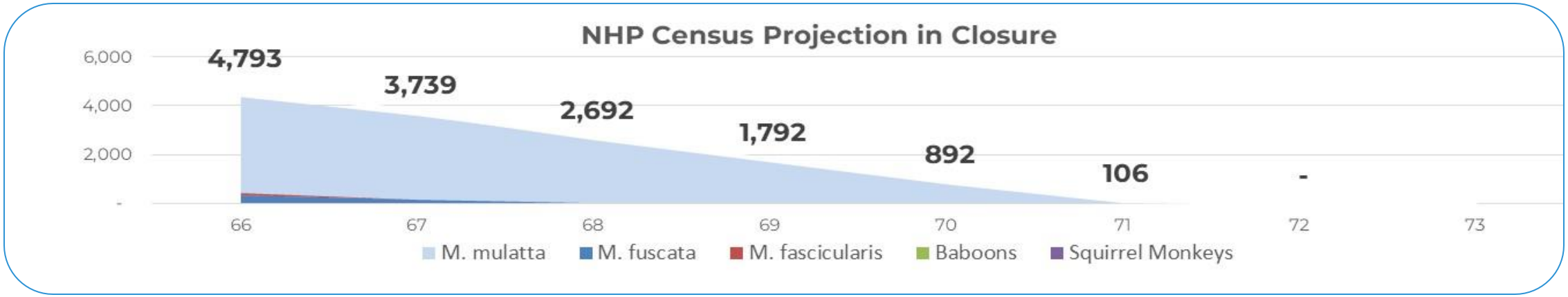
| | Phase I – Planning Year 1 | Phase II – Execution Years 2-5 | Phase III – Final Closeout Year 5+ |
|---|---|---|---|
| Program Management | Establish teams and workplans | Ongoing management | Finalize program and closeout |
| Animal | Evaluate viability and create plan | Transition animals | |
| Grants/ Science | Timing needs for science, NIH planning | Finish science, transition researchers, assets | |
| HR | Leadership coordination, phasing plan | Retention programs, phased transition | |
| Facilities/Site | Site and facilities disposition plan | Transition buildings/equipment | TBD - Transition VGTI, Data Center, prep site, as needed |
| Administration | Inventory records, knowledge transfer plan | Record disposition and retention, IT closeout | |

# Budget Note

Considerations for "Disposition of Animals"

Transition of a large number of NHPs in a closure (see below) will require distribution across many recipients which will require significant time and ongoing engagement.

| Destination | Risks |
|---|---|
| **NPRCs** | Optimal destination based on P51 requirements, limited capacity exists requiring time and investment to place animals. |
| **Universities** | Placement for rhesus macaques possible at limited volumes. |
| **Zoos** | Placement for Japanese macaques and species with less research application, but very limited volumes. |
| **Sanctuaries** | Placement for larger volumes. May require significant investment. |
| **Industry** | P51 restrictions on transition, pending no other recipients. Rhesus macaques are less utilized in pharma. |



# Disposition of Animals – Additional Considerations

- Legal risk due to contractual obligations and regulatory compliance
- NIH's decisions regarding future funding and building liens still require animals to be considered first before timing and financial options are fully known
- Challenges and considerations of colony reduction
- Reputational risk – logistics around transport, ultimate disposition welfare
- Required investments

OHSU

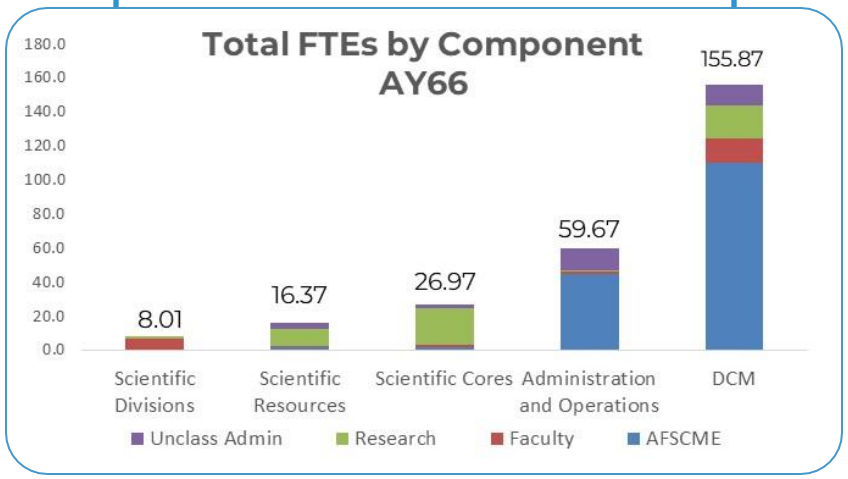
# Budget Note

## Budget Note Component -"Staff transition and retraining planning"

Closure will require additional planning and review. Retraining would be conducted in accordance with the implementation timeline.

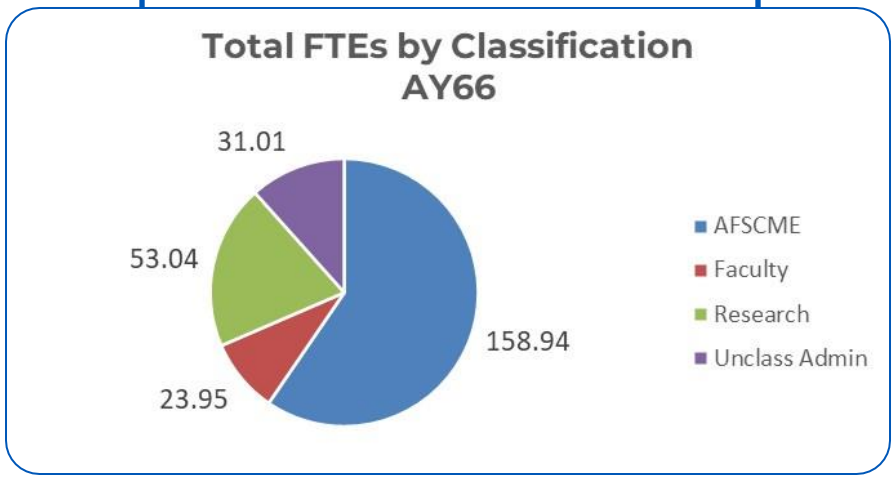
### Training and Reassignment

- Internal transfer options within OHSU will require more intensive engagement
- May be dependent on potential closure timing.
- The majority of FTEs within ONPRC are in the Division of Comparative Medicine, for which skills may be less aligned with the broader university.
- Certain scientific and administrative roles may be more transferable, if open spots are available.




### Represented Individuals

- A large percentage of the current workforce is affiliated with the ACSCME union.
- Workforce reductions will require additional planning and discussion if a closure decision is made.
- Will need to identify key personnel needed during closure.
- Projections included payout of severance, PTO per current policies.




Notes: Figures represent full time equivalents on the P51 for personnel shown, rather than full headcount. Figures as of July 2025

# Staff transition and retraining planning - additional considerations

- Alignment with labor contracts
- Faculty planning, although not required by the budget note, will require extensive planning
  - Faculty retention plans were not modeled in any scenarios
  - Contractual obligations with other institutions were not considered
  - Scientific careers will be interrupted and permanently damaged
  - Opportunity to explore expansion of training in NAMs

OHSU

# Budget Note

## Budget Note Component – "Reallocation or repurposing of State supported infrastructure" Considerations

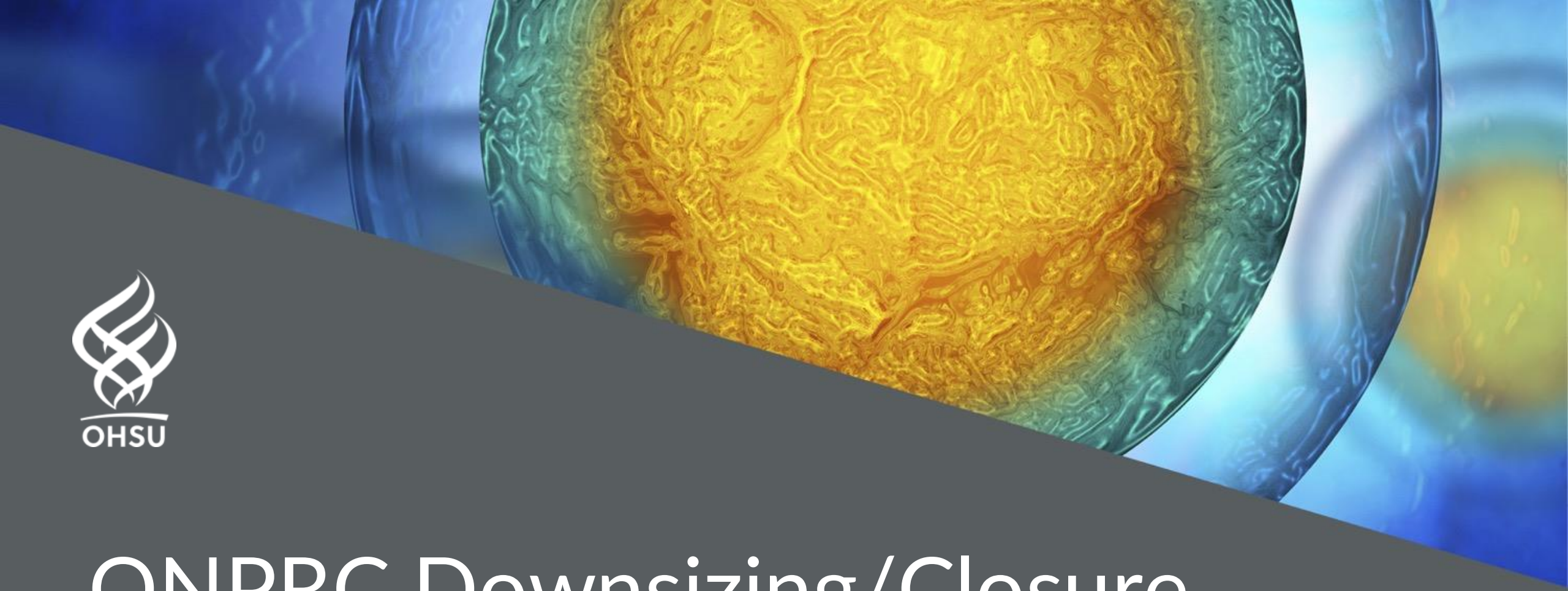
Sale of the West Campus site would not fund closure efforts. Disposition of the site would require significant investment after payback of interest on NIH purchased assets, site decommissioning, and relocation of non-ONPRC operations.

| | | Projected Investment |
|---|---|---|
| **Capital Equipment** | $5.3M Net Book Value of Grant Purchased Assets - Yr 65 → NIH payback. Depreciates to $0.23M by Year 72 | **($0.2M)** |
| **Buildings and Improvements** | Costs to move and rebuild non-ONPRC operations → Costs to relocate Data Center, Jay Nelson Building, NIH payback for remaining interest | **$(343)M – $(629)M** |
| **Site** | Estimated sale amount of West Campus → Projected sale price less building decommissioning and site preparation costs | **$28M - $45M** |
| | | **$(316M) - $(583M)** |

OHSU

# Site disposition - additional considerations

- Zoning and land use regulations
- Infrastructure limitations around splitting land parcels
- Co-located OHSU Advanced Computing Center



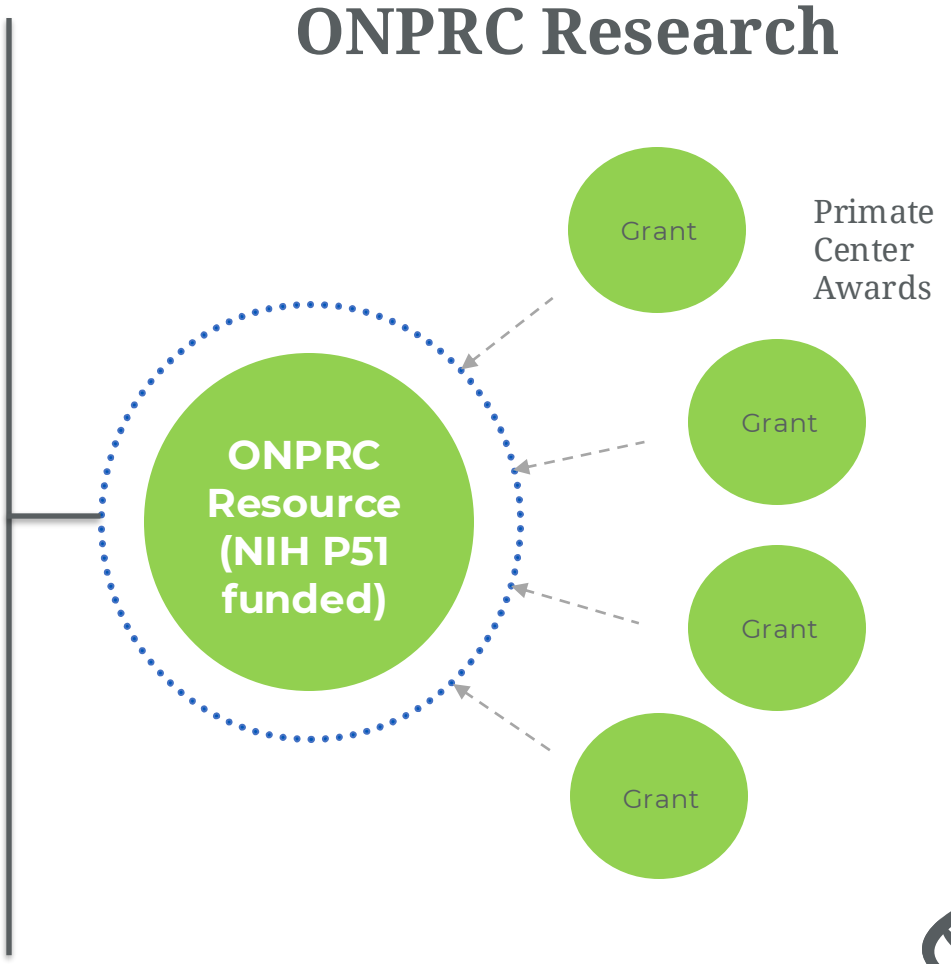
# ONPRC Downsizing/Closure Scenarios

# Methodology Overview

## Basis for Projections

Projections to evaluate gain or loss for scenarios are based on P51 expenditures. This methodology was chosen because:

- The P51 captures the gain or loss specifically associated with the ONPRC as a primate resource.
- Includes the direct costs and recoveries for maintaining the colony, cores, specialized animal resources, site and operational administration, and research administration.
- Excludes gains or losses that are less directly managed by ONPRC, such as research awards that utilize ONPRC resources and institutional overhead costs.
- Is aligned with the Center's ongoing financial management objectives.

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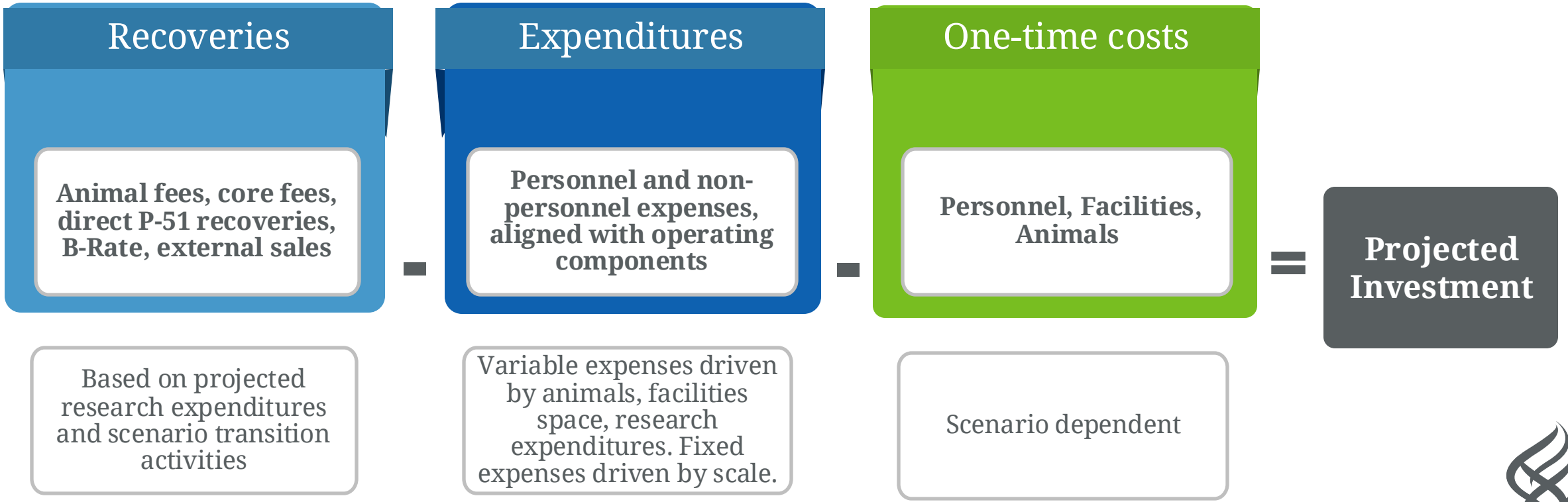
# Methodology Overview

## Basis for Projections

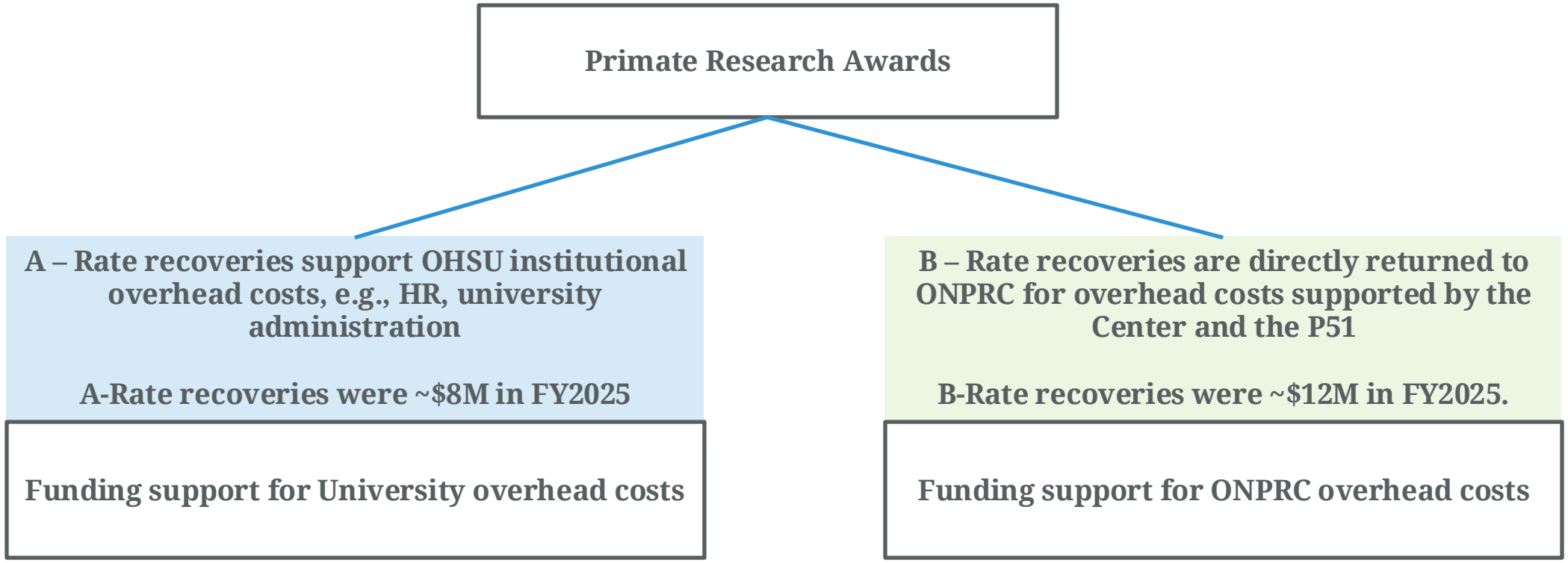
Huron developed a financial methodology to provide a consistent mechanism to evaluate across scenarios. Projections using the financial methodology are based on estimates of operating expenditures, recoveries, and one-time costs, aligned with operating volumes and scenarios



# Methodology Overview

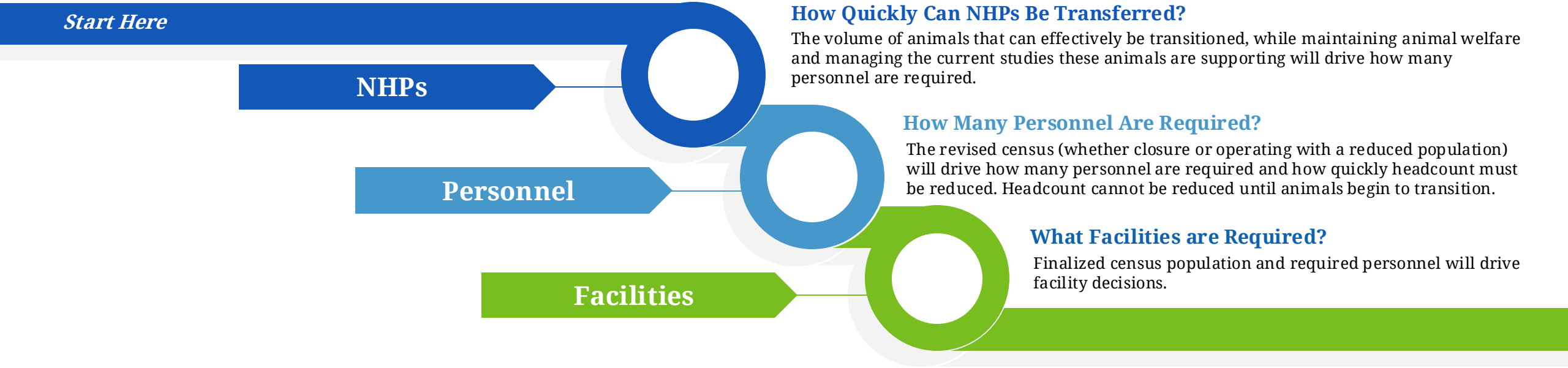
## About F&A Rates

Facilities and Administrative (F&A) rates recover overhead costs based on expenditures on awards. Through this mechanism, primate research award activities directly fund the primate center resource.



# Scenario Planning

Identified future operational scenarios **require** a **reduction of the colony**, **either by downsizing or complete closure**. The decision regarding the future of the ONPRC must first begin with how to transition up to 4,800 non-human primates (NHPs).

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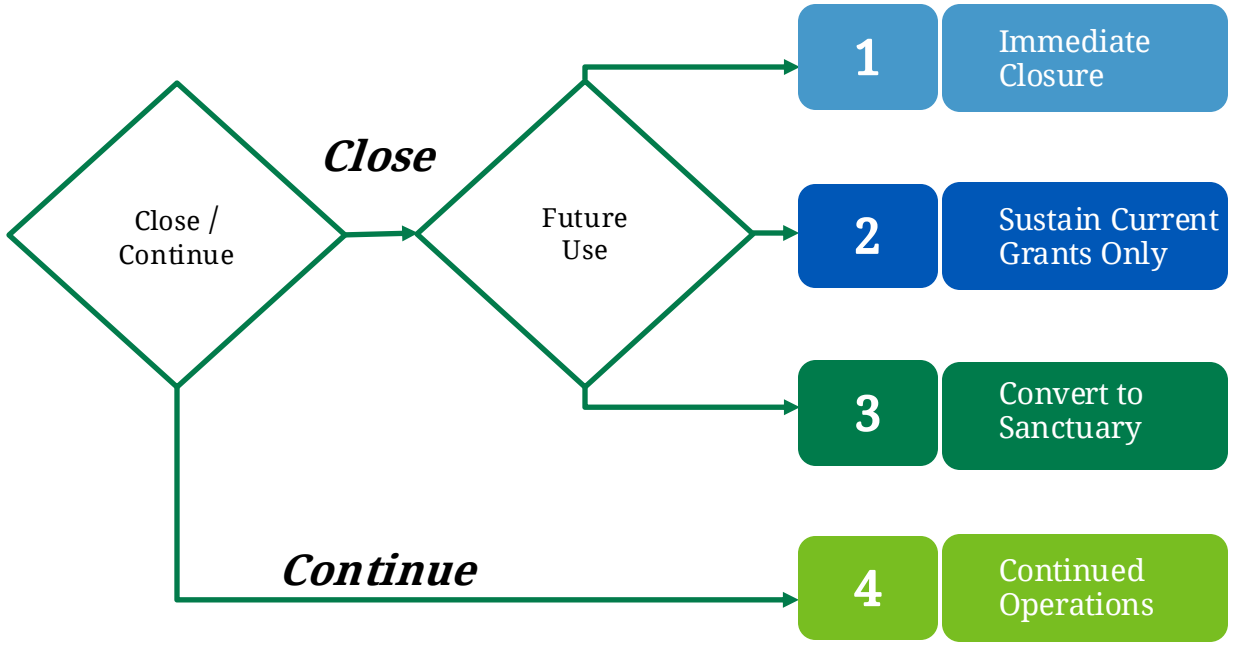
# Scenario Projections

Future operating scenarios consider the continue/close decision and the decision to keep or transition NHPs. The primary driver of each scenario's financial impact on OHSU are the underlying assumptions on the speed of the required animal transitions, coupled with how many staff are required to maintain operations and the assumed future of grant funding.




- **Immediate closure** would involve sunsetting all operations and transitioning all animals to other sites. The timeline to transition directly impacts the financial investment.
- **Sustain current grants only and then move to closure** would keep primates on current research studies until the natural end date of those grants. Primates not being actively used on grants would begin transitioning out of the primate center. Once all grants have ended, move to full closure.
- **Conversion to a sanctuary** would retain the animal colony, clinical, and site management, while eliminating all research operations.
- **Continuing operations** will require reducing the colony footprint to the optimal size for reduced financial investment and risk, while remaining viable as an independent animal colony. Huron modeled two continuing scenarios (20% reduction and 70% reduction)

Notes:

# Scenario Projections

Future operating scenarios consider the continue/close decision and the decision to keep or transition NHPs. The primary driver of each scenario's financial impact on OHSU are the underlying assumptions on the speed of the required animal transitions, coupled with how many staff are required to maintain operations and the assumed future of grant funding.

| | | |
|---|---|---|
| 1 | Immediate Closure | ~($241M) |
| 2 | Sustain Current Grants Only | ~($118M) |
| 3 | Convert to Sanctuary | ~($220M) - ($291M) (Investment Continues Beyond Initial Transition) |
| 4 | Continued Operations | ~($50M) (70% closure) – ($71M) (20% closure) |

- **Immediate closure** would involve sunsetting all operations and transitioning all animals to other sites. The timeline to transition directly impacts the financial investment.
- **Sustain current grants only and then move to closure** would keep primates on current research studies until the natural end date of those grants. Primates not being actively used on grants would begin transitioning out of the primate center. Once all grants have ended, move to full closure.
- **Conversion to a sanctuary** would retain the animal colony, clinical, and site management, while eliminating all research operations.
- **Continuing operations** will require reducing the colony footprint to the optimal size for reduced financial investment and risk, while remaining viable as an independent animal colony.

Notes:

# Scenario Projections

## Assumptions

Although assumptions vary across scenarios, each detailed scenario in this report contains the same base assumptions.

### Included Assumptions

- 3% inflation on expenses (salaries and benefits)
- F&A rates remain at current rates, 75.5%
- Implementation of near-term changes identified by the Center (e.g., 10% rate increases, specific faculty retirements, sunset of selected cores, select reduced payroll allocations)
- P51 funding through the current award term (4 Years) is included in the current projections for continuation, closure, and sanctuary scenarios. Closure and sanctuary scenario projections do not assume P51 funding for future competitive cycles beyond 4 years.
- Certain costs are variable with colony size, facility footprint, and scientific volume. Other costs will be fixed and require adjustments reasonable for new operational size.
- Relevant facilities will be decommissioned in closure scenarios.
- Rhesus macaques will be sold if possible. Species other than rhesus macaques will be donated, at a cost to OHSU. The donation assumption reflects the historical difficulty of placing other species to new external recipients for either research or non-research purposes. For example, ONPRC has been pursuing opportunities to transition the colony of Japanese macaques for nearly a decade.
- Decrease in research volume in the years leading up to close for anticipated closure options
- One-time costs will apply across scenarios as applicable (e.g., severance and PTO payout for personnel departures).

### Not Included

- Union requirements, outside of policies for PTO payout and severance
- Operational or financial data after project start (end of FY2025)
- Targeted reductions in specific scientific divisions, outside of identified retirements

OHSU

# Scenario Projections

Timelines for animal placement and completion of research will have the greatest impact on the investment required for transition.

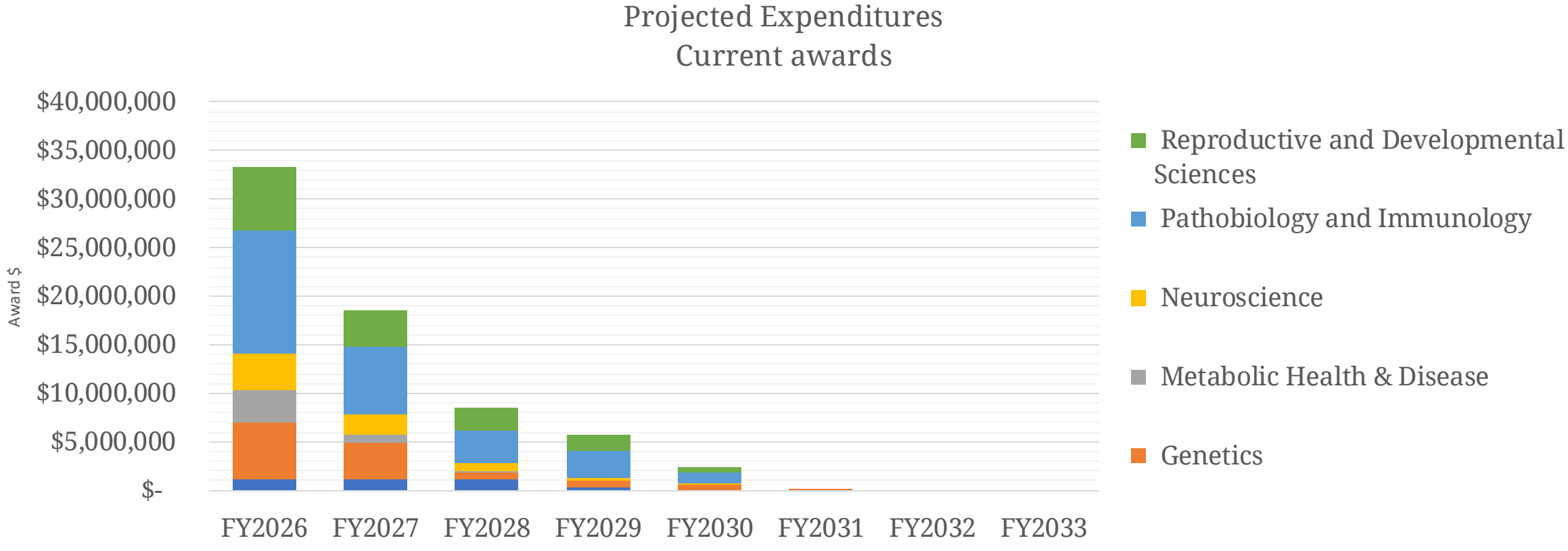
| Key Variable | Impact to cost | Example |
|---|---|---|
| **Animal placement timeline** | Scenarios that establish more immediate timelines for animal placement will require additional investments across scenarios, e.g., increased costs for placing and rehoming NHPs. | Closure (Immediate) - ($241)M<br><br>Closure (Longer Animal Placement) – ($118)M<br><br>**$123M difference** |
| **Research completion timeline** | Scenarios that allow for research to continue through closure or transition will require less investment, as research will provide ongoing during that term. | Sanctuary (Immediate transition) - ($291)M<br><br>Sanctuary (Completion of research) - ($220)M<br><br>**$71M difference** |

Notes:

# Supporting Data

## Remaining funding if new awards were discontinued

Funding would continue through FY2030 if only current active awards were allowed to continue.



# Scenario Projections

## Scenario Detail: Template

The chart below is representative of the detail behind each scenario.

| | YR 66 | | | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | $ | | | $ | $ | $ | $ | $ |
| ***Total Personnel*** | $ | | | $ | $ | $ | $ | $ |
| ***Total Non-Personnel*** | $ | | | $ | $ | $ | $ | $ |
| ***Total Pass-Thru*** | $ | | | $ | $ | $ | $ | $ |
| ***Total Indirect (A Rate)*** | $ | | | $ | $ | $ | $ | $ |
| **Total Expenditures** | $ | | | $ | $ | $ | $ | $ |
| **Operating Gain/(Loss)** | $ | | | $ | | | $ | $ |
| **External Sales** | $ | $ | $ | $ | | | $ | $ |
| **One Time Costs** | $ | $ | $ | $ | $ | $ | $ | $ |
| **Total Gain/ (Loss)** | $ | $ | $ | $ | $ | $ | $ | $ |

**Revenues**: Total of grant support, B rate recoveries, animal recoveries, cores/scientific resources, and pass thru recoveries.

**Total Expenditures:** Expenses from Scientific Divisions, DCM, Admin and Operations, Cores/scientific resources, and pass thru expenses

**External Sales:** Money recouped from transitioning colony

**One Time Costs**: Detailed on the preceding slide

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# Scenario Projections

## Scenario Detail: Immediate Closure

1

Immediate closure and transitioning animals to external sanctuaries **will require a ~$241M investment from OHSU** over the next eight

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | $12,640,120 | $2,462,252 | $0 | $0 | $0 | $0 | $0 | $0 |
| | | | | | | | | |
| *Total Personnel* | *$26,165,015* | *$17,630,421* | *$7,492,927* | *$1,123,703* | *$1,157,415* | *$1,192,137* | *$1,227,901* | *$1,264,738* |
| *Total Non-Personnel* | *$15,201,843* | *$7,968,163* | *$5,049,391* | *$1,325,448* | *$1,365,211* | *$1,406,168* | *$1,448,353* | *$1,491,803* |
| *Total Pass-Thru* | *$7,274,941* | *$2,462,252* | *$0* | *$0* | *$0* | *$0* | *$0* | *$0* |
| *Total Indirect (A Rate)* | *$600,000* | *$0* | *$0* | *$0* | *$0* | *$0* | *$0* | *$0* |
| **Total Expenditures** | **$49,241,799** | **$28,060,837** | **$12,542,319** | **$2,449,151** | **$2,522,626** | **$2,598,305** | **$2,676,254** | **$2,756,541** |
| | | | | | | | | |
| **Operating Gain/(Loss)** | **($36,601,679)** | **($25,598,584)** | **($12,542,319)** | **($2,449,151)** | **($2,522,626)** | **($2,598,305)** | **($2,676,254)** | **($2,756,541)** |
| | | | | | | | | |
| **External Sales** | $212,966 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| **One Time Costs*** | **$72,641,140** | **$78,122,014** | **$1,445,235** | **$808,120** | **$0** | **$0** | **$0** | **$0** |
| | | | | | | | | |
| **Total Gain/ (Loss)** | **($109,029,852)** | **($103,720,598)** | **($13,987,553)** | **($3,257,271)** | **($2,522,626)** | **($2,598,305)** | **($2,676,254)** | **($2,756,541)** |

* **One Time Costs**: Includes rehousing costs and building facilities at the destination site.

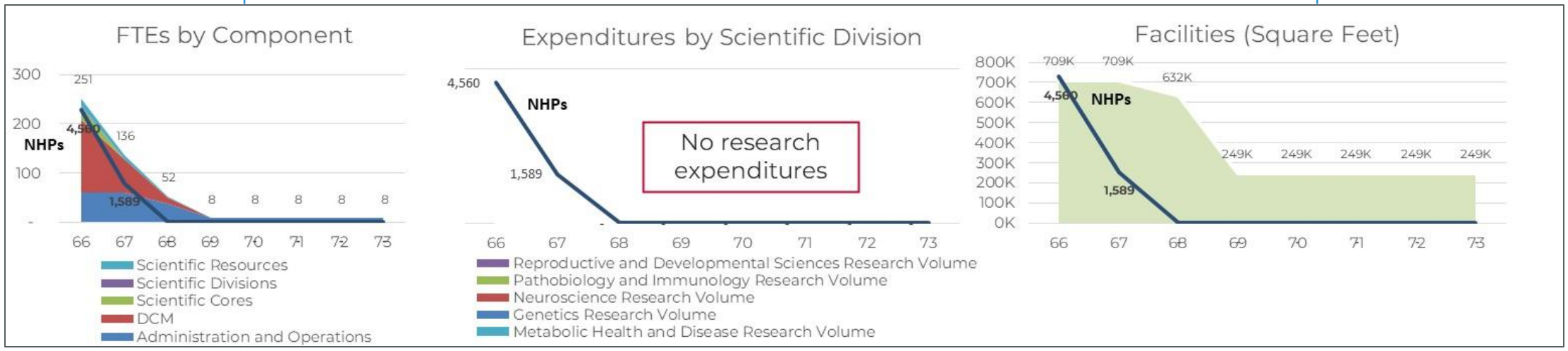
# Scenario Projections

## Scenario Assumptions: Immediate Closure Methodology

1

- Colony is placed externally
- No new research; remaining research continues through close
- P51 funding ends immediately
- Site retained. Remaining facilities are physical plant and non-ONPRC buildings

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |



# Scenario Projections

## Scenario Assumptions: Immediate Closure

1

**Projection assumptions (additional to preceding slide)**

- Immediate closure options assumes investments of $22.5k per animal to place rhesus macaques externally, which is the estimated payment for lifetime support.
- Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **No revenue after Year 2** | Residual revenue will end after Year 2. | **$5m** |
| **Expenditures will decrease after departure of animals** | Expenditures will decrease after animals transition out. Site management costs will continue in the out years. | **($93m)** |
| **Significant one-time costs for immediate closure** | Immediate closure will require significant investments to place NHPs externally. Other significant costs will include building decommissioning and severance. | **($153m)** |
| | | **($241M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Scenario Detail: Keeping Current Grants and Closure Methodology

2

Maintaining operations until the current grants end **will require a ~$118M investment** from OHSU over the next eight years.

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | $48,983,366 | $37,273,164 | $27,428,863 | $24,035,604 | $4,906,269 | $358,849 | $0 | $0 |
| ***Total Personnel*** | *$27,995,906* | *$25,141,815* | *$22,225,873* | *$19,871,889* | *$17,043,683* | *$5,897,812* | *$1,227,901* | *$1,264,738* |
| ***Total Non-Personnel*** | *$16,275,681* | *$15,691,311* | *$15,049,018* | *$14,639,696* | *$13,467,662* | *$4,691,532* | *$1,448,353* | *$1,491,803* |
| ***Total Pass-Thru*** | *$7,626,712* | *$6,221,374* | *$4,576,661* | *$3,233,958* | *$1,806,575* | *$199,910* | *$0* | *$0* |
| ***Total Indirect (A Rate)*** | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$0* | *$0* | *$0* | *$0* |
| **Total Expenditures** | $54,898,299 | $50,054,500 | $44,851,552 | $40,745,543 | $32,317,920 | $10,789,253 | $2,676,254 | $2,756,541 |
| **Operating Gain/(Loss)** | ($5,914,933) | ($12,781,336) | ($17,422,689) | ($16,709,939) | ($27,411,651) | ($10,430,404) | ($2,676,254) | ($2,756,541) |
| **External Sales** | $1,358,766 | $2,579,703 | $2,646,335 | $2,725,725 | $2,807,497 | $1,204,271 | $0 | $0 |
| **One Time Costs** | $7,734,003 | $5,141,744 | $1,595,504 | $1,535,980 | $3,335,137 | $4,505,424 | $11,077,222 | $0 |
| **Total Gain/ (Loss)** | ($12,290,170) | ($15,343,377) | ($16,371,858) | ($15,520,194) | ($27,939,291) | ($13,731,557) | ($13,753,476) | ($2,756,541) |

* **One Time Costs**: Includes hazardous waste removal and decommissioning site on West Campus.

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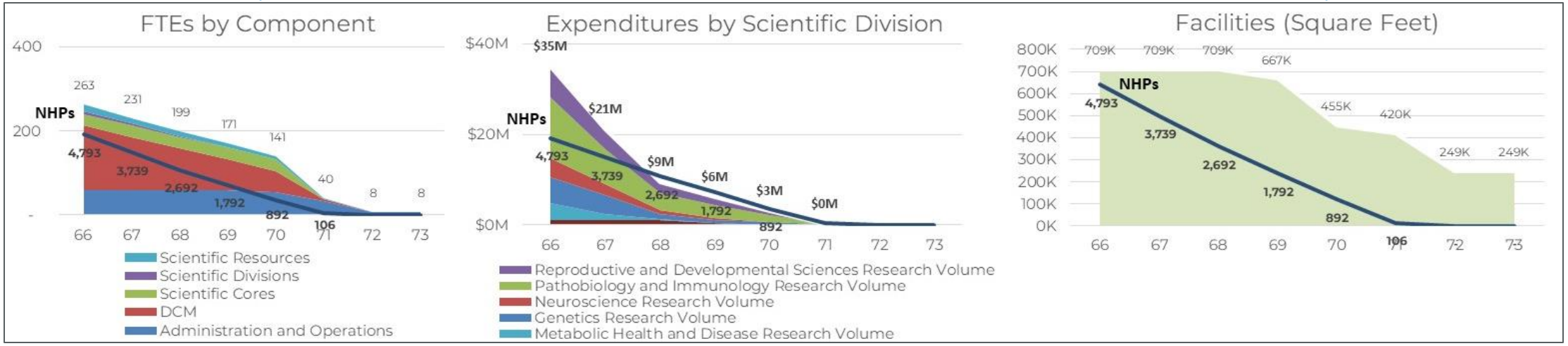
# Scenario Projections

## Scenario Assumptions: Keeping Current Grants and Closure Methodology

**2**

- Colony is placed externally
- No new research; remaining research continues through close
- P51 funding ends after 4 years
- Site retained. Remaining facilities are physical plant and non-ONPRC buildings

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |



# Scenario Projections

## Scenario Assumptions: Keeping Current Grants and Closure Methodology

2

**Projection assumptions (additional to preceding slide)**

- External sales of animals above historical levels until closure with highly discounted rates. Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **No revenue after Year 6** | Revenue will steadily decrease with the reduction of research grants and then reduce to $0 after the termination of the base grant and onsite cores | **$132m** |
| **Modest expenditure reductions** | Expenditure costs will continue through closure, with gradual reductions as animals, facility, and personnel are decreased. | **($215m)** |
| **Moderate one-time costs for closure** | Costs to retain key personnel, provide additional project management, severance, and decommission buildings associated with closure. Costs to place animals are lower than immediate scenario given the longer timeframe to sell. | **($35m)** |
| | | **($118M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Scenario Detail: Sanctuary Methodology

3A

Transitioning the ONPRC to a Sanctuary on the West Campus **will require a ~$220M investment from OHSU** over the next eight years. Investments beyond 2033 (Year 73 of the P51) will need to be established as the animal colony changes over time.

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | $49,109,342 | $38,466,977 | $29,941,370 | $27,944,641 | $9,876,597 | $6,421,497 | $6,207,275 | $6,049,623 |
| | | | | | | | | |
| *Total Personnel* | *$28,212,573* | *$27,194,949* | *$26,547,275* | *$26,545,813* | *$25,431,376* | *$24,959,658* | *$24,368,002* | *$24,460,224* |
| *Total Non-Personnel* | *$16,321,709* | *$16,127,470* | *$15,967,037* | *$15,961,185* | *$14,726,201* | *$8,495,840* | *$8,305,557* | *$8,414,356* |
| *Total Pass-Thru* | *$7,743,342* | *$7,326,559* | *$6,902,834* | *$6,853,386* | *$6,776,902* | *$6,355,264* | *$6,207,275* | *$6,049,623* |
| *Total Indirect (A Rate)* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$0* | *$0* | *$0* | *$0* |
| **Total Expenditures** | **$55,277,624** | **$53,648,978** | **$52,417,146** | **$52,360,385** | **$46,934,479** | **$39,810,762** | **$38,880,834** | **$38,924,202** |
| | | | | | | | | |
| **Operating Gain/(Loss)** | **($6,168,282)** | **($15,182,001)** | **($22,475,777)** | **($24,415,743)** | **($37,057,882)** | **($33,389,265)** | **($32,673,559)** | **($32,874,579)** |
| | | | | | | | | |
| **External Sales** | $563,824 | $942,122 | $959,626 | $924,517 | $228,282 | $0 | $0 | $0 |
| **One Time Costs** | **$7,361,768** | **$4,457,661** | **$815,173** | **$783,594** | **$2,699,624** | **$3,219,861** | **$281,236** | **$212,451** |
| | | | | | | | | |
| **Total Gain/ (Loss)** | **($12,966,226)** | **($18,697,541)** | **($22,331,323)** | **($24,274,820)** | **($39,529,225)** | **($36,609,126)** | **($32,954,795)** | **($33,087,030)** |

* External Sales: Converting to Sanctuary still assumes some amount of downsizing of the colony. l

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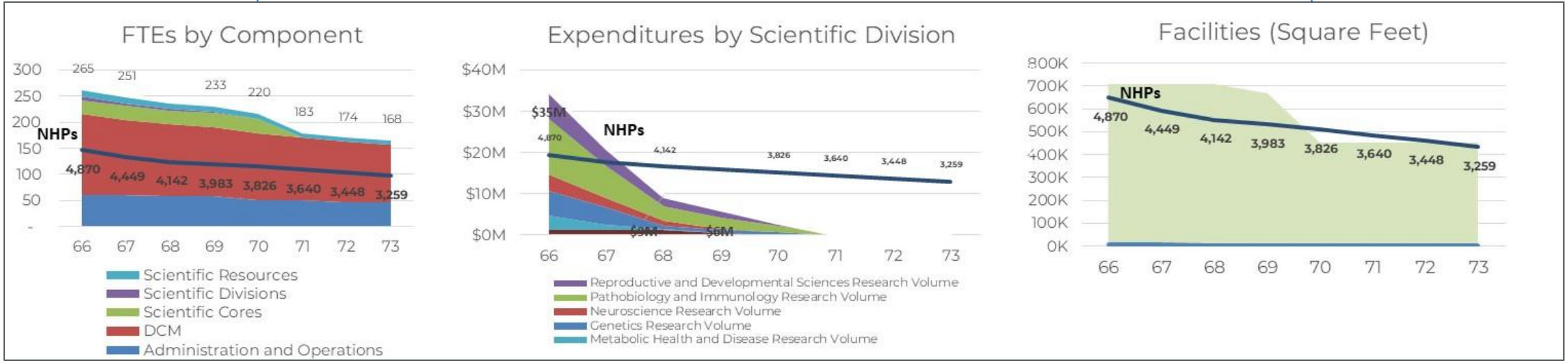
# Scenario Projections

## Scenario Assumptions: Sanctuary Methodology

**3A**

- Colony decrease by 20%
- No new research; remaining research continues through close
- P51 funding ends after 4 years
- Site retained. Only scientific buildings are decommissioned

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |

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# Scenario Projections

## Scenario Assumptions: Sanctuary Methodology

3A

**Projection assumptions (additional to preceding slide)**

- External sales of animals slightly above historical levels until conversion to sanctuary. After conversion, ongoing external donation of animals at the same placement rates.
- Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **No revenue after Year 5** | Revenue will steadily decrease with the reduction of research grants and then reduce to $0 after the termination of the base grant and onsite cores | **$124m** |
| **Modest expenditure reductions** | Most operational costs will remain after the conversion of the site to sanctuary. Clinical support and site management contribute 78% to total operational costs, approximately $36m of the $46m of prior year costs. | **($324m)** |
| **Modest one-time costs to transition to sanctuary** | Costs to retain key personnel, provide additional project management, severance, and ready animals for sanctuary. | **($20m)** |
| | | **($220M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Scenario Detail: Immediate Transition to Sanctuary Methodology

3B

Immediate transition of the ONPRC to a Sanctuary on the West Campus **will require a ~$291M investment from OHSU** over the next eight years. Investments beyond Year 73 will need to be established as the animal colony changes over time.

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | **$11,682,969** | **$6,879,052** | **$6,581,113** | **$6,501,252** | **$6,406,441** | **$6,287,588** | **$6,141,088** | **$5,968,108** |
| | | | | | | | | |
| *Total Personnel* | *$27,023,645* | *$25,835,640* | *$25,605,506* | *$24,556,028* | *$24,001,128* | *$24,143,322* | *$24,245,045* | *$24,308,793* |
| *Total Non-Personnel* | *$15,384,246* | *$9,711,241* | *$9,798,376* | *$9,351,668* | *$8,056,924* | *$8,171,217* | *$8,279,436* | *$8,382,186* |
| *Total Pass-Thru* | *$7,737,134* | *$6,879,052* | *$6,581,113* | *$6,501,252* | *$6,406,441* | *$6,287,588* | *$6,141,088* | *$5,968,108* |
| *Total Indirect (A Rate)* | *$300,000* | *$0* | *$0* | *$0* | *$0* | *$0* | *$0* | *$0* |
| **Total Expenditures** | **$50,445,025** | **$42,425,933** | **$41,984,995** | **$40,408,948** | **$38,464,493** | **$38,602,127** | **$38,665,569** | **$38,659,087** |
| | | | | | | | | |
| **Operating Gain/(Loss)** | **($38,762,056)** | **($35,546,881)** | **($35,403,881)** | **($33,907,697)** | **($32,058,052)** | **($32,314,539)** | **($32,524,481)** | **($32,690,979)** |
| | | | | | | | | |
| **External Sales** | **$212,966** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** |
| **One Time Costs** | **$9,049,306** | **$6,542,371** | **$807,242** | **$330,655** | **$288,149** | **$198,016** | **$207,954** | **$211,870** |
| | | | | | | | | |
| **Total Gain/ (Loss)** | **($47,598,396)** | **($42,089,252)** | **($36,211,123)** | **($34,238,352)** | **($32,346,200)** | **($32,512,555)** | **($32,732,435)** | **($32,902,849)** |

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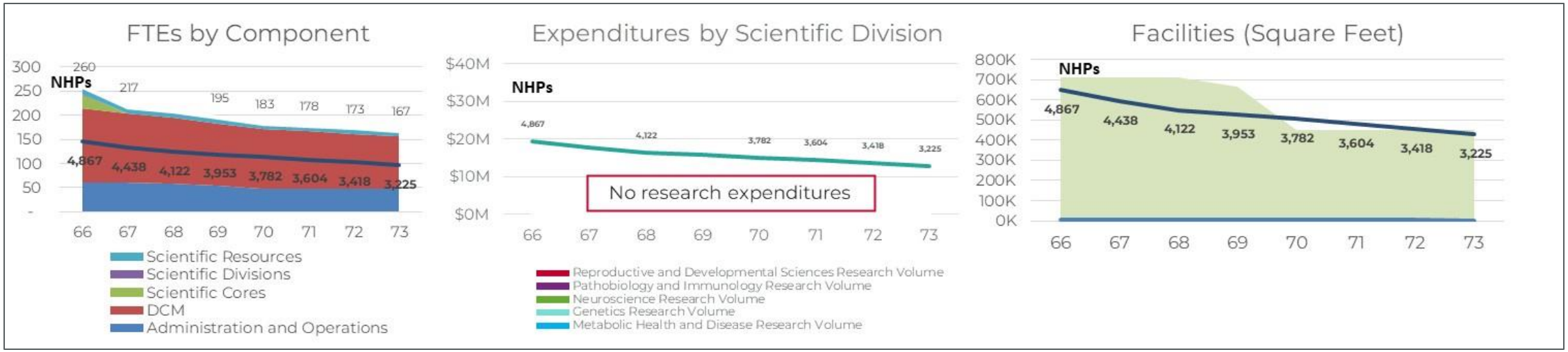
# Scenario Projections

## Scenario Assumptions: Immediate Sanctuary Methodology

**3B**

- Colony decrease by 20% over term
- Research ends immediately
- P51 funding ends immediately
- Site retained. Only scientific buildings are decommissioned

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |



# Scenario Projections

## Scenario Assumptions: Immediate Sanctuary Methodology

3B

**Projection assumptions (additional to preceding slide)**

- Ongoing external donation of animals slightly above current external placement rates
- Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **No revenue after Year 1** | Residual revenue will end after Year 1. | **$4m** |
| **Modest expenditure reductions** | Most operational costs will remain after the conversion of the site to sanctuary. Clinical support and site management contribute 78% to total operational costs, approximately $36m of the $46m of prior year costs. | **($277m)** |
| **Modest one-time costs to transition to sanctuary** | Costs to retain key personnel, provide additional project management, severance, and ready animals for sanctuary. | **($18m)** |
| | | **($291M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Scenario Detail: Maintain Operations at 30% (70% Reduction) Methodology

4A

Maintaining operations at 30% **will require a ~$50M investment** from OHSU over the next eight years.

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | **$46,329,961** | **$42,310,019** | **$36,520,887** | **$28,791,942** | **$26,434,197** | **$26,685,698** | **$26,944,744** | **$27,257,147** |
| | | | | | | | | |
| *Total Personnel* | *$28,060,605* | *$25,361,140* | *$20,538,596* | *$18,127,166* | *$14,397,429* | *$14,829,351* | *$15,274,232* | *$15,732,459* |
| *Total Non-Personnel* | *$16,211,285* | *$15,923,963* | *$13,610,650* | *$13,006,720* | *$10,273,621* | *$10,571,595* | *$10,878,121* | *$11,193,431* |
| *Total Pass-Thru* | *$7,630,708* | *$6,259,243* | *$4,600,456* | *$3,300,389* | *$2,661,193* | *$2,741,029* | *$2,823,260* | *$2,907,958* |
| *Total Indirect (A Rate)* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* |
| **Total Expenditures** | **$54,902,597** | **$50,544,346** | **$41,749,703** | **$37,434,275** | **$30,332,242** | **$31,141,976** | **$31,975,613** | **$32,833,848** |
| | | | | | | | | |
| **Operating Gain/(Loss)** | **($8,572,636)** | **($8,234,327)** | **($5,228,816)** | **($8,642,333)** | **($3,898,046)** | **($4,456,278)** | **($5,030,869)** | **($5,576,700)** |
| | | | | | | | | |
| **External Sales** | **$2,179,809** | **$4,271,050** | **$4,345,388** | **$4,161,783** | **$683,744** | **$704,256** | **$725,384** | **$747,146** |
| **One Time Costs** | **$7,707,648** | **$5,112,626** | **$1,924,726** | **$1,238,774** | **$1,272,653** | **$597,026** | **$0** | **$0** |
| | | | | | | | | |
| **Total Gain/ (Loss)** | **($14,100,475)** | **($9,075,902)** | **($2,808,154)** | **($5,719,324)** | **($4,486,954)** | **($4,349,048)** | **($4,305,485)** | **($4,829,555)** |

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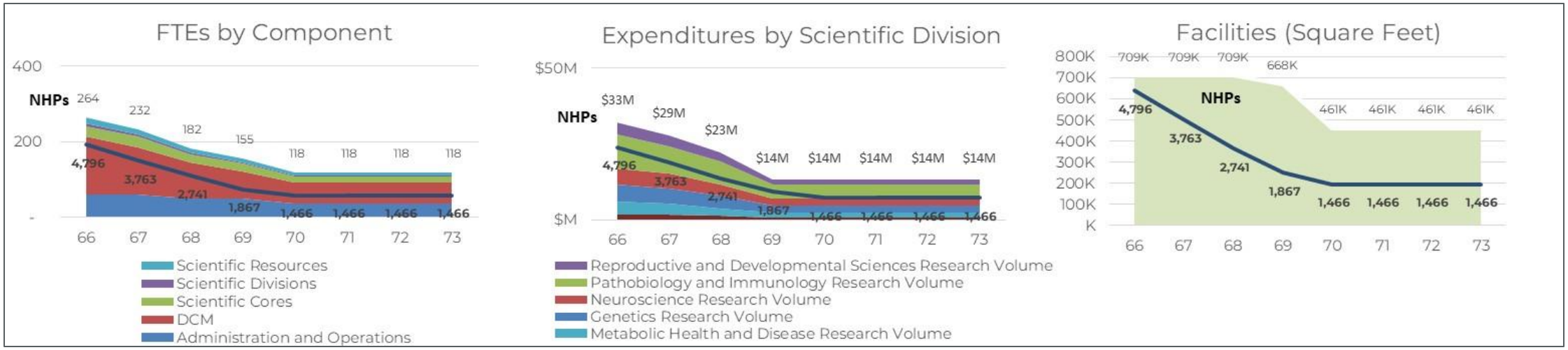
# Scenario Projections

## Scenario Assumptions: Maintain Operations at 30% (70% Reduction) Methodology

**4A**

- Colony decrease by 70% over 4 years
- Reduction of research, with major reduction after colony stable state size
- Continued P51 funding
- Reduction of facilities after stable colony reduction

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | | | ✓ | ✓ | ✓ | | | | |

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# Scenario Projections

## Scenario Assumptions: Maintain Operations at 30% (70% Reduction) Methodology

4A

**Projection assumptions (additional to preceding slide)**

- External sales of animals above historical levels at reduced rates until colony reaches 30% of current census.
- Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **Revenue decreases to new level** | Revenue will decrease with reduction in animal colony and awards to a new level. | **$246m** |
| **Expenditures decrease to new level** | Expenditure costs will decrease with reduction of animals, personnel, and buildings to a new level. | **($278m)** |
| **Limited one-time costs to reduce colony size** | Costs to retain key personnel, provide additional project management, severance, and rehousing costs for species other than rhesus macaques. | **($18m)** |
| | | **($50M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Scenario Detail: Maintain Operations at 80% (20% Reduction) Methodology

4B

Maintaining operations at 80% **will require a ~$71M investment from OHSU** over the next eight years.

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | **$46,266,277** | **$45,225,124** | **$44,505,930** | **$43,745,506** | **$44,541,074** | **$45,104,384** | **$45,684,594** | **$46,552,304** |
| | | | | | | | | |
| *Total Personnel* | *$27,951,326* | *$26,634,696* | *$26,396,191* | *$26,004,261* | *$26,530,286* | *$27,326,194* | *$28,145,980* | *$28,990,360* |
| *Total Non-Personnel* | *$16,188,070* | *$16,268,951* | *$16,387,750* | *$15,859,565* | *$16,027,359* | *$16,492,400* | *$16,970,810* | *$17,462,954* |
| *Total Pass-Thru* | *$7,571,884* | *$6,916,234* | *$6,521,419* | *$6,689,420* | *$6,888,916* | *$7,095,583* | *$7,308,451* | *$7,527,704* |
| *Total Indirect (A Rate)* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* |
| **Total Expenditures** | **$54,711,280** | **$52,819,881** | **$52,305,360** | **$51,553,245** | **$52,446,560** | **$53,914,178** | **$55,425,241** | **$56,981,019** |
| | | | | | | | | |
| **Operating Gain/(Loss)** | **($8,445,004)** | **($7,594,757)** | **($7,799,429)** | **($7,807,740)** | **($7,905,487)** | **($8,809,794)** | **($9,740,647)** | **($10,428,714)** |
| | | | | | | | | |
| **External Sales** | **$2,599,448** | **$2,550,479** | **$1,177,863** | **$1,191,922** | **$1,226,767** | **$1,263,570** | **$1,301,477** | **$1,340,521** |
| **One Time Costs** | **$7,499,280** | **$4,505,620** | **$685,592** | **$751,188** | **$613,190** | **$597,026** | **$0** | **$0** |
| | | | | | | | | |
| **Total Gain/ (Loss)** | **($13,344,836)** | **($9,549,898)** | **($7,307,158)** | **($7,367,005)** | **($7,291,909)** | **($8,143,250)** | **($8,439,170)** | **($9,088,193)** |

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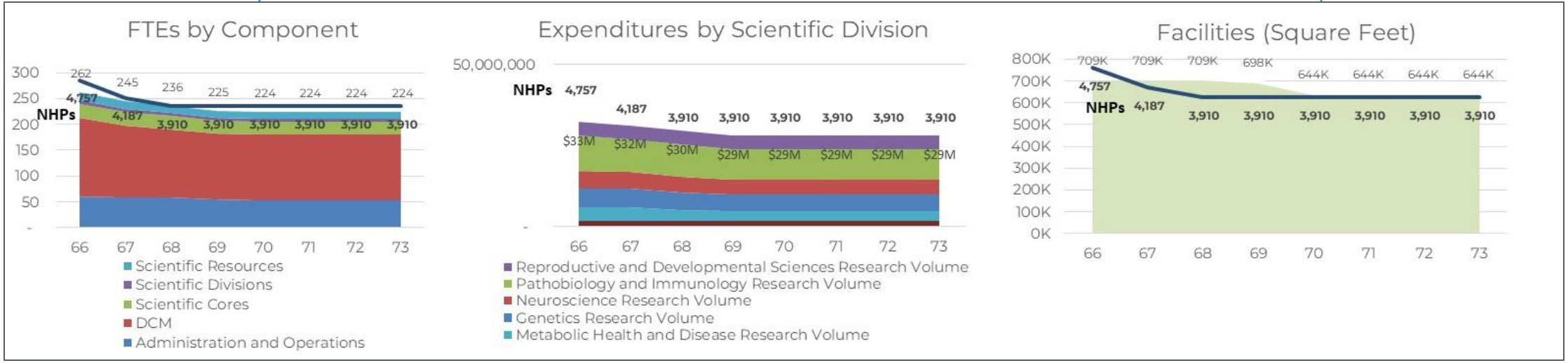
# Scenario Projections

## Scenario Assumptions: Maintain Operations at 80% (20% Reduction) Methodology

**4B**

- Colony decrease by 20% over 3 years
- Minor reduction of research
- Continued P51 funding
- Minor reduction of facilities after stable colony reduction

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | | | ✓ | ✓ | ✓ | | | | |

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# Scenario Projections

## Scenario Assumptions: Maintain Operations at 80% (20% Reduction) Methodology

4B

**Projection assumptions (additional to preceding slide)**

- External sales of animals slightly above historical levels at reduced rates until colony reaches 80% of current census.
- Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **Slight reduction in revenue** | Revenue will decrease with reduction in animal colony and awards to a new level. | **$318m** |
| **Expenditures decrease to new level** | Expenditure costs will decrease with reduction of animals, personnel, and buildings to a new level. | **($374m)** |
| **Modest one-time costs to transition to sanctuary** | Costs to retain key personnel, provide additional project management, severance, and rehousing costs for species other than rhesus macaques. | **($15m)** |
| | | **($71M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Overall Considerations

Future planning will need to expand beyond current financial projections, which are limited by historical data and real time operational factors. As OHSU pursues more engaged planning, it should incorporate a few considerations, in particular, longer time frames across all scenarios to preserve animal welfare, minimize losses, and allow for a changing environment.

- Any future plans will be dependent on animal welfare needs and OHSU's ability to transition the animal population effectively.
- Longer timeframes for closure or reduction will allow for lower investment costs and greater recovery through sales.
- Disposition of the site, buildings, and capital equipment will be dependent on NIH's openness to release any commitments.
- Closure plans will require greater attention and investment in retention of key personnel to ensure the transition runs smoothly over the four-year period. Initial personnel losses that destabilize operations will require an investment from OHSU to maintain while reduction or closure continues.
- Closure will require a significant investment in the near term. Continuing operations will require a smaller investment, but if unsuccessful, could be more costly over the long term.

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# Executive Summary of Scenarios

The closure of the Oregon National Primate Research Center is achievable but would be a significant undertaking for OHSU and would require a significant amount of time and financial support to make possible.

Huron Consulting Group projected the costs and operational impacts of executing future plans for several future operating scenarios. This review was not intended to prompt a decision, but rather to inform the costs for future planning. Any future decision would require additional planning to fully inform strategic, research, and mission-based impact.

| | | Investment Required (8-year period) | |
|---|---|---|---|
| 1 | Immediate Closure | ~($241M) | **Immediate closure** would involve sunsetting all operations and transitioning all animals to other sites. The timeline to transition directly impacts the financial investment. |
| 2 | Sustain Current Grants Only | ~($118M) | **Sustain current grants only and then move to closure** would keep primates on current research studies until the natural end date of those grants. Primates not being actively used on grants would begin transitioning out of the primate center. Once all grants have ended, move to full closure. |
| 3 | Convert to Sanctuary | ~($220M) - ($291M) (Investment Continues Beyond Initial Transition) | **Conversion to a sanctuary** would retain animal colony, clinical, and site management, while eliminating all research operations. |
| 4 | Continued Operations | ~($50M) (70% closure) – ($71M) (20% closure) | **Continuing operations** will require reducing the colony footprint to the optimal size for reduced financial investment and risk, while remaining viable as an independent animal colony. |

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# Questions

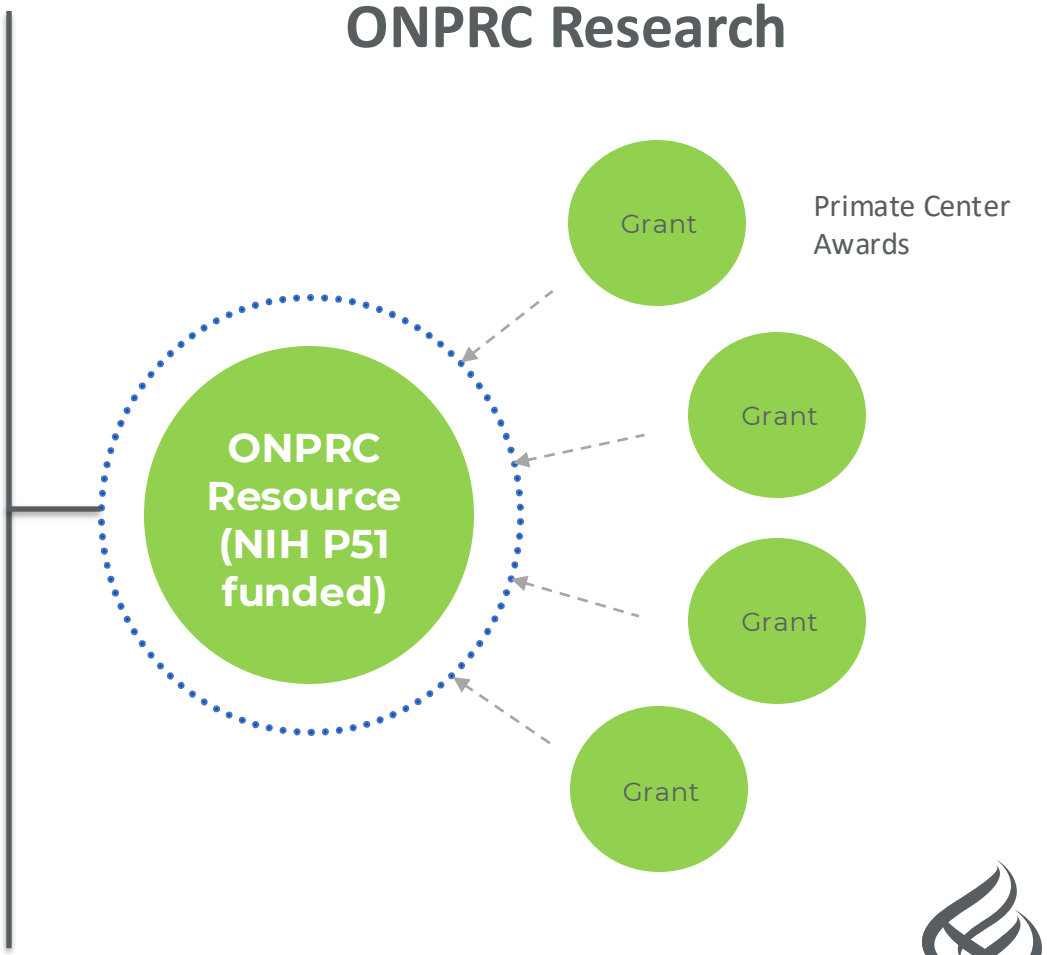
# Appendix A: Methodology

# Methodology Overview

## Basis for Projections

Projections to evaluate gain or loss for scenarios are based on P51 expenditures. This methodology was chosen because:

- The P51 captures the gain or loss specifically associated with the ONPRC as a primate resource.
- Includes the direct costs and recoveries for maintaining the colony, cores, specialized animal resources, site and operational administration, and research administration.
- Excludes gains or losses that are less directly managed by ONPRC, such as research awards that utilize ONPRC resources and institutional overhead costs.
- Is aligned with the Center's ongoing financial management objectives.

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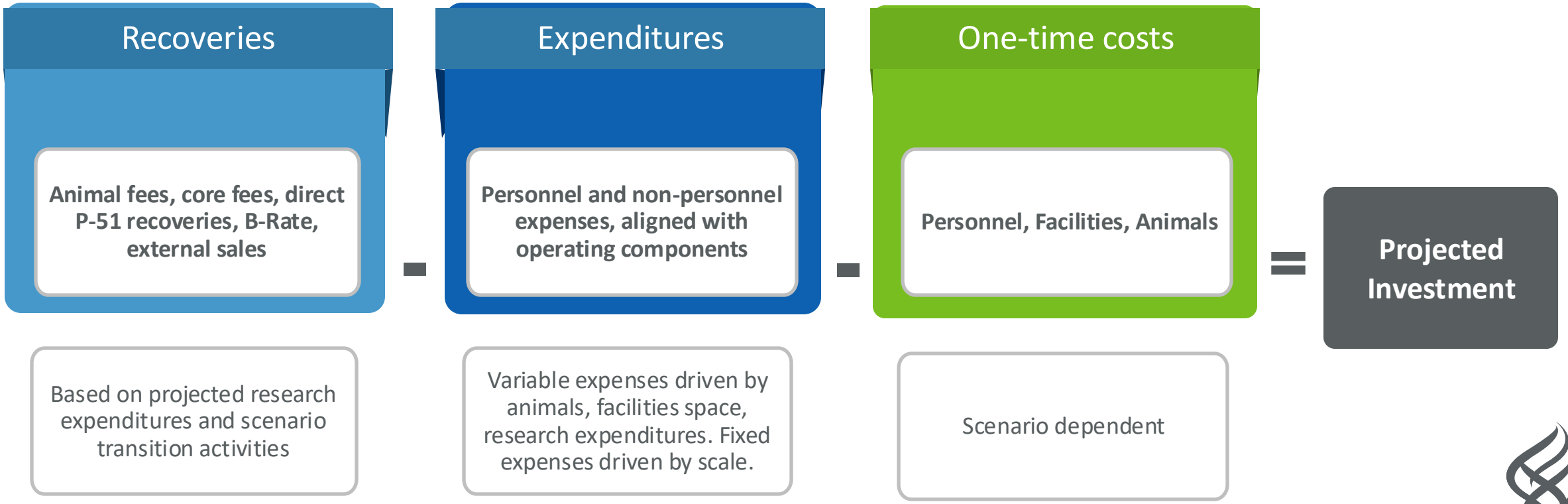
# Methodology Overview

## Basis for Projections

Huron developed a financial methodology to provide a consistent mechanism to evaluate across scenarios. Projections using the financial methodology are based on estimates of operating expenditures, recoveries, and one-time costs, aligned with operating volumes and scenarios



# Methodology Overview

## Methodology: Recoveries

The financial methodology estimates expenditures and recoveries based on historical expenditures and operating volume. Recoveries are based on a similar drivers.

| | |
|---|---|
| **1 Animal Colony Size (count of NHPs)** | • Limits to per diem cost recovery |
| **2 Facilities Utilized (building sq ft)** | • N/A |
| **3 Primate Research ($ non-P51 annual direct expenditures)** | • Per diems on research<br>• B-rate recoveries<br>• Core recoveries |
| **4 Operational Scale (measure of scalability)** | • Limits to B-rate recovery |

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# Methodology Overview

Design: Expenditures

The financial methodology estimates expenditures and recoveries based on historical expenditures and operating volume. Expenditures are projected with the following drivers.

| | |
|---|---|
| **1 Animal Colony Size (count of NHPs)** | • Veterinary and animal care personnel<br>• Non-personnel animal costs |
| **2 Facilities Utilized (building sq ft)** | • Facilities and grounds personnel<br>• Utilities and maintenance costs |
| **3 Primate Research ($ non-P51 annual direct expenditures)** | • Scientific core volume<br>• Staff in research divisions |
| **4 Operational Scale (measure of scalability)** | • Administration roles<br>• Management and leadership roles<br>• Selected non-personnel costs |

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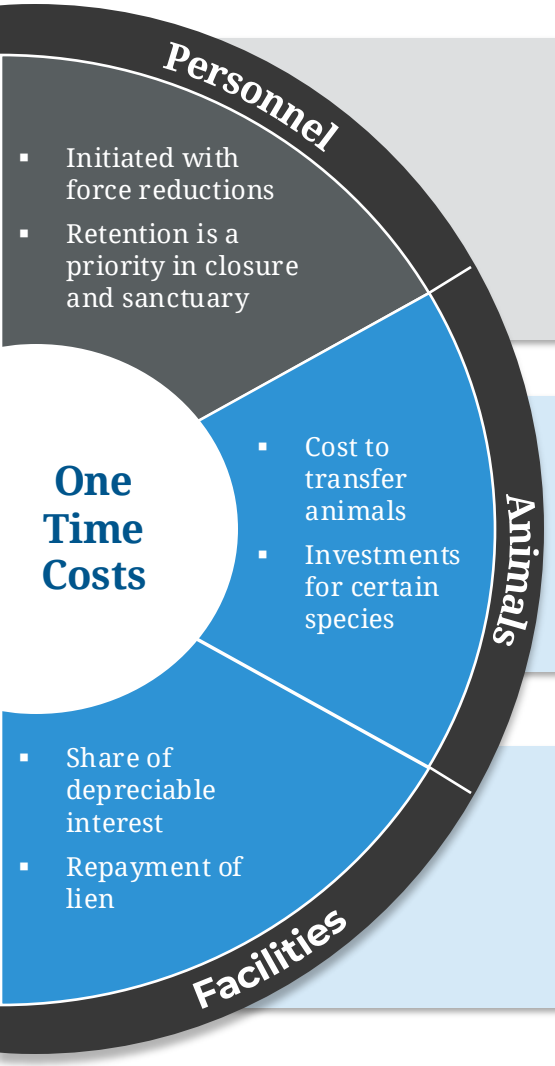
# Methodology Overview

## Design: One-Time Costs Included

Future scenarios will require one-time costs for people, animals, and facilities.




**Severance and PTO Buyout**

**Retention Packages**

**Retention Programs**

**Program Management**

**Transfer Fees**

**Rehousing Costs**

**NIH Buyout of Capital Equipment**

**NIH Buyout of Buildings**

**Site Disposition and Reinvestment**

**Building Demolition**

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# Methodology Overview

## Design: One-Time Costs Included by Scenario

One-time costs are calculated based on the timing and nature of the scenario, and include personnel costs, facilities costs, and animal relocation costs.

| | Personnel | | | | Animal | | Facilities | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Scenarios** | PTO/ Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
| **Continuing Operations** | ✓ | | | ✓ | ✓ | ✓ | | | | |
| **Closure** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| **Sanctuary** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |

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# Methodology Overview

Design: One-Time Cost Estimates

| Topic | Description | Estimation Amount |
|---|---|---|
| **Severance and PTO Buyout** | Reduction in FTEs may result in severance and PTO buyout. | $14-$24k per FTE reduction |
| **Retention Packages** | Additional payment to retain key personnel | Between 0.25 to 0.5 of fulltime salary for approximately 51 personnel |
| **Retention Programs** | Programs to assist with placement | $400k over two years |
| **Program Management** | Investment in internal and/or external resources to manage change efforts | $500k per year |

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# Methodology Overview

Design: One-Time Cost Estimates(Continued)

Many scenarios will have significant one-time costs

| Topic | Description | Estimation Amount |
|---|---|---|
| **Transfer Fees** | Costs to ship NHPs to new locations. Cost is in addition to sales rehousing costs. | $500 per NHP transfer |
| **Rehousing Costs** | OHSU will need to invest for some animals to be placed. Assumed that non-rhesus macaques will require investment | $22.5k per NHP |

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# Methodology Overview

Design: One-Time Costs Asset Details

## Many scenarios will have significant one-time costs

| Topic | Description | Estimation Amount |
|---|---|---|
| **NIH Buyout of Capital Equipment** | Assumed that OHSU will be required to pay for the remaining interest liability for NIH capital equipment the year after closure | Remaining asset value based on year after closure. Cost is specific by scenario. These amounts are incorporated into the one-time costs of the following scenarios. |
| **NIH Buyout of Buildings** | NIH payment for remaining interest liability on buildings | Remaining asset value based on year after closure. These amounts are incorporated into the one-time costs of the following scenarios. |
| **Site Disposition Costs** | In closure scenarios, expected investment to relocate buildings for ongoing university and research needs, offset by gains from sale of site | Relocation cost for the Data Center ($57.5m*) and Jay Nelson Building ($425m*). Offset by $59m* sale recovery for the site, less payment to NIH for site interests |
| **Building Demolition** | Assumption that unused buildings will need to be demolished and/or decommissioned. | $25k for small buildings and $500k for larger buildings |

* Avg of est. range per Campus Architect

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# Methodology Overview

## Assumptions

Although assumptions vary across scenarios, each detailed scenario in this report contains the same base assumptions.

### Included Assumptions

- 3% inflation on expenses (salaries and benefits)
- F&A rates remain at current rates, 75.5%
- Implementation of near-term changes identified by the Center (e.g., 10% rate increases, specific faculty retirements, sunset of selected cores, select reduced payroll allocations)
- P51 funding through the current award term (4 Years) is included in the current projections for continuation, closure, and sanctuary scenarios. Closure and sanctuary scenario projections do not assume P51 funding for future competitive cycles beyond 4 years.
- Certain costs are variable with colony size, facility footprint, and scientific volume. Other costs will be fixed and require adjustments reasonable for new operational size.
- Relevant facilities will be decommissioned in closure scenarios.
- Rhesus macaques will be sold if possible. Species other than rhesus macaques will be donated, at a cost to OHSU. The donation assumption reflects the historical difficulty of placing other species to new external recipients for either research or non-research purposes. For example, ONPRC has been pursuing opportunities to transition the colony of Japanese macaques for nearly a decade.
- Decrease in research volume in the years leading up to close for anticipated closure options
- One-time costs will apply across scenarios as applicable (e.g., severance and PTO payout for personnel departures).

### Not Included

- Union requirements, outside of policies for PTO payout and severance
- Operational or financial data after project start (end of FY2025)
- Targeted reductions in specific scientific divisions, outside of identified retirements

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# Methodology Overview

Timelines for animal placement and completion of research will have the greatest impact on the investment required for transition.

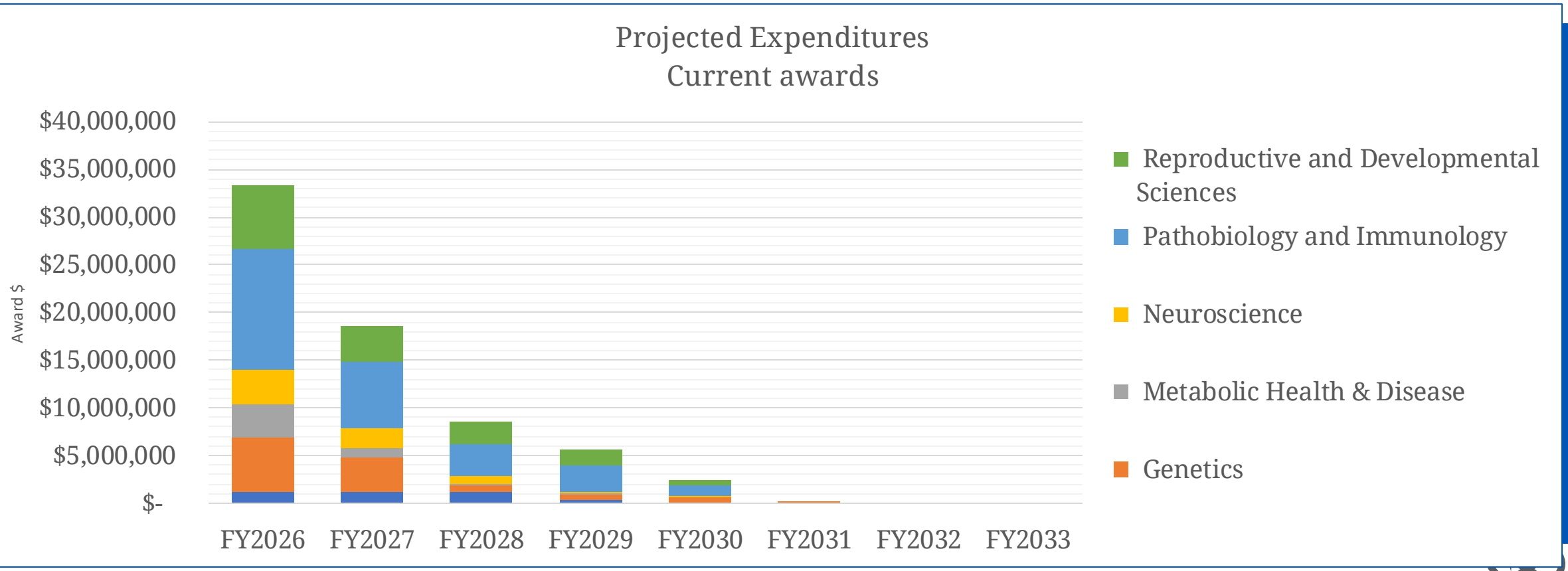
| Key Variable | Impact to cost | Example |
|---|---|---|
| **Animal placement timeline** | Scenarios that establish more immediate timelines for animal placement will require additional investments across scenarios, e.g., increased costs for placing and rehoming NHPs. | Closure (Immediate) - $241M<br><br>Closure (Longer Animal Placement) – $118M<br><br>**$123M difference** |
| **Research completion timeline** | Scenarios that allow for research to continue through closure or transition will require less investment, as research will provide ongoing during that term. | Sanctuary (Immediate transition) - $291M<br><br>Sanctuary (Completion of research) - $220M<br><br>**$71M difference** |

Notes:

# Supporting Data

Remaining funding if new awards were discontinued

Below is the timeline for all current awards. If no new awards are received funding would rapidly decline with revenue ending entirely by 2030.



# Scenario Projections

## Scenario Detail: Template

The chart below is representative of the detail behind each scenario.

| | YR 66 | | | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | $ | | | $ | $ | $ | $ | $ |
| ***Total Personnel*** | $ | $ | $ | $ | $ | $ | $ | $ |
| ***Total Non-Personnel*** | $ | | | $ | $ | $ | $ | $ |
| ***Total Pass-Thru*** | $ | | | $ | $ | $ | $ | $ |
| ***Total Indirect (A Rate)*** | $ | | | $ | $ | $ | $ | $ |
| **Total Expenditures** | $ | | | $ | $ | $ | $ | $ |
| **Operating Gain/(Loss)** | $ | | | $ | | | $ | $ |
| **External Sales** | $ | | | $ | | | $ | $ |
| **One Time Costs** | $ | $ | $ | $ | | | $ | $ |
| **Total Gain/ (Loss)** | $ | $ | $ | $ | $ | $ | $ | $ |

**Revenues**: Total of grant support, B rate recoveries, animal recoveries, cores/scientific resources, and pass thru recoveries.

**Total Expenditures:** Expenses from Scientific Divisions, DCM, Admin and Operations, Cores/scientific resources, and pass thru expenses

**External Sales:** Money recouped from transitioning colony

**One Time Costs**: Detailed on the preceding slide

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# Scenario Projections

## Scenario Detail: Immediate Closure

1

Immediate closure and transitioning animals to external sanctuaries **will require a ~$241M investment from OHSU** over the next eight

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | $12,640,120 | $2,462,252 | $0 | $0 | $0 | $0 | $0 | $0 |
| | | | | | | | | |
| *Total Personnel* | *$26,165,015* | *$17,630,421* | *$7,492,927* | *$1,123,703* | *$1,157,415* | *$1,192,137* | *$1,227,901* | *$1,264,738* |
| *Total Non-Personnel* | *$15,201,843* | *$7,968,163* | *$5,049,391* | *$1,325,448* | *$1,365,211* | *$1,406,168* | *$1,448,353* | *$1,491,803* |
| *Total Pass-Thru* | *$7,274,941* | *$2,462,252* | *$0* | *$0* | *$0* | *$0* | *$0* | *$0* |
| *Total Indirect (A Rate)* | *$600,000* | *$0* | *$0* | *$0* | *$0* | *$0* | *$0* | *$0* |
| **Total Expenditures** | **$49,241,799** | **$28,060,837** | **$12,542,319** | **$2,449,151** | **$2,522,626** | **$2,598,305** | **$2,676,254** | **$2,756,541** |
| | | | | | | | | |
| **Operating Gain/(Loss)** | **($36,601,679)** | **($25,598,584)** | **($12,542,319)** | **($2,449,151)** | **($2,522,626)** | **($2,598,305)** | **($2,676,254)** | **($2,756,541)** |
| | | | | | | | | |
| **External Sales** | $212,966 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| **One Time Costs*** | **$72,641,140** | **$78,122,014** | **$1,445,235** | **$808,120** | **$0** | **$0** | **$0** | **$0** |
| | | | | | | | | |
| **Total Gain/ (Loss)** | **($109,029,852)** | **($103,720,598)** | **($13,987,553)** | **($3,257,271)** | **($2,522,626)** | **($2,598,305)** | **($2,676,254)** | **($2,756,541)** |

*** One Time Costs**: Includes rehousing costs and building facilities at the destination site.

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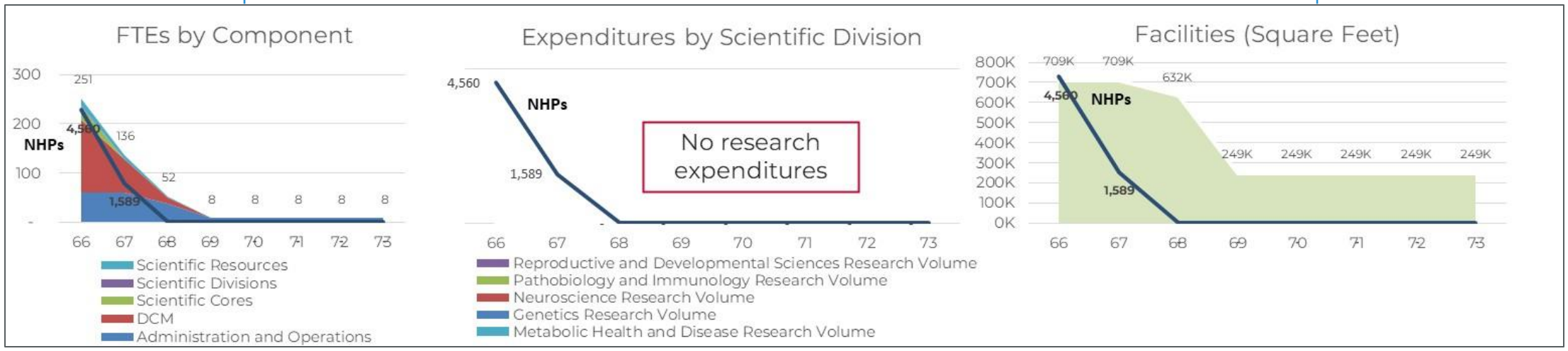
# Scenario Projections

## Scenario Assumptions: Immediate Closure Methodology

1

- Colony is placed externally
- No new research; remaining research continues through close
- P51 funding ends immediately
- Site retained. Remaining facilities are physical plant and non-ONPRC buildings

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |



# Scenario Projections

## Scenario Assumptions: Immediate Closure

1

**Projection assumptions (additional to preceding slide)**

- Immediate closure options assumes investments of $22.5k per animal to place rhesus macaques externally, which is the estimated payment for lifetime support.
- Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **No revenue after Year 2** | Residual revenue will end after Year 2. | **$5m** |
| **Expenditures will decrease after departure of animals** | Expenditures will decrease after animals transition out. Site management costs will continue in the out years. | **($93m)** |
| **Significant one-time costs for immediate closure** | Immediate closure will require significant investments to place NHPs externally. Other significant costs will include building decommissioning and severance. | **($153m)** |
| | | **($241M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Scenario Detail: Keeping Current Grants and Closure Methodology

2

Maintaining operations until the current grants end **will require a ~$118M investment** from OHSU over the next eight years.

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | $48,983,366 | $37,273,164 | $27,428,863 | $24,035,604 | $4,906,269 | $358,849 | $0 | $0 |
| ***Total Personnel*** | *$27,995,906* | *$25,141,815* | *$22,225,873* | *$19,871,889* | *$17,043,683* | *$5,897,812* | *$1,227,901* | *$1,264,738* |
| ***Total Non-Personnel*** | *$16,275,681* | *$15,691,311* | *$15,049,018* | *$14,639,696* | *$13,467,662* | *$4,691,532* | *$1,448,353* | *$1,491,803* |
| ***Total Pass-Thru*** | *$7,626,712* | *$6,221,374* | *$4,576,661* | *$3,233,958* | *$1,806,575* | *$199,910* | *$0* | *$0* |
| ***Total Indirect (A Rate)*** | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$0* | *$0* | *$0* | *$0* |
| **Total Expenditures** | $54,898,299 | $50,054,500 | $44,851,552 | $40,745,543 | $32,317,920 | $10,789,253 | $2,676,254 | $2,756,541 |
| **Operating Gain/(Loss)** | ($5,914,933) | ($12,781,336) | ($17,422,689) | ($16,709,939) | ($27,411,651) | ($10,430,404) | ($2,676,254) | ($2,756,541) |
| **External Sales** | $1,358,766 | $2,579,703 | $2,646,335 | $2,725,725 | $2,807,497 | $1,204,271 | $0 | $0 |
| **One Time Costs** | $7,734,003 | $5,141,744 | $1,595,504 | $1,535,980 | $3,335,137 | $4,505,424 | $11,077,222 | $0 |
| **Total Gain/ (Loss)** | ($12,290,170) | ($15,343,377) | ($16,371,858) | ($15,520,194) | ($27,939,291) | ($13,731,557) | ($13,753,476) | ($2,756,541) |

* **One Time Costs**: Includes hazardous waste removal and decommissioning site on West Campus.

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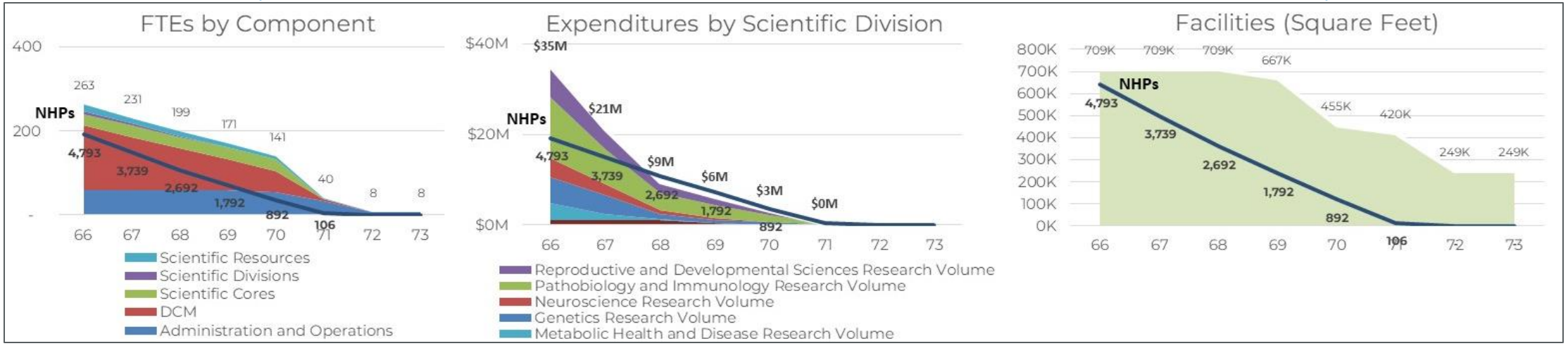
# Scenario Projections

## Scenario Assumptions: Keeping Current Grants and Closure Methodology

2

- Colony is placed externally
- No new research; remaining research continues through close
- P51 funding ends after 4 years
- Site retained. Remaining facilities are physical plant and non-ONPRC buildings

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |



# Scenario Projections

## Scenario Assumptions: Keeping Current Grants and Closure Methodology

2

**Projection assumptions (additional to preceding slide)**

- External sales of animals above historical levels until closure with highly discounted rates. Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **No revenue after Year 6** | Revenue will steadily decrease with the reduction of research grants and then reduce to $0 after the termination of the base grant and onsite cores | **$132m** |
| **Modest expenditure reductions** | Expenditure costs will continue through closure, with gradual reductions as animals, facility, and personnel are decreased. | **($215m)** |
| **Moderate one-time costs for closure** | Costs to retain key personnel, provide additional project management, severance, and decommission buildings associated with closure. Costs to place animals are lower than immediate scenario given the longer timeframe to sell. | **($35m)** |
| | | **($118M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Scenario Detail: Sanctuary Methodology

3A

Transitioning the ONPRC to a Sanctuary on the West Campus **will require a ~$220M investment from OHSU** over the next eight years. Investments beyond 2033 (Year 73 of the P51) will need to be established as the animal colony changes over time.

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | $49,109,342 | $38,466,977 | $29,941,370 | $27,944,641 | $9,876,597 | $6,421,497 | $6,207,275 | $6,049,623 |
| | | | | | | | | |
| *Total Personnel* | *$28,212,573* | *$27,194,949* | *$26,547,275* | *$26,545,813* | *$25,431,376* | *$24,959,658* | *$24,368,002* | *$24,460,224* |
| *Total Non-Personnel* | *$16,321,709* | *$16,127,470* | *$15,967,037* | *$15,961,185* | *$14,726,201* | *$8,495,840* | *$8,305,557* | *$8,414,356* |
| *Total Pass-Thru* | *$7,743,342* | *$7,326,559* | *$6,902,834* | *$6,853,386* | *$6,776,902* | *$6,355,264* | *$6,207,275* | *$6,049,623* |
| *Total Indirect (A Rate)* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$0* | *$0* | *$0* | *$0* |
| **Total Expenditures** | **$55,277,624** | **$53,648,978** | **$52,417,146** | **$52,360,385** | **$46,934,479** | **$39,810,762** | **$38,880,834** | **$38,924,202** |
| | | | | | | | | |
| **Operating Gain/(Loss)** | **($6,168,282)** | **($15,182,001)** | **($22,475,777)** | **($24,415,743)** | **($37,057,882)** | **($33,389,265)** | **($32,673,559)** | **($32,874,579)** |
| | | | | | | | | |
| **External Sales** | $563,824 | $942,122 | $959,626 | $924,517 | $228,282 | $0 | $0 | $0 |
| **One Time Costs** | **$7,361,768** | **$4,457,661** | **$815,173** | **$783,594** | **$2,699,624** | **$3,219,861** | **$281,236** | **$212,451** |
| | | | | | | | | |
| **Total Gain/ (Loss)** | **($12,966,226)** | **($18,697,541)** | **($22,331,323)** | **($24,274,820)** | **($39,529,225)** | **($36,609,126)** | **($32,954,795)** | **($33,087,030)** |

* External Sales: Converting to Sanctuary still assumes some amount of downsizing of the colony. I

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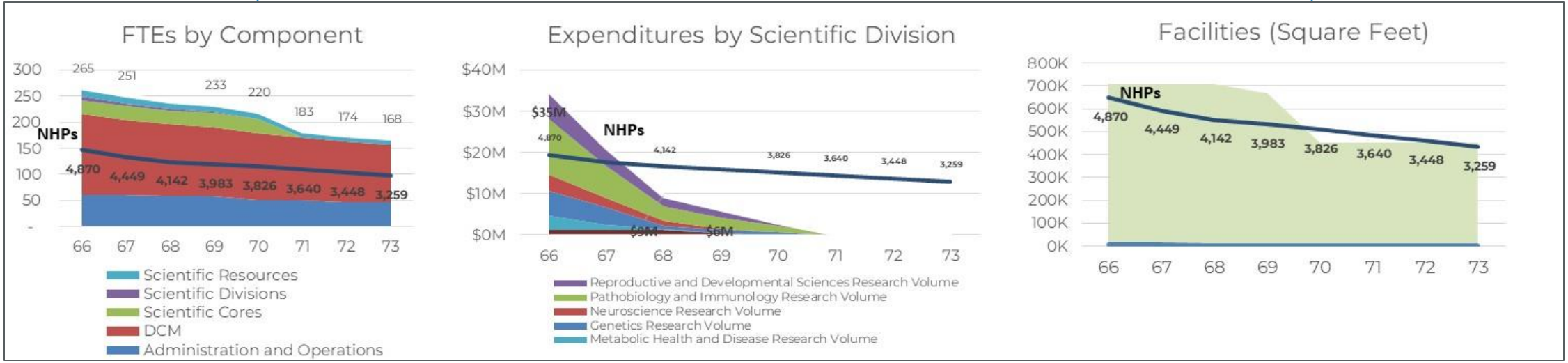
# Scenario Projections

## Scenario Assumptions: Sanctuary Methodology

**3A**

- Colony decrease by 20%
- No new research; remaining research continues through close
- P51 funding ends after 4 years
- Site retained. Only scientific buildings are decommissioned

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |

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# Scenario Projections

## Scenario Assumptions: Sanctuary Methodology

3A

**Projection assumptions (additional to preceding slide)**

- External sales of animals slightly above historical levels until conversion to sanctuary. After conversion, ongoing external donation of animals at the same placement rates.
- Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **No revenue after Year 5** | Revenue will steadily decrease with the reduction of research grants and then reduce to $0 after the termination of the base grant and onsite cores | **$124m** |
| **Modest expenditure reductions** | Most operational costs will remain after the conversion of the site to sanctuary. Clinical support and site management contribute 78% to total operational costs, approximately $36m of the $46m of prior year costs. | **($324m)** |
| **Modest one-time costs to transition to sanctuary** | Costs to retain key personnel, provide additional project management, severance, and ready animals for sanctuary. | **($20m)** |
| | | **($220M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Scenario Detail: Immediate Transition to Sanctuary Methodology

3B

Immediate transition of the ONPRC to a Sanctuary on the West Campus **will require a ~$291M investment from OHSU** over the next eight years. Investments beyond Year 73 will need to be established as the animal colony changes over time.

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | **$11,682,969** | **$6,879,052** | **$6,581,113** | **$6,501,252** | **$6,406,441** | **$6,287,588** | **$6,141,088** | **$5,968,108** |
| | | | | | | | | |
| *Total Personnel* | *$27,023,645* | *$25,835,640* | *$25,605,506* | *$24,556,028* | *$24,001,128* | *$24,143,322* | *$24,245,045* | *$24,308,793* |
| *Total Non-Personnel* | *$15,384,246* | *$9,711,241* | *$9,798,376* | *$9,351,668* | *$8,056,924* | *$8,171,217* | *$8,279,436* | *$8,382,186* |
| *Total Pass-Thru* | *$7,737,134* | *$6,879,052* | *$6,581,113* | *$6,501,252* | *$6,406,441* | *$6,287,588* | *$6,141,088* | *$5,968,108* |
| *Total Indirect (A Rate)* | *$300,000* | *$0* | *$0* | *$0* | *$0* | *$0* | *$0* | *$0* |
| **Total Expenditures** | **$50,445,025** | **$42,425,933** | **$41,984,995** | **$40,408,948** | **$38,464,493** | **$38,602,127** | **$38,665,569** | **$38,659,087** |
| | | | | | | | | |
| **Operating Gain/(Loss)** | **($38,762,056)** | **($35,546,881)** | **($35,403,881)** | **($33,907,697)** | **($32,058,052)** | **($32,314,539)** | **($32,524,481)** | **($32,690,979)** |
| | | | | | | | | |
| **External Sales** | **$212,966** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** |
| **One Time Costs** | **$9,049,306** | **$6,542,371** | **$807,242** | **$330,655** | **$288,149** | **$198,016** | **$207,954** | **$211,870** |
| | | | | | | | | |
| **Total Gain/ (Loss)** | **($47,598,396)** | **($42,089,252)** | **($36,211,123)** | **($34,238,352)** | **($32,346,200)** | **($32,512,555)** | **($32,732,435)** | **($32,902,849)** |

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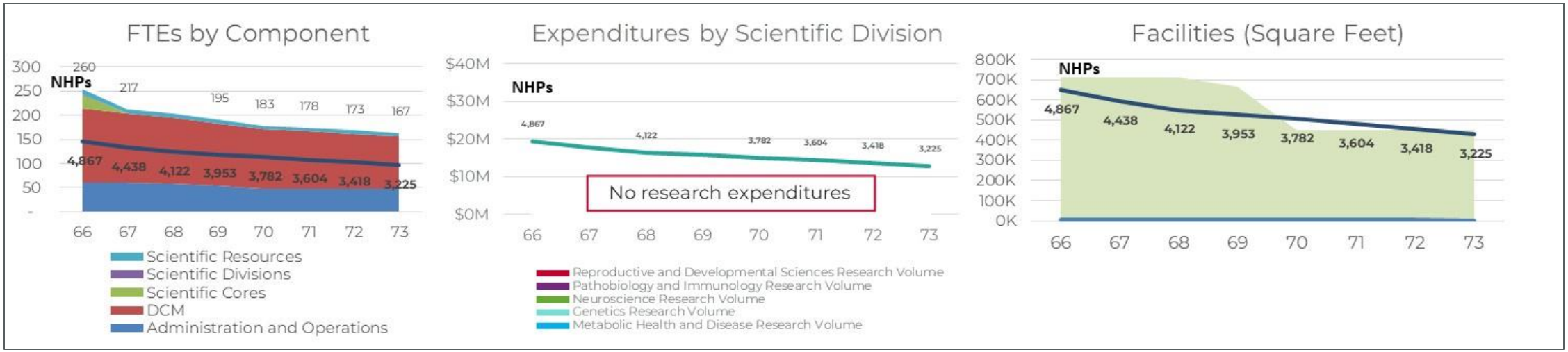
# Scenario Projections

## Scenario Assumptions: Immediate Sanctuary Methodology

**3B**

- Colony decrease by 20% over term
- Research ends immediately
- P51 funding ends immediately
- Site retained. Only scientific buildings are decommissioned

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |



# Scenario Projections

## Scenario Assumptions: Immediate Sanctuary Methodology

3B

**Projection assumptions (additional to preceding slide)**

- Ongoing external donation of animals slightly above current external placement rates
- Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **No revenue after Year 1** | Residual revenue will end after Year 1. | **$4m** |
| **Modest expenditure reductions** | Most operational costs will remain after the conversion of the site to sanctuary. Clinical support and site management contribute 78% to total operational costs, approximately $36m of the $46m of prior year costs. | **($277m)** |
| **Modest one-time costs to transition to sanctuary** | Costs to retain key personnel, provide additional project management, severance, and ready animals for sanctuary. | **($18m)** |
| | | **($291M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Scenario Detail: Maintain Operations at 30% (70% Reduction) Methodology

4A

Maintaining operations at 30% **will require a ~$50M investment** from OHSU over the next eight years.

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | **$46,329,961** | **$42,310,019** | **$36,520,887** | **$28,791,942** | **$26,434,197** | **$26,685,698** | **$26,944,744** | **$27,257,147** |
| | | | | | | | | |
| *Total Personnel* | *$28,060,605* | *$25,361,140* | *$20,538,596* | *$18,127,166* | *$14,397,429* | *$14,829,351* | *$15,274,232* | *$15,732,459* |
| *Total Non-Personnel* | *$16,211,285* | *$15,923,963* | *$13,610,650* | *$13,006,720* | *$10,273,621* | *$10,571,595* | *$10,878,121* | *$11,193,431* |
| *Total Pass-Thru* | *$7,630,708* | *$6,259,243* | *$4,600,456* | *$3,300,389* | *$2,661,193* | *$2,741,029* | *$2,823,260* | *$2,907,958* |
| *Total Indirect (A Rate)* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* |
| **Total Expenditures** | **$54,902,597** | **$50,544,346** | **$41,749,703** | **$37,434,275** | **$30,332,242** | **$31,141,976** | **$31,975,613** | **$32,833,848** |
| | | | | | | | | |
| **Operating Gain/(Loss)** | **($8,572,636)** | **($8,234,327)** | **($5,228,816)** | **($8,642,333)** | **($3,898,046)** | **($4,456,278)** | **($5,030,869)** | **($5,576,700)** |
| | | | | | | | | |
| **External Sales** | **$2,179,809** | **$4,271,050** | **$4,345,388** | **$4,161,783** | **$683,744** | **$704,256** | **$725,384** | **$747,146** |
| **One Time Costs** | **$7,707,648** | **$5,112,626** | **$1,924,726** | **$1,238,774** | **$1,272,653** | **$597,026** | **$0** | **$0** |
| | | | | | | | | |
| **Total Gain/ (Loss)** | **($14,100,475)** | **($9,075,902)** | **($2,808,154)** | **($5,719,324)** | **($4,486,954)** | **($4,349,048)** | **($4,305,485)** | **($4,829,555)** |

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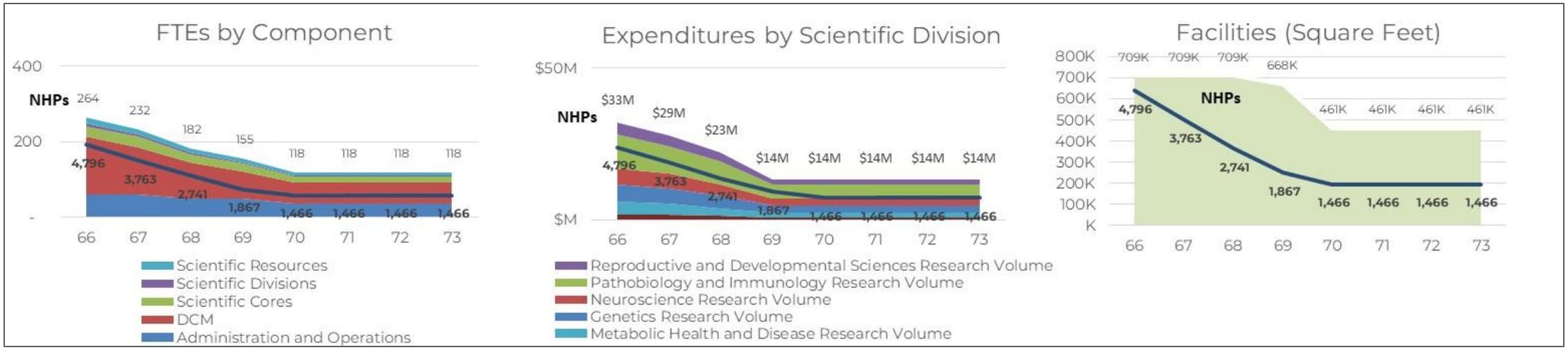
# Scenario Projections

## Scenario Assumptions: Maintain Operations at 30% (70% Reduction) Methodology

**4A**

- Colony decrease by 70% over 4 years
- Reduction of research, with major reduction after colony stable state size
- Continued P51 funding
- Reduction of facilities after stable colony reduction

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | | | ✓ | ✓ | ✓ | | | | |

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# Scenario Projections

## Scenario Assumptions: Maintain Operations at 30% (70% Reduction) Methodology

4A

**Projection assumptions (additional to preceding slide)**

- External sales of animals above historical levels at reduced rates until colony reaches 30% of current census.
- Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **Revenue decreases to new level** | Revenue will decrease with reduction in animal colony and awards to a new level. | **$246m** |
| **Expenditures decrease to new level** | Expenditure costs will decrease with reduction of animals, personnel, and buildings to a new level. | **($278m)** |
| **Limited one-time costs to reduce colony size** | Costs to retain key personnel, provide additional project management, severance, and rehousing costs for species other than rhesus macaques. | **($18m)** |
| | | **($50M)** |

** Pass through revenue and expenses excluded*

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# Scenario Projections

## Scenario Detail: Maintain Operations at 80% (20% Reduction) Methodology

4B

Maintaining operations at 80% **will require a ~$71M investment from OHSU** over the next eight years.

| | YR 66 | YR 67 | YR 68 | YR 69 | YR 70 | YR 71 | YR 72 | YR 73 |
|---|---|---|---|---|---|---|---|---|
| **Total Direct Revenues** | $46,266,277 | $45,225,124 | $44,505,930 | $43,745,506 | $44,541,074 | $45,104,384 | $45,684,594 | $46,552,304 |
| | | | | | | | | |
| *Total Personnel* | *$27,951,326* | *$26,634,696* | *$26,396,191* | *$26,004,261* | *$26,530,286* | *$27,326,194* | *$28,145,980* | *$28,990,360* |
| *Total Non-Personnel* | *$16,188,070* | *$16,268,951* | *$16,387,750* | *$15,859,565* | *$16,027,359* | *$16,492,400* | *$16,970,810* | *$17,462,954* |
| *Total Pass-Thru* | *$7,571,884* | *$6,916,234* | *$6,521,419* | *$6,689,420* | *$6,888,916* | *$7,095,583* | *$7,308,451* | *$7,527,704* |
| *Total Indirect (A Rate)* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* | *$3,000,000* |
| **Total Expenditures** | **$54,711,280** | **$52,819,881** | **$52,305,360** | **$51,553,245** | **$52,446,560** | **$53,914,178** | **$55,425,241** | **$56,981,019** |
| | | | | | | | | |
| **Operating Gain/(Loss)** | **($8,445,004)** | **($7,594,757)** | **($7,799,429)** | **($7,807,740)** | **($7,905,487)** | **($8,809,794)** | **($9,740,647)** | **($10,428,714)** |
| | | | | | | | | |
| **External Sales** | $2,599,448 | $2,550,479 | $1,177,863 | $1,191,922 | $1,226,767 | $1,263,570 | $1,301,477 | $1,340,521 |
| **One Time Costs** | **$7,499,280** | **$4,505,620** | **$685,592** | **$751,188** | **$613,190** | **$597,026** | **$0** | **$0** |
| | | | | | | | | |
| **Total Gain/ (Loss)** | **($13,344,836)** | **($9,549,898)** | **($7,307,158)** | **($7,367,005)** | **($7,291,909)** | **($8,143,250)** | **($8,439,170)** | **($9,088,193)** |

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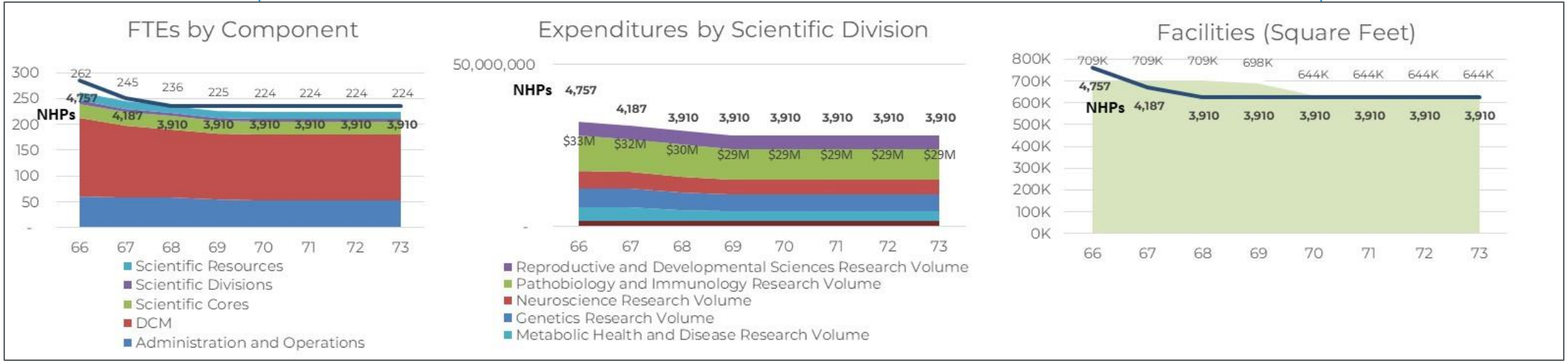
# Scenario Projections

## Scenario Assumptions: Maintain Operations at 80% (20% Reduction) Methodology

**4B**

- Colony decrease by 20% over 3 years
- Minor reduction of research
- Continued P51 funding
- Minor reduction of facilities after stable colony reduction

| | PTO/Severance | Retention Packages | Retention Programs | Program Management | Transfer Fees | Rehousing Investments | NIH Equip Buyout | NIH Building Buyout | Site Disposition | Building Demolition |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-time Costs** | ✓ | | | ✓ | ✓ | ✓ | | | | |

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# Scenario Projections

## Scenario Assumptions: Maintain Operations at 80% (20% Reduction) Methodology

4B

**Projection assumptions (additional to preceding slide)**

- External sales of animals slightly above historical levels at reduced rates until colony reaches 80% of current census.
- Projection includes costs to transfer species other than rhesus macaques (~433 NHPs)

| Projection Impacts | Projection Impacts | 8 Year Amt* |
|---|---|---|
| **Slight reduction in revenue** | Revenue will decrease with reduction in animal colony and awards to a new level. | **$318m** |
| **Expenditures decrease to new level** | Expenditure costs will decrease with reduction of animals, personnel, and buildings to a new level. | **($374m)** |
| **Modest one-time costs to transition to sanctuary** | Costs to retain key personnel, provide additional project management, severance, and rehousing costs for species other than rhesus macaques. | **($15m)** |
| | | **($71M)** |

** Pass through revenue and expenses excluded*

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# Contributors

Huron met with the following individuals to inform scenarios and projections in the Budget Note response:

Director, Human Resources Business Partner, OHSU
Former OHSU Chief Research Officer & Executive Vice President
Director, ONPRC
OHSU Legal Counsel
Cost Analysis Supervisor, OHSU
Resource & Logistics Unit Head, ONPRC
Associate Vice President, Facilities, OHSU
Vice President, Research Administration and Senior Staff Officer, OHSU
Associate Director, Division of Comparative Medicine, ONPRC
Senior Director, OHSU Office of Proposals and Award Management
Chief Operating Officer, ONPRC
Sponsored Projects Analyst 2, OHSU Office of Proposals and Award Management
Associate Director, Department of Campus Planning and Real Estate, OHSU
Senior Human Resources Business Partner, OHSU
Manager, OHSU Office of Proposals and Award Management
OHSU Interim Chief Research Officer & Executive Vice President
Director of Facilities, ONPRC
Director, Department of Campus Planning and Real Estate, OHSU
OHSU Vice Provost, Finance and Administration

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# Appendix B: Details of Real Property (West Campus)

# OHSU Properties

- OHSU West Campus / ONPRC where the NIH has federal interest: 154 acres
- Quatama: 55 acres
- Bates: 16 acres

## Negotiating NIH Federal Interest

- OHSU must obtain written consent from NIH for change of use or ownership

# Scenario: OHSU West Campus is split between Research and Primate Sanctuary

- Primate Sanctuary: 90 acres
- Research: 61 acres

**Building Allocation By Area**

**Primate Sanctuary**

Colony Building
Colony Annex
Equipment Shed
Diet Kitchen
Sheltered Group Housing
North Corral
J.C. Higgins Building
Central Stores / Bioengineering Bldg.
Kroc Building
Corral #1-6
Cammack Building
Cold Storage
Staff & Support Bldg.
Harem Building
ASB1
ASB2
ASB3
3T MRI Building
ASA Building
PMIC Building
DCM Commons
Cage Storage Shed

**Research**

Administration Building
Research Building
Physical Plant and Shops
Bosky Building
Montagna Auditorium
Cellular & Molecular Biology Bldg.
Jay Nelson Research Bldg.
Data Center

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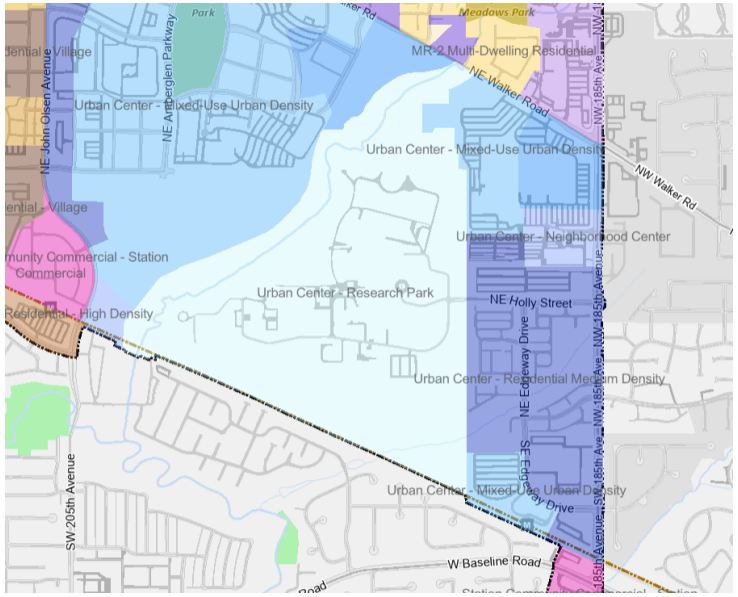
# Use Limited by City of Hillsboro Requirements

- West Campus is zoned Urban Center – Research Park (UC-RP). Additional analysis is needed on whether an animal sanctuary is a permitted use, or the process for a zoning change.

- 91 acres (59%) of West Campus is within a Significant Natural Resource Overlay (SNRO) which has additional requirements which limit development.




The UC-RP zone implements the MU-I Mixed-Use - Institutional Plan designation, providing opportunities for development of a range of research, development and testing laboratory Uses; educational Uses; medical research and clinical Uses; and high-tech and bio-tech research and applied technology Uses.

Significant Natural Resource Overlay (SNRO)

# Alternative: West Campus becomes Primate Sanctuary

- Primate Sanctuary: 61 acres
- SNRO: 90 acres

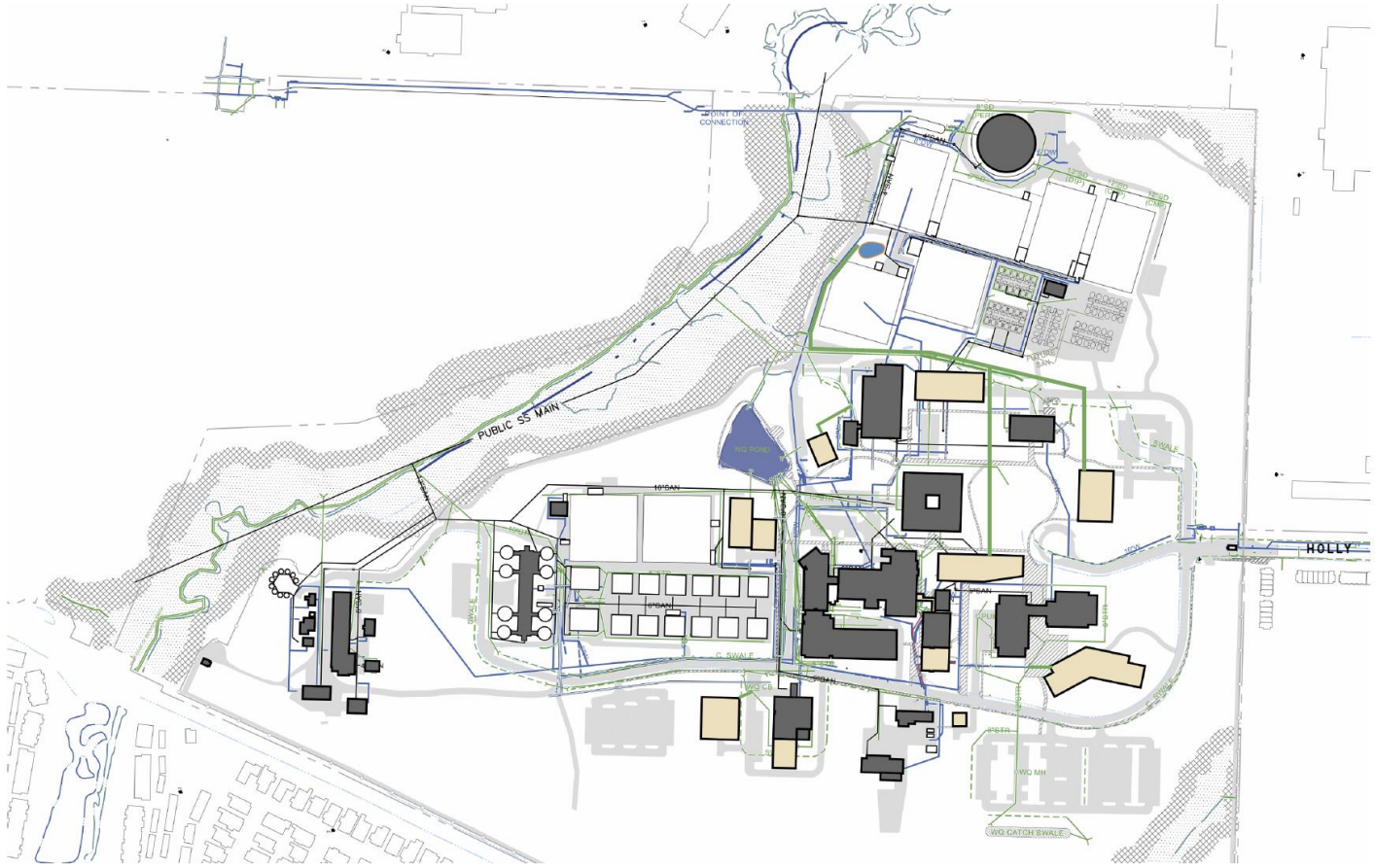
Requires relocation of Data Center and VGTI (38,127 NASF), closure/demolition of buildings

*preliminary findings, requires additional research

# Expansion of Data Center

Data Center West is not connected to the campus central utility plant, however, there is only one main water line that services the campus.

If the Data Center facility were to be expanded in the future, the existing infrastructure services would also need to expand to support a larger facility.



# Important Real Property Considerations

1. **The current site is sufficient to support a sanctuary.** Assumption is that existing primate facilities would remain.

2. **The core campus could potentially be split to allow for both sanctuary and research.** The site is 91 acres (outside of Significant Natural Resource Overlay), which 37 acres for primate sanctuary and 24 acres for research.

3. **Existing facilities will need to be moved if the entire property becomes a sanctuary.** VGTI (73,706 GSF within the Jay Nelson Building) and the Data Center would need to be relocated. Other buildings could be retained (animal support buildings), repurposed or demolished. May require land use zoning change if the research use were terminated.

4. **The entire West Campus taxlot is constrained by NIH federal interest**. OHSU would need to negotiate with NIH on expectations.

5. **OHSU will need additional infrastructure for our data center if it needs to be expanded.** If Data Center West were to be expanded at OHSU West Campus, campus infrastructure would also need to be scaled to support a larger facility. For example, the campus is serviced by one main water line.

# Appendix C: Inventory of Current Active Research

| Division | Award Source | Award Title | Award Description | Award Report Direct Cost | Award Report F&A Cost | Award Report Total Cost | Project End Date |
|---|---|---|---|---|---|---|---|
| Metabolic Health & Disease | NIH | Biodegradable Metal Stent Alloys for Vascular Applications | Implantable vascular devices such as stents help to save the lives of millions of people with vascular disease every year. These vascular devices often fail over time and the daily medications which are required to prevent blood from clotting, negatively impact patients. This project will develop alloys of biodegradable metals which meet the mechanical and biological requirements of vascular stents to prevent device failure and improve patient lives. | 89,397 | 67,048 | 156,445 | 3/31/27 |
| Metabolic Health & Disease | NIH | Characterization of Coagulation Factor-platelet Interactions: Role of FXI | Our work has pioneered efforts to establish coagulation factor XI (FXI) as a safe and effective target to prevent blood clots without increasing bleeding. Beyond activating FIX, we have identified other processes whereby this therapy would be an ideal target for the treatment and prevention of cardiovascular disease. Our work will provide mechanistic insights and preclinical proof-of-concept data for translating FXI inhibitors for use in preventing clot formation. | 12,474 | 9,356 | 21,830 | 4/30/28 |
| Metabolic Health & Disease | NIH | Engineering of biomaterials with controlled biomolecule delivery for cardiovascular applications | This project will address the clinical failure of synthetic small-diameter vascular grafts caused by overgrowth of vascular smooth muscle cells. We are directly altering vascular smooth muscle cells through non-viral gene delivery of microRNA-145, a known regulator of smooth muscle cells. The knowledge gained in this work will improve the treatment of cardiovascular disease in humans. | 44,210 | 33,158 | 77,368 | 5/31/28 |
| Reproductive & Developmental Sciences | Bill & Melinda Gates Foundation | Understanding endometrial responses to progestin contraceptives | This proposal will contribute to the menstrual health initiative, one goal of which is to establish near-term adjunctive treatments that can address the side effects of heavy and irregular bleeding experienced by some with or without the use of hormonal contraceptive methods. Understanding the cause of abnormal uterine bleeding and contraceptive-induced menstrual changes will enable the development of products that will be responsive to user needs and preferences and that will mitigate side effects, leading to increased overall use, continuation, and satisfaction. | 32,267 | 3,227 | 35,494 | 11/30/26 |
| Neuroscience | NIH | Vitamin C to Decrease Effects of Smoking during Pregnancy on Offspring Airway Function, Airway Size, and Epigenetic Correlates: VCSIP cohort follow-up through 10 Years of Age | Maternal smoking during pregnancy is the largest preventable cause of childhood respiratory illness, and children whose mothers smoked during pregnancy show lifetime decreases in airway function and increased respiratory illnesses and asthma. We have shown that vitamin C supplementation to pregnant smokers improves their offspring's airway function through 5 years of age. This project will continue to study these children through 10 years of age to demonstrate if this improvement in airway function persists, if the improvement is due to larger airways, and the potential epigenetic changes that could underlie these improvements. | 270,120 | 202,563 | 472,683 | 5/31/28 |
| Neuroscience | NIH | Continued follow-up of the Vitamin C and Smoking in Pregnancy (VCSIP) cohorts through the ECHO consortium, focus on Echo-wide protocols, respiratory outcomes, airway function, and epigenetic changes | This project seeks to continue participation in a large national study that follows children's health over time to better understand how the environment affects their development. Using detailed data from existing groups of children, the researchers will study how exposure to a mother's smoking during pregnancy affects children's breathing and risk of wheezing, and how other factors before and after birth may change these effects. The study will also examine biological changes linked to smoking exposure to help improve prediction and prevention of childhood breathing problems. | 79,148 | 59,757 | 138,905 | 5/31/30 |
| Pathobiology & Immunology | NIH | Using Immune Complex Vaccines to Modulate Antibody Responses to HIV Env | An effective vaccine is needed to control HIV infections that are still afflicting millions of individuals worldwide. Our proposed study will evaluate the use of monoclonal antibodies to construct immune complex vaccines that will optimize the induction of antibodies against the HIV envelope. Findings from this study will provide information that could lead to the development of new strategies for designing the urgently needed HIV vaccines. | 260,752 | 195,564 | 456,316 | 2/28/26 |
| Pathobiology & Immunology | NIH | Reducing Latent Viral Reservoirs in Infant Macaques | The proposed work will test entirely novel approaches to achieve HIV-1 remission in infants and children affected by the global HIV-1 pandemic. A proven animal model of vertical HIV-1 infection in primates will be used to study a novel combined treatment of drugs, infection-blocking antibodies, and HIV-directed antibodies with the potential to reduce disease severity or clear infection, so that children will not need lifelong treatment. These clinical strategies could be adapted for addressing pediatric HIV-1 infection worldwide. | 816,736 | 42,743 | 859,479 | 6/30/26 |
| Neuroscience | NIH | A Randomized Phase I Clinical Trial of HydroVax-CHIKV, a Novel Inactivated Chikungunya Virus Vaccine | In this proposal, we provide preclinical data demonstrating the safety, immunogenicity, and protective efficacy of an advanced vaccine platform (HydroVax) and propose to evaluate the safety and immunogenicity of a novel whole-virus chikungunya virus vaccine in a double-blind placebo-controlled Phase 1 clinical trial. | 26,754 | 20,199 | 46,953 | 6/30/27 |
| Neuroscience | Foundation Fighting Blindness | Proof of concept study for AAV-CR2fH in a model of dry AMD | At ONPRC, ~20% of the Japanese macaque colony exhibits a phenotype of early-onset drusen, deposits of protein and fats that accumulate under the retina, often appearing with age and as an early sign of age-related macular degeneration (AMD). Drusen progress significantly faster on a high-fat, low-carotenoid diet (HFLC). This study will test a vector-therapeutic delivery system to inhibit inflammatory processes that contribute to drusen formation. Overall, this work is designed to move drusen therapy towards clinical application, with the long-term goal of developing a treatment to reduce the number of AMD cases and improve patient care and quality of life. | 18,572 | - | 18,572 | 09/30/26 |
| Neuroscience | NIH | Functional consequences of fetal-alcohol-induced brain growth abnormalities identified with in utero MRI | Therapeutic intervention for fetal alcohol spectrum disorder (FASD), a highly prevalent neurodevelopmental disorder in the United States, is most effective if initiated early. The research proposed here will use a nonhuman primate model of FASD to develop in utero and neonatal MRI methods for detecting brain abnormalities and predict the severity of behavioral impairments associated with fetal exposure to alcohol. Studies of neural activity in the brains of ethanol-exposed animals will provide an understanding of the neurocircuitry involved in behavioral impairments associated with FASD, and guide the interpretation of fetal and neonatal MRI findings. | 357,456 | 268,091 | 625,547 | 2/28/27 |
| Reproductive & Developmental Sciences | NIH | Anti-Mullerian Hormone Actions to Control Primate Folliculogenesis | This research aims to understand how a hormone called AMH affects egg development in the ovaries at different stages, and how adjusting its levels could help eggs grow and mature better. The findings could lead to improved IVF treatments and new ways to protect and preserve female fertility. | 266,089 | 199,566 | 465,655 | 6/30/26 |
| Metabolic Health & Disease | NIH | Effect of estrogen replacement on postmenopausal ART-associated comorbidity and viral latency | People living with HIV are at a greater risk for obesity and metabolic diseases like diabetes and heart disease because of the effects of the antiviral medicine they have to take to control the HIV virus. Women represent a growing proportion of people living with HIV and are at even greater risk for treatment-related disease when they undergo menopause and loss of estrogen that helps prevent metabolic disease. This project will use a monkey model of postmenopausal women living with HIV to determine if estrogen replacement therapy will prevent the adverse effects of menopause on HIV treatment-caused metabolic disease and the ability of HIV treatment to control virus levels. | 338,924 | 231,326 | 570,250 | 4/30/26 |
| Reproductive & Developmental Sciences | NIH | Nanoparticle-mediated magnetic hyperthermia for the treatment of endometriosis | Endometriosis affects ~10% of childbearing-age women and 35–50% of women have significant pelvic pain or infertility. Despite advances in medical treatment, there is no cure for this disorder. We propose a novel therapeutic approach based on magnetic nanoparticles that can specifically accumulate in endometriotic lesions following systemic administration and eradicate the disease by generating therapeutic temperatures (> 43 0C) inside the lesions upon exposure to the external magnetic field. | 196,324 | 147,243 | 343,567 | 8/31/26 |
| Genetics | NIH | Fine Mechanisms of Adaptive NK Cell Formation Against HIV and SIV | Immune cells known as natural killer (NK) cells play a key role in early control of HIV infection, and we have recently uncovered that in people living with HIV, a subset of memory NK cells can specifically recognize and efficiently eliminate HIV infected cells. This proposal is designed to comprehensively determine the mechanisms regulating the development and function of memory NK cells with potent anti-viral activity. The outcome of these investigations will provide the rationale to harness memory NK cells for vaccine design, curative or other therapeutic interventions against HIV. | 68,572 | 51,428 | 120,000 | 7/31/26 |
| Metabolic Health & Disease | NIH | Immunomodulation Approaches to Improve Safety And Efficacy of Gene Therapy Treatment in Friedreich's Ataxia | This project aims to make gene therapy safer and more effective for treating Friedreich's ataxia, a serious genetic disease that affects the heart and nervous system in young people. The researchers will focus on controlling the immune system so the body does not attack the virus used to deliver the therapy, even with repeat treatments or in people who have already been exposed to it. Success could improve treatment for Friedreich's ataxia and many other inherited muscle and nerve disorders. | 184,327 | 138,246 | 322,573 | 08/31/26 |
| Pathobiology & Immunology | NIH | Pediatric Adolescent Virus Eradiation (PAVE) Martin Delaney Collaboratory | The burden of perinatal HIV-1 infections remains high despite remarkable advances in prevention. This research collaboration will accelerate progress towards developing strategies to achieve virus eradication and/or sustained viral remission after cessation of antiretroviral therapy. We plan to address the knowledge gaps relevant to the control and eradication of persistent HIV-1 infection among pediatric populations that are currently a barrier to ART-free remission and cure. | 527,508 | 395,631 | 923,139 | 04/30/26 |
| Neuroscience | NIH | INIA Stress and Chronic Alcohol Interactions (Program Project Grant) | Stress is considered a risk factor in the development of addiction and in addiction relapse, while addiction is also associated with a dissociation between environmental consequences and behavior. There is a huge need to develop novel approaches to treating these disorders. The proposed research using new neuroscience technologies in primates with sophisticated behavioral assessments will open a new pathway for developing treatments by manipulating the stress system or brain circuitry involved in flexible behaviors. | 852,663 | 562,490 | 1,415,153 | 01/31/27 |
| Reproductive & Developmental Sciences | NIH | Comparative Analysis of Aneuploidy and Cellular Fragmentation Dynamics in Mammalian Embryos | Reproductive success in several mammalian species is greatly limited by embryo loss due to chromosomal abnormalities, also known as aneuploidy. The proposed studies aim to determine the precise relationship between aneuploidy and a dynamic process called cellular fragmentation that differs in frequency across mammals using a comparative genomics approach. This work has the potential to improve reproductive efficiency in agriculturally important animals and for translational application to human assisted reproduction. | 244,284 | 183,213 | 427,497 | 03/31/27 |
| Genetics | NIH | Multispecies NHP dGTEx Research Center | Many human diseases are the result of defects in developmental processes that occur during gestation or in early life. In order to improve our understanding of the developmental origins of disease, it is essential to have a rigorous understanding of the normal processes of human development. This study will provide essential data to better understand human development by providing insight into which molecular changes are conserved among primate species and which are human-specific. | 2,733,628 | 413,606 | 3,147,234 | 05/31/27 |
| Metabolic Health & Disease | NIH | Maternal obesity and neonatal innate immunity | Pre-pregnancy maternal obesity is associated with significant adverse health outcomes for the offspring including increased risk of severe neonatal infections and developing chronic diseases such as asthma and cardiovascular disease, which suggests a dysregulated immune system. Recent studies from our laboratory revealed significant changes in umbilical cord blood immune cells from babies born to obese mothers but the impact of maternal obesity on fetal immune cells remains poorly defined/understood. This application will carry out an in-depth investigation of maternal pre-pregnancy obesity-driven changes to the fetal immune cell populations and functions to contribute to the fundamental knowledge of the immune system development and identify potential interventions to address fetal immune dysregulations. | 90,008 | 67,506 | 157,514 | 08/31/26 |

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| Reproductive & Developmental Sciences | NIH | Disruption of semen liquefaction using specific KLK3 inhibitors as a new contraceptive. | The proposed research is relevant to public health because it intends to identify a new and improved method of contraceptives for women. Ineffectiveness of current over-the-counter (OTC) contraceptives is one of the major contributors to the high unintended pregnancy rate in the United States. This project aims to provide a proof-of- concept outcome for a novel on-demand contraceptive that keeps semen in a gel-like state in the vagina and blocking of sperm transport in the female reproductive tract. | 223,337 | 167,502 | 390,839 | 01/31/27 |
| Reproductive & Developmental Sciences | NIH | Impact of maternal marijuana use on epigenetic regulation of offspring neurodevelopment | This study examines how marijuana (THC) use during pregnancy may affect a child's brain development from before birth through early childhood, potentially increasing the risk of behavioral problems and addiction later in life. By understanding these long-term biological effects, the research can help inform clinical guidance for pregnant patients and support safer maternal health practices. The successful completion of our study will result in 1) new insights into the impact of maternal THC use on the developing fetal and infant brain, 2) the impact of THC- induced epigenetic alterations on trajectories of offspring neurodevelopment and behavioral regulation 3) the creation of a comprehensive, longitudinal in vivo map of offspring epigenetic regulation of neurodevelopment from fetal life to early childhood, and 4) characterization of ex vivo epigenetic and transcriptomic assessments that can be used as a reference for other drugs of abuse and environmental exposures. | 293,400 | 220,050 | 513,450 | 04/30/26 |
| Reproductive & Developmental Sciences | NIH | Imaging and treatment of endometriosis in nonhuman primates | Endometriosis is a painful disorder of women in which endometrium-like tissues form estrogen-dependent lesions outside the uterus. There is currently no cure; all approved therapies target estrogen action to manage symptoms, which is of limited use in reproductive-age women due to unwanted side effects. This project aims to better understand what causes endometriosis so doctors can diagnose it earlier and develop more effective treatments. Because current therapies mainly suppress estrogen and can cause side effects in women of reproductive age, this research could lead to safer, more targeted options that improve quality of life and fertility for patients. | 215,535 | 162,729 | 378,264 | 07/31/26 |
| Reproductive & Developmental Sciences | NIH | Development and validation of MR imaging methods for in vivo assessment of placental perfusion and oxygen transport | The placenta has a complex vascular structure that balances maternal oxygen and nutrient supply with fetal demand. The objective of this proposal is to implement and validate a multi-modal magnetic resonance imaging (MRI) approach to comprehensively study maternal and fetal-side placental perfusion characteristics in a translational animal model. This will enable the development of tools to identify pregnancies at-risk of placental insufficiency and facilitate future clinical diagnostic and management strategies. | 287,758 | 131,650 | 419,408 | 02/28/27 |
| Neuroscience | Natl Multiple Sclerosis Society | Role of Hyaluronan in MS Cognitive Dysfunction | In mice, disrupting HA signaling can result in memory problems that are similar to those experienced by people with MS. We therefore aim to determine if altering HA synthesis or hyaluronidase activity could be a strategy to improve memory in patients with MS. | 118,465 | 9,691 | 128,156 | 03/31/26 |
| Neuroscience | Foundation Fighting Blindness | Creation of a Translational Nonhuman Primate Model of Usher Syndrome 1B. | This project will create a model of Usher 1B in monkeys, confirm how closely it resembles the human disease, and use this model to test a new type of gene therapy. Propagation of this model will make it possible, for the first time, to accurately test gene and other therapies for this disease in a highly translational model, and thus accelerate the transfer of therapies to human patients to preserve vision. | 64,884 | - | 64,884 | 03/31/26 |
| Neuroscience | Medical CBRN Defense Consortium (MCDC) | A Pan-Alphavirus Vaccine to Protect Against Encephalitic Alphaviruses | This project focuses on testing and improving vaccines against emerging mosquito-borne viruses by studying how well immune responses protect against related infections. The work will support the design and testing of stable, effective vaccines and help guide future clinical trials, with the goal of improving prevention and preparedness for viral diseases that can impact human health. | 484,969 | 363,726 | 848,695 | 04/20/28 |
| Metabolic Health & Disease | NIH | Impact of obesity on SARS-CoV-2 infection and reciprocal effects of SARS-CoV-2 on metabolic disease | Pre-existing conditions such as diabetes, heart disease, and high blood pressure, which share underlying obesity, increase the severity of COVID-19. Conversely, patients with COVID-19 often present with newly- diagnosed diabetes, or develop diabetes and other aspects of metabolic disease after recovering from COVID- 19. This project will investigate this two-way relationship between COVID-19 and obesity using a nonhuman primate model, since the nonhuman primate response to the SARS-CoV-2 coronavirus and to obesity is similar to humans. | 495,045 | 371,283 | 866,328 | 06/30/26 |
| Neuroscience | NIH | Nonhuman Primate Model of Inherited Photoreceptor Degeneration | This project will create a unique new resource to advance research into cures for blinding diseases by studying a genetic line of rhesus monkeys with a retinal disease mirroring human Bardet-Biedl syndrome, a form of retinitis pigmentosa that is currently untreatable. We will characterize the nature and time course of the disease in these unique animals and use them to test a new type of gene therapy for its ability to preserve and restore vision. Such treatments have the potential to provide sight-saving therapy to human patient with this and many other causes of blindness. | 453,836 | 313,530 | 767,366 | 03/31/26 |
| Reproductive & Developmental Sciences | NIH | Inhibiting the cystic fibrosis transmembrane conductance regulator (CFTR) in the cervix as a novel approach to non-hormonal contraception | The proposed research is relevant to public health because it seeks to develops non-hormonal birth control directed at an ion channel in the cervix. Ion channels regulate the characteristics of mucus secreted from the body, producing mucus that can keep sperm out or allow sperm to pass through and fertilize the egg. This research would support the NICHD's mission of ensuring every person is born healthy and wanted. | 226,604 | 171,086 | 397,690 | 01/31/26 |
| Neuroscience | NIH | Modeling age-specific computational strategies during reward seeking | Adolescence is characterized by increased motivation to seek rewarding stimuli. Several mental illnesses with aberrant motivational processes emerge during this time but there is a fundamental lack of mechanistic understanding of how adolescents encode reward-related behaviors, and whether adolescent-specific computations convey elevated risk for psychopathology. The proposed project seeks to characterize how neural networks in adults and adolescents differentially guide motivated behaviors and the relationship between these differences. | 140,963 | 105,722 | 246,685 | 01/31/27 |
| Metabolic Health & Disease | NIH | Metformin in Pregnancy: Fetal Consequences & Long-term offspring Outcomes in a NHP model | Over the past decade, indications for the use of metformin have steadily expanded to now include not only overt diabetes outside of pregnancy, but prediabetes, obesity, polycystic ovary syndrome, gestational diabetes (GDM), and type 2 diabetes during pregnancy. With its expanded use, however, questions of unintended long-term harm to offspring exposed to metformin during gestation have arisen. The current proposal will generate a primate model and robust data sufficient to determine whether, what, and how early-life exposure to metformin renders offspring persistently susceptible to obesity and insulin resistance. | 1,068,209 | 114,044 | 1,182,253 | 07/31/26 |
| Reproductive & Developmental Sciences | NIH | Neuroinflammation in response to ascending reproductive tract ureaplasma infection | Premature birth is a significant obstetrical problem that is associated with fetal brain injury and a high risk of later-life neurological and behavioral deficits. This proposal will expand our understanding antibiotic treatment of premature labor and mechanisms of fetal neuroinflammation in response to intrauterine Ureaplasma infection that causes premature birth. | 464,091 | 275,773 | 739,864 | 03/31/29 |
| Genetics | Bill & Melinda Gates Foundation | Insight integration \| Identification of HIV rebound biomarker candidates | This project focuses on organizing and analyzing large sets of HIV research data to identify potential biomarkers and predictors of disease. By creating secure systems for sharing and integrating data across research teams, the work aims to accelerate discoveries that could improve HIV treatment and guide future clinical strategies. | 146,500 | 14,650 | 161,150 | 11/30/26 |
| Neuroscience | Medical Technology Enterprise Consortium (Department of Defense) | Pharmacological Modulation and Remote Measurement of Sleep-Driven Glymphatic Clearance | During sleep, the glymphatic system facilitates rapid exchange of fluid through brain tissues, clearing solutes and wastes that accumulate through the course of waking activity. Glymphatic clearance is widely believed to underlie the restorative effects of sleep on cognition, and its impairment is proposed to reflect the biological basis for the corrosive effects of sleep disruption on cognitive performance. The proposed sub-award defines the effect of a pharmacological intervention (prazosin (PZN)) on glymphatic clearance in non-human primates (NHPs). | 181,654 | 137,149 | 318,803 | 09/25/27 |
| Genetics | NIH | Rapid Generation of Transgenic Rhesus Macaques using a Safe-harbor Genomic Docking Site | Thanks to advances in genome editing technologies, it is possible to generate nonhuman primates (NHPs) with precise germline genomic alterations, enabling researchers to generate highly refined models of human disease; however, the time and cost associated with existing technologies limits the availability of these NHPs. Here we propose an innovative technology to aid in the rapid and cost effective generation of transgenic NHPs for research. This resource will significantly benefit science across multiple disciplines, and pave the way for additional technologies to improve transgenic NHP research. | 125,000 | 94,375 | 219,375 | 06/30/26 |
| Comparative Medicine | NIH | Expanded SPF Rhesus Macaque Breeding Colony for AIDS Research | This project aims to expand and improve a specialized colony of rhesus macaques that are free of a broad number of enzootic and zoonotic agents, making them a safer and more reliable resource for HIV/AIDS research. By providing well-characterized animals, it will support more accurate and effective studies to advance HIV treatments and prevention. | 1,013,849 | 765,456 | 1,779,305 | 08/31/28 |
| Reproductive & Developmental Sciences | NIH | Microglial Polarization: Brain Injury or Protection in Response to Intrauterine Infection | Preterm birth is a major complication in pregnancy that can lead to brain damage in the fetus and increase the risk of long-term neurological and behavioral problems. This study aims to investigate how intrauterine Ureaplasma infection triggers inflammation and damages fetal brain white matter, thereby helping uncover the underlying mechanisms of these injuries. | 275,000 | 206,250 | 481,250 | 08/31/26 |
| Metabolic Health & Disease | NIH | Impact of estrogen replacement therapy on bone health in an aging population of women living with HIV | Due to the effectiveness of antiretroviral therapy (ART), there is an increase in women living with HIV (WLWH) who are aging and will undergo menopause. We intend to measure the impact of i) simian immunodeficiency virus (SIV) infection ii) ART-suppression iii) menopause and iv) presence or absence of hormone replacement therapy (HRT), on bone architecture and quality in a unique nonhuman primate model. These studies will focus on compound bone loss, bone health and fracture risk in our model of postmenopausal WLWH-with and without HRT and our results could inform future care options to protect these women from compounded risk of bone fractures and osteoporosis. | 168,705 | 13,496 | 182,201 | 07/31/27 |
| Pathobiology & Immunology | NIH | Discovery and characterization of protective Influenza Type B Virus neuraminidase antibodies | Influenza is a virus that causes respiratory disease and circulates annually, despite a vaccine, and due to antigenic shifts, influenza can also cause pandemic disease. This project career development program will provide training that allows a veterinary physician-scientist to develop an independent research career aimed at understanding in detail how human antibody therapy can be used to treat and prevent disease and transmission. This knowledge work will inform vaccine design, and the antibodies studied and animal models developed will feed directly into translatable drug discovery. | 113,750 | 9,100 | 122,850 | 08/31/28 |
| Reproductive & Developmental Sciences | NIH | Maternal obesogenic diet-induced changes in embryo and fetal DNA methylation programming | Maternal obesity in reproductive-age women continues to increase and is more likely to result in a poor response to infertility treatment and adverse pregnancy outcomes. In the proposed work, we will leverage a nonhuman primate maternal obesogenic diet model to investigate the underlying epigenetic mechanisms mediating embryo and fetal programming and how an obesogenic diet negatively impacts these processes prior to birth. | 252,279 | 190,469 | 442,748 | 08/31/29 |
| Reproductive & Developmental Sciences | NIH | Investigation of the renin-angiotensin system at the maternal-fetal interface. | Significant differences in the local placental renin-angiotensin system (RAS) have been implicated in adverse maternal and fetal outcomes. Using both mouse and rhesus macaque models, this project will determine how the RAS at the cell-specific level affects placental development. Understanding how abnormal placentation occurs, is important because proper formation and function of the placenta is critical to the survival and long- term health of babies, as well as the health of the pregnant person. | 294,280 | 141,873 | 436,153 | 08/31/29 |

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| Neuroscience | DHHS Advanced Research Projects Agency for Health | Protect against Emergent Alphaviruses through Computations (PEAC) | Alphaviruses are a group of viruses transmitted by mosquitoes and other arthropods that can cause widespread disease outbreaks around the world, with chikungunya, eastern equine encephalitis and o'nyong-nyong as examples that infect humans. This next-generation vaccine project will use innovative techniques to design immunogens that trigger strong and long-lasting immune responses. These approaches could provide critical protection against future outbreaks. | 170,901 | 129,031 | 299,932 | 08/26/29 |
| Reproductive & Developmental Sciences | NIH | The impact of parental delta-9-tetrahydrocannabinol exposure on early pregnancy | This study primarily aims to assess how chronic parental cannabis use affects parental gametes, pre-implantation embryos, and the trophectoderm, the latter of which plays a key role in placenta formation. | 100,000 | 8,000 | 108,000 | 06/30/26 |
| Pathobiology & Immunology | NIH | Mechanisms and means to improve HIV bnAb activity in vivo | The first clinical efficacy trials of a broadly neutralizing antibody (bNAb) resulted in less benefit than expected and suggested that improvements are needed to prevent HIV infection. While considerable effort has focused on optimizing neutralization breadth and potency, it has been unclear what other strategies could also contribute to improving clinical efficacy. Two promising approaches to improve upon the protection afforded by bNAbs are to combine them and to improve their effector functions; defining the extent to which each of these strategies may increase antiviral activity in vivo will contribute to advancement of the most promising strategies to treat and prevent HIV infection. | 363,760 | 272,820 | 636,580 | 08/31/29 |
| Genetics | NIH | Project 1: Immune defense of cCMV at the maternal-fetal interface | The studies included in the project use a nonhuman primate (rhesus macaque) model of congenital cytomegalovirus (cCMV) to investigate systemic and tissue-level immune determinants of protection at the maternal-fetal interface. The aim is to characterize innate and adaptive immune responses that restrict cCMV transmission and inform strategies to prevent maternal-to-fetal infection, which can lead to fetal loss. | 60,033 | 45,324 | 105,357 | 05/31/29 |
| Reproductive & Developmental Sciences | American Society for Reproductive Medicine | The impact of high dose androgens on non-human primate oocyte competency and preimplantation embryo development and genetics | The objective of this research project is to examine the impact of high dose androgens on non-human primate follicular and ovarian function, including oocyte and early embryonic development. | 125,000 | - | 125,000 | 06/30/26 |
| Reproductive & Developmental Sciences | NIH | Next Generation Multipurpose Prevention Technology: An Intravaginal Ring for HIV Prevention and Nonhormonal Contraception | Multipurpose prevention technologies (MPTs) that include contraceptive and anti-HIV components are urgently needed, especially in the developing world. We will use state-of-the-art research in biology, chemistry, biomedicine, and pharmacology to develop a novel antibody against sperm and formulate this agent into an intravaginal ring for extended delivery, along with drugs effective against HIV. The proposed research is relevant to public health because it will lead to the rigorous development of a much-needed dual-action MPT in preparation for future clinical trials. | 159,879 | 120,709 | 280,588 | 02/28/26 |
| Reproductive & Developmental Sciences | Bill & Melinda Gates Foundation | Spatial transcriptomics to accelerate therapeutic strategies for CIMC | The major goal of this project is to quantitatively and objectively define the variety of endometrial responses to continuous progestin-only contraceptive use associated with bleeding experiences. | 361,583 | 36,158 | 397,741 | 11/01/26 |
| Metabolic Health & Disease | NIH | Ultrasound Cavitation for Facilitated Cardiac Transduction of AAV | Gene therapy for inherited and acquired cardiovascular diseases has been limited by the low efficiency and toxicity of the vectors used to introduce genes into heart cells. We will investigate how gene therapy using a promising vector approach that relies on bioengineered adeno-associated viruses (AAVs) can be improved by site-directed ultrasound-mediated cavitation of microbubble contrast agents. These studies are intended to produce vital knowledge of ideal conditions, efficacy, and safety of cavitation-mediated transduction needed for translation into humans to treat cardiovascular disease. | 34,680 | 26,183 | 60,863 | 04/30/28 |
| Reproductive & Developmental Sciences | American Board of Obstetrics and Gynecology | The impact of parental delta-9-tetrahydrocannabinol exposure on early pregnancy | The major goals of this study are to define the impact of parental chronic cannabis use on parental gametes, pre-implantation embryo, and the trophectoderm in the rhesus macaque. | 25,000 | - | 25,000 | 06/30/26 |
| Pathobiology & Immunology | Foundation for AIDS Research (amfAR) | Targeting Minor Antigens for HIV Cure | This research will explore the role of transplantation immune responses in eradicating HIV. Planned experiments will investigate the role that allogeneic immunity, or a graft-versus-host response—a key part of certain cancer cures following stem cell transplants using wild-type cells from donors—plays in clearing HIV infection. | 373,072 | 74,615 | 447,687 | 12/31/26 |
| Metabolic Health & Disease | NIH | Effects of integrase inhibitors on metabolic comorbidities | The introduction of the integrase strand transfer inhibitor class has revolutionized the treatment of people living with HIV due to their high efficacy, greater tolerability, and fewer drug-drug interactions. However, the use of these drugs can lead to a significant increase in body weight, especially in women. These studies will elucidate the reciprocal relationship between HIV infection, menopause and hormone replacement therapy in visceral and subcutaneous adipose tissue depots. | 30,545 | 23,061 | 53,606 | 06/30/29 |
| Reproductive & Developmental Sciences | NIH | Oocyte mitochondrial activity regulates embryo telomere reprogramming | The goals of this project are to define how mitochondria regulate telomere elongation during mammalian embryogenesis using complementary animal models that provide insight into human embryogenesis. Telomere length at birth is predictive of overall health and longevity. Moreover, therapies will be developed that mitigate defects in the telomere elongation process to ensure normal fetal and postnatal development, as well as healthy aging. | 473,241 | 146,111 | 619,352 | 06/30/28 |
| Pathobiology & Immunology | NIH | Improved delivery of bNAbs for targeting CNS infection in infants | Anti-HIV broadly neutralizing antibodies (bNAbs) demonstrate potential for effective virus suppression and reservoir depletion when used early in conjunction with combined antiretroviral therapy (cART), which provides effective treatment for infants. However, their effectiveness in deep tissue reservoirs, particularly in targeting infections within the central nervous system (CNS), is limited due to insufficient concentrations caused by the blood-brain barrier. We propose a novel nanotechnology approach, called 'nanocapsules,' designed to enhance the delivery of bNAbs directly to the CNS, potentially leading to the remission of HIV from CNS reservoirs. | 353,683 | 267,031 | 620,714 | 08/31/29 |
| Genetics | George Washington Univ. | Genetic Analysis of the SIV Elite Controller Cohort of Rhesus Macaques | Gene expression and sequencing of simian immunodeficiency virus (SIV), a surrogate for investigating HIV infection in humans, will be performed in a subset of rhesus macaques shown to manage SIV infection (SIV elite controllers). The information gained from these studies will provide insight into the mechanisms that are important for limiting HIV infection. | 1,639,968 | 1,238,176 | 2,878,144 | 08/31/26 |
| Reproductive & Developmental Sciences | NIH | Fertilization-induced maturation of cortical ER clusters in oocytes; impact of maternal age | The objective of this study is to determine how the oocyte modifies its calcium signaling machinery in preparation for fertilization. The findings could lead to treatments that improve oocyte quality during in vitro fertilization, thereby improving fertility in humans and domestic animals. This study will also explore how maternal aging impacts the oocyte calcium signaling machinery and how this correlates with inadequate egg activation which is common in oocytes from aged females. | 104,365 | 78,274 | 182,639 | 04/30/26 |
| Reproductive & Developmental Sciences | Defense Advanced Research Projects Agency (Department of Defense) | TALARIA: Tailored, Adaptive Lipid nanoparticles for AeRosolization and Intramuscular Administration | The objective of this study is to develop new drug-delivery technologies with exceptional efficiency and minimal toxicity, to protect members of the military from a range of health threats in combat areas. Studies will focus on enabling intracellular delivery of messenger RNA to diverse cell and tissue types while overcoming the negative side effects and other challenges associated with broad systemic delivery. | 290,298 | 219,175 | 509,473 | 12/18/26 |
| Comparative Medicine | NIH | SPF 4 Rhesus Macaque Breeding Colony for AIDS Research | The objective of this application is to continue to maintain and genetically characterize the colony to maximize the usefulness in biomedical research. The colony was initiated in 2001 and now provides approximately 200 macaques for U.S. Public Health Service supported AIDS research. | 205,769 | 155,356 | 361,125 | 02/28/29 |
| Reproductive & Developmental Sciences | Medical Research Foundation of Oregon | Impact of Chronic Psilocybin Use on Male Reproductive Health and Sperm Epigenetic Modifications | The object of this study is to define the impact of psilocybin use on male reproductive health because little information exists regarding the impacts on reproductive processes, despite increasing usage. | 30,000 | - | 30,000 | 02/28/26 |
| Reproductive & Developmental Sciences | NIH | Immuno-isolating capsule for delivery of cell-based therapy for restoration of ovarian endocrine function in adolescent Rhesus Macaques. | Premature ovarian insufficiency (POI) is a common complication of anticancer treatments, such as chemotherapy and bone marrow transplantation, due to treatment toxicity on the eggs. In female cancer survivors POI causes sterility, and loss of the ovarian endocrine function, which in turn results in premature osteopenia, muscle wasting, and accelerated cardiovascular disease. In this study we will investigate the capability of encapsulated allogeneic ovarian tissue to initiate physiological puberty in adolescent non-human primates, and the longevity of graft function along with the dynamics of the recipient's immune response to a single and repeated transplantations. | 437,815 | 328,361 | 766,176 | 05/31/27 |
| Reproductive & Developmental Sciences | Industry | Isolation of gametes from NHP samples owned by Dyne Therapeutics | Dyne, a biotech company interested in technologies for infertility treatment, will obtain tissue samples from ONPRC to test technologies related to the development of functional oocytes and embryos in a clinically relevant animal model. | 1,105 | 1,011 | 2,116 | 05/25/26 |
| Genetics | NIH | Coordinating center for collaborative marmoset research | The common marmoset (Callithrix jacchhus) has emerged as a critically important biomedical animal model in in a variety of study disciplines. Increased demand for marmosets in scientific research studies has been most acute in neuroscience, where the need to study cognition, behavior, and mental illness in primate models with new genomic editing and gene targeting methodologies has surged. As access to marmosets is limited, and a national strategy is needed for coordinating marmoset research populations, the proposed project will establish a marmoset coordination center that joins real-time census data on marmosets and expert marmoset neuroscientists, which together will provide information and access to animals for scientists in the broader neuroscience community. | 455,841 | 344,159 | 800,000 | 06/30/30 |
| Neuroscience | NIH | Regulation of brain vascular endothelial cell ferroptosis by hyaluronan | Vascular contributions to cognitive impairment and dementia (VCID) is the second leading cause of dementia in the aging population, caused in part by different forms of vascular brain injury. Increasing evidence suggests that brain vascular endothelial cells, which form the small blood vessels in the brain, die during VCID through a process called ferroptosis. This project explores the possibility of preventing ferroptosis in blood vessels by manipulating the activities of an enzyme that breaks down the matrix surrounding vascular endothelial cells. | 136,364 | 96,414 | 232,778 | 05/31/27 |
| Reproductive & Developmental Sciences | NIH | A multi-disciplinary approach to uncover novel insights of endocervical mucus secretion for future drug discovery | The proposed research is relevant to public health because it explores how cervical mucus changes are regulated by female hormones. Mucus produced in the cervix can keep sperm out or allow sperm to pass through and fertilize the egg. This research would support the NICHD's mission of ensuring every person is born healthy and wanted. | 434,946 | 181,043 | 615,989 | 02/28/30 |

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| Pathobiology & Immunology | NIH | Evolving Novel AAV Vectors for Gene Therapy to Cure HIV | The development of curative approaches for HIV infection is now recognized as both a necessary and attainable goal. Hematopoietic stem cell transplantation resulting in an immune system deficient in a protein called CCR5 has been shown to functionally cure HIV infection in two separate patients, but such an approach is not scalable to the general population. We propose here to develop novel viral AAV vectors targeted to immune system cells to support delivery of therapeutics such as HIV-targeted CRISPR-Cas9, chimeric antigen receptors, broadly neutralizing antibodies, or CCR5-blocking antibodies to mimic a CCR5-deficient immune system. | 734,812 | 237,038 | 971,850 | 05/31/27 |
| Reproductive & Developmental Sciences | Industry | Generation of a biogel to support neural precursor cell growth for early cortex development | The objective of this project is to design and develop a biogel that mimics the extracellular matrix of the early developmental cortex. | 99,204 | 90,772 | 189,976 | 06/30/28 |
| Reproductive & Developmental Sciences | NIH | Evaluate the effect of exogenous AMH on ovarian function and fertility in a non-human primate model | Anti-Müllerian hormone is a master regulator of ovarian function with many potential applications to women's health, yet little is known about its function in the human ovary. This proposal seeks to evaluate the effect of AMH on the rhesus ovary using gene therapy to induce long-term supraphysiological exposure. This model, which most closely resembles humans, will allow us to make significant contributions to our understanding of this hormone in women's health, and determine if AMH treatment is safe, can produce contraception, modulate reproductive hormones, affect ovarian aging, and potentially improve egg and embryo quality. | 262,481 | 196,860 | 459,341 | 02/28/30 |
| Pathobiology & Immunology | George Washington Univ. | An Antibody Treatment for Dengue Fever Virus Infection | We will test neutralizing monoclonal antibodies against Dengue virus serotypes 1, 3, and 4 as prophylactic and therapeutic treatments for these viral pathogens, which pose significant human health risks. | 802,736 | 606,066 | 1,408,802 | 04/20/26 |
| Metabolic Health & Disease | Industry | Effect of melanocortin-4 receptor (MC4R) agonists on obesity | The overall goal of this project is to test novel melanocortin agonists for efficacy in reducing food intake and to investigate their impact on blood pressure. | 171,160 | 129,226 | 300,386 | 09/01/26 |
| Metabolic Health & Disease | NIH | The impact of antiretroviral therapy on fetal immune system development in SIV-exposed rhesus macaques | The use of antiretroviral therapy (ART) for pregnant women prevents mother-to-child HIV transmission. However, the HIV-exposed, but uninfected, children experience higher mortality from other infections. We will use rhesus monkeys to determine how SIV/ART impacts the fetal immune system. | 321,886 | 193,612 | 515,498 | 06/30/27 |
| Reproductive & Developmental Sciences | NIH | Modernization and Improvement of the ONPRC Nonhuman Primate Reproductive Biomaterial Cryo-Repository | The Oregon National Primate Research Center maintains a repository of cryopreserved nonhuman primate (NHP) biomaterial for long-term storage, future research use, and propagation of specific NHP genetic models. These specimens are currently housed in multiple free-standing liquid nitrogen open-access containers that require manual maintenance and monitoring. To enhance and modernize the current storage system, this application seeks funding for a self-contained, automated cryogenic storage and retrieval system with computer assisted sample tracking that would allow us to safely house rare and valuable biospecimens to ensure continued support of a wide array of national human health and disease research programs. | 314,402 | - | 314,402 | 08/14/26 |
| Pathobiology & Immunology | NIH | Characterization of Allogeneic T Cells Mediating HIV Cure | The development of curative approaches for HIV infection is now recognized as both a necessary and attainable goal. Hematopoietic stem cell transplantation has been shown to cure HIV infection in five separate patients, but the allogeneic immune responses are not defined. We propose here to define the allogeneic immune responses targeting minor histocompatibility antigens in both individuals cured of HIV and macaques cured of SIV via allogeneic stem cell transplantation. | 1,152,715 | 505,257 | 1,657,972 | 05/31/30 |
| Pathobiology & Immunology | Industry | Identification of a minimal immune conditioning regimen to support allogeneic stem cell transplantation in Mauritian cynomolgus macaques | The goal of this study is to define the minimal immune conditioning that can support successful donor engraft following allogeneic stem cell transplantation. | 1,178,943 | 1,078,733 | 2,257,676 | 08/17/26 |
| Neuroscience | NIH | Oscillated Insertion Tool for Minimally Invasive, Low Damage, Accurate Placement of Delivery Cannula to Improve Efficacy for DREADDS Therapy in Alcohol Addiction Treatment | This Phase I SBIR develops and tests an oscillating injection device for the delivery of reagents, including gene therapy vectors such viral vectors, for studies of alcohol addiction neurocircuitry in the brain. The project's long-term goal is to develop and commercialize a surgical tool to enable reliable and safe injections of viral constructs into the brain for preclinical studies, and eventually clinical therapeutic approaches. | 279,940 | 209,955 | 489,895 | 05/31/27 |
| Neuroscience | NIH | AAV-mediated editing to treat human autosomal dominant hearing loss DFNA41 and DFNA2 | The proposal is to conduct studies that will advance investigational new therapies by editing to treat two types of dominant genetic hearing loss caused by mutations in the DFNA41 and DFNA2 genes. The goal is to develop a streamlined regulatory process with the FDA using the same delivery vehicle, editor, and delivery route, targeting two types of deafness. The study may open the door to greatly speeding up the development of editing therapy in the clinic for over 20 dominant hearing loss. | 129,783 | 97,986 | 227,769 | 08/31/28 |
| Neuroscience | NIH | Monkey Alcohol Tissue Research Resource (MATRR) | Excessive alcohol ingestion, occasionally or chronically, is co-morbid with medical disorders affecting the brain and behavior as well as other organ damage. Much of what is known about risk for and the consequence of heavy alcohol consumption, including mechanisms of organ damage, is derived from rodent studies or retrospective human accounts. This application proposes establishing a unique resource for alcohol research, a Monkey Alcohol Tissue Research Resource (MATRR). From this resource both tissue and associated bioinformatics tools will be made readily available to the wider alcohol research community. | 475,131 | 188,323 | 663,454 | 07/31/30 |
| Pathobiology & Immunology | NIH | Impact of chronic prenatal THC exposure on SIV-associated inflammation and impairments in placental and fetal development and function | Pregnant people living with HIV face higher risks during pregnancy even when they are receiving effective treatment, and using cannabis during pregnancy may further increase these risks. Because cannabis use is common in this group and may affect the placenta, immune system, and fetal development, the combination could be especially harmful to both parent and baby. This study uses a specialized animal model to better understand how cannabis, HIV treatment, and infection together affect pregnancy, with the goal of improving care and health outcomes for future children. | 604,033 | 446,998 | 1,051,031 | 05/31/26 |
| Reproductive & Developmental Sciences | NIH | In Vitro and In Vivo Extrapolation of Toxicant Effects on Ovarian Function | This proposal supports the creation of a virtual consortium that will use translational and transdisciplinary disciplinary approaches to provide the research community with an innovative computationally-based method to predict adverse effects of common phthalates on ovarian function in women. This work will benefit human reproductive health by enhancing the screening of chemicals that could harm ovarian function in women. The transdisciplinary and translational environment created by this consortium will also provide unique cross- disciplinary training opportunities to trainees in the five institutions involved. | 129,910 | 97,433 | 227,343 | 01/31/27 |
| Reproductive & Developmental Sciences | NIH | The Role of the Glucocorticoid Receptor in the Ovary | Successful ovulation and subsequent corpus luteum development are essential for female fertility. In the present proposal, we will demonstrate for the first time that the receptor for the steroid hormone cortiol plays critical roles in ovulation and corpus luteum development in mice, monkeys, and humans. This fundamental Information will not only provide novel insights into the mechanism(s) underlying ovulation and luteal formation but also be valuable for developing strategies to assist women with compromised reproductive health and infertility stemming from defects in the ovulatory process and luteal development. | 221,304 | 167,085 | 388,389 | 05/31/30 |
| Pathobiology & Immunology | NIH | Center for the Dissemination of Ultra-Long-Acting Antiretroviral Release Technology: DART Resource Program | Nonhuman primates (NHP) are important for human immunodeficiency virus (HIV) treatment and prevention research. The DART Program aims to broadly disseminate a long-acting drug-agnostic delivery implant for sustained antiretroviral administration in NHP HIV research. The implant enables long-term constant and sustained drug release in a reproducible manner, which will enhance experimental rigor and reproducibility as well as animal well-being, and minimize costs and resources related to repeated dosing procedures typically required for antiretrovirals. | 74,889 | 56,541 | 131,430 | 07/31/30 |
| Metabolic Health & Disease | NIH | Impact of chronic alcohol consumption on the functional and epigenetic landscapes of monocytes and their progenitors | Alcohol misuse is prevalent in the United States and chronic alcohol consumption (CAC) is associated with significant adverse health outcomes including heightened susceptibility to infections and impaired wound and bone healing. These data suggest alcohol misuse negatively impacts the immune system. Using a well- established macaque model of voluntary ethanol self-administration that recapitulates the hallmarks of alcohol drinking in humans, we will investigate the role of CAC-induced alterations in the gut microbiota in reprogramming monocytes and hematopoietic stem cells towards a hyperinflammatory response with reduced functional capacity. | 69,007 | 52,100 | 121,107 | 08/31/26 |
| Metabolic Health & Disease | Industry | Establishment of a diet-induced obesity cynomolgus cohort | The overall goal of this project is to establish a state-of-the-art nonhuman primate housing unit that allows for metabolic research in group housed cynomolgus macaques. | 621,591 | 568,756 | 1,190,347 | 12/31/27 |
| Pathobiology & Immunology | Bill & Melinda Gates Foundation | Evaluation of Multiyear Drug Delivery from Implanted Refillable Reservoir | The goal of this project is to test the ability of a novel implant device to deliver therapeutic levels of antiretroviral and contraceptive drugs. | 109,896 | 10,990 | 120,886 | 07/24/26 |
| Pathobiology & Immunology | NIH | Broadly Effective HCV Vaccine | A broadly effective vaccine is needed to eradicate hepatitis C. Circulating hepatitis C virus is highly diverse genetically and a working vaccine must be able to protect against diverse viral strains. This research program will solve structures of important viral envelope proteins in order to facilitate rational design of a vaccine to focus immune responses on conserved, vulnerable sites on the virus for maximal protection. | 111,018 | 83,819 | 194,837 | 01/31/27 |
| Director's Office | NIH | Support for National Primate Research Center | The Oregon National Primate Research Center (ONPRC) is an established national resource with a primary mission to improve human health and quality of life by supporting exceptional nonhuman primate (NHP) research programs that advance our knowledge of the causes, prevention, treatments, and cures of debilitating diseases. The ONPRC hosts robust, well-developed internal research programs, complemented by collaborative research programs that serve the broader biomedical research community. The ONPRC maintains the facilities, expertise, and infrastructure required to conduct the most advanced biomedical research using NHPs as models of human health and disease. Moreover, the ONPRC can meet the needs of emerging areas of basic research in which the NHP model is critical, as well as of highly interdisciplinary translational research initiatives. | 10,760,346 | 2,957,460 | 13,717,806 | 4/30/29 |
| Genetics | NIH | Functional Definition of T Cell Receptors Associated with Protection from Pulmonary TB Infection and Disease | The immune system, particularly in the lung, is necessary to prevent or contain infection with Mycobacterium tuberculosis (Mtb), the causative agent of Tuberculosis (TB). In humans, both CD4 and CD8 T cells play an essential role in the control infection. In this application, we seek to use T cells from persons protected from TB disease to define protective Mtb proteins (antigens) suitable for future vaccine development. | 154,918 | 116,963 | 271,881 | 07/31/30 |

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| Pathobiology & Immunology | NIH | Cascade IMPAc-TB | The main goal of the Cascade IMPAc-TB program is to understand how the immune system naturally fights tuberculosis (TB) and why some people resist infection while others get sick. Researchers study blood and lung samples to uncover which immune responses protect the body, with the ultimate aim of designing better TB vaccines. This work could help prevent TB, a disease that still affects millions worldwide. | 1,245,869 | 934,402 | 2,180,271 | 09/29/26 |
| Pathobiology & Immunology | NIH | Rhesus HHV-8 homologue in AIDS-related malignancies | The incidence of Kaposi's sarcoma-associated herpesvirus (KSHV) infection and associated disease in the developing and developed world will continue to grow as KSHV transmission spreads and the population becomes immunodeficient due to HIV-1 infection or iatrogenic agents associated with organ transplantation. Unfortunately, despite the gains documented with anti- retroviral therapy to inhibit progression to AIDS, KSHV-associated disease is still widespread, implying more effective therapies are required to stem the incidence of disease. The results from the proposed studies utilizing the well-studied and characterized nonhuman primate (NHP) model should help elucidate the roles of viral factors involved in infection, persistence and disease. | 152,422 | 114,317 | 266,739 | 07/31/26 |
| Pathobiology & Immunology | NIH | A Rhesus Macaque Model of HIV and HBV co-infection | HIV/HBV co-infection is common due to highly similar routes of transmission. HIV/HBV co-infected patients are at higher risk for liver disease than HBV mono-infected patients. Here, we describe the first rhesus macaque model of HBV infection, setting the stage for a highly needed HIV/HBV co-infection primate model. | 497,206 | 234,864 | 732,070 | 02/28/26 |
| Pathobiology & Immunology | NIH | Delaney AIDS Resaerch Enterprise (DARE) 3.0 M&O, Focus 2 & 3 | DARE 3.0 is part of a major NIH research effort to find ways to control or cure HIV without lifelong medication. *Focus 2* is about developing new treatment combinations that help the body's immune system keep the virus in check after stopping standard HIV drugs, while *Focus 3* aims to identify strategies that make the HIV-infected cells more vulnerable so they can be targeted and reduced or eliminated. Together, these efforts support the long-term goal of durable remission or a cure for people living with HIV. | 534,735 | 401,051 | 935,786 | 04/30/26 |
| Genetics | NIH | AVGTI0333 - Integrating human and non-human primate data to understand the acquisition of pre-erythrocytic immunity in the face of previous malaria exposure | Malaria vaccines capable of completely preventing infection by Plasmodium, the parasite which causes malaria, in non-endemic regions have not shown the same high-level protection when tested in endemic regions. While it is well known that active or prior Plasmodium exposure impacts the immune system in endemic regions, a comprehensive assessment of how these conditions affect vaccination or how even to measure this effect are lacking due to the inability to access critical sites of the immune system such as the liver and bone marrow. Here, we will overcome this by using two non-human primate models that mimic malaria disease in humans and permit comprehensive tissue sampling, and integrate these with human clinical trial samples to build a more complete understanding of how previous malaria exposure impacts vaccine performance and strategies to build the first protective malaria vaccine. | 213,127 | 159,845 | 372,972 | 01/31/27 |
| Pathobiology & Immunology | NIH | A universal malaria T cell vaccine based on HLA-E presentation | Malaria continues to be one of the largest public health concerns globally, yet an effective vaccine has not yet been realized. One reason is that the malaria parasite is far more complex than viruses or bacteria and has been evolving means to evade our immune system for millennia. Here, we propose a rethinking of malaria vaccine development using completely novel immune mechanisms that target novel parasite proteins with the goal of developing a highly protective vaccine capable of being used across highly diverse populations. | 199,625 | 149,719 | 349,344 | 04/30/27 |
| Pathobiology & Immunology | NIH | A nonhuman primate model of stem cell transplantation to understand determinants of post-transplant SIV clearance | The development of curative approaches for HIV infection is now recognized as both a necessary and attainable goal. Hematopoietic stem cell transplantation has been shown to functionally cure HIV infection in two separate patients, but naturally CCR5-deficient donors were required. We propose here to use our non-human primate model of allogeneic hematopoietic stem cell transplantation to mimic CCR5 deficiency with a CCR5 blocking antibody for HIV cure and to then extend this approach to HIV+ individuals undergoing stem cell transplantation. | 510,424 | 363,749 | 874,173 | 06/30/26 |
| Pathobiology & Immunology | NIH | Oral transmission of KSHV using rhesus macaque rhadinovirus model | Individuals with an underlying HIV-infection have an increased risk of developing AIDS-related malignancies. Kaposi sarcoma-associated herpesvirus (KSHV) is the necessary causal agent for Kaposi's sarcoma and is a cofactor in B cell lymphoproliferative disorders observed in AIDS patients. Understanding how KSHV is transmitted amongst the population is a necessary first step in creating a vaccine to prevent the spread of KSHV worldwide. The results from the proposed studies utilizing the nonhuman primate model should help elucidate and define the mechanisms involved in KSHV transmission. | 173,180 | 129,886 | 303,066 | 08/31/27 |
| Pathobiology & Immunology | NIH | Immunologic and Virologic Basis of RhCMV/SIV Vaccine-Induced Replication Arrest Efficacy | An effective vaccine remains the most direct and cost-effective way to end the HIV/AIDS pandemic. Our Cytomegalovirus (CMV) vector-based HIV/SIV vaccine has shown a unique form of viral "replication arrest" efficacy in the Rhesus Macaque-SIV model mediated by an unconventional CD8+ T cell population that recognizes viral epitopes in the context of major histocompatibility complex E proteins. The work proposed in this application will delineate the immune mechanisms underlying this novel efficacy, which will then be used to guide human testing of this vaccine concept in ongoing and future phase I/II trials. | 1,101,216 | 825,911 | 1,927,127 | 06/30/27 |
| Genetics | NIH | A Self-Adjuvanting Virus Like Particle Vaccine Platform for Emerging Viruses | STING is a cellular signaling protein crucial to generating innate and adaptive immune responses against microbe-infected cells that can elicit beneficial vaccine outcomes when activated by adjuvants. We propose to use animal and in vitro models to characterize the molecular and immunological effects of a novel vaccine platform that incorporates virus-like particles containing internalized STING-inducing molecules. Results we generate will have a transformative impact on vaccine technology and our understanding of the biological role of STING and its immunotherapeutic potential as a pharmacologic target. | 73,804 | 55,354 | 129,158 | 05/31/28 |
| Pathobiology & Immunology | NIH | Impact of IL-15 immunotherapy on tissue-specific CD8 T cells to reduce the CNS HIV Reservoir Seeding and Persistence | Antiretroviral therapy does not eliminate HIV reservoirs and HIV continues to persist in tissue compartments, including the brain. Immunotherapies to eliminate these persisting viral reservoirs are being evaluated but targeting HIV reservoirs in the central nervous system (CNS) presents unique challenges. Here, we will assess in two human clinical trials and in the nonhuman primate model of HIV whether an immunomodulatory molecule, the IL-15 super-agonist N-803, can be given safely without CNS toxicity and can boost the antiviral CD8 T cell response in the CNS, reducing HIV reservoir seeding and persistence in the brain. | 57,055 | 42,791 | 99,846 | 05/31/27 |
| Pathobiology & Immunology | NIH | Non-canonical epitope presentation and antigen processing by MHC-E | We discovered that genetically modified cytomegalovirus (CMV) can elicit T cells that recognize non-self peptides presented by Major Histocompatibility-E (MHC-E) molecules, including peptides derived from foreign antigens inserted into CMV, and that these T cells protect against simian immunodeficiency virus suggesting that prophylactic HIV vaccines that elicit MHC-E-restricted T cells might similarly achieve protection. While peptide presentation by classical MHC-I molecules is well understood, very little is known about how MHC-E presents non-self peptides because MHC-E generally presents a self-peptide contained within classical MHC-I proteins to natural killer cells as a self-protective mechanism and to better understand why CMV is the only known vaccine platform capable of eliciting MHC-E-restricted CD8+ T cell responses to any antigen, we will study the molecular antigen-presenting mechanisms that enable CMV to elicit these responses and how these T cells recognize HIV-infected cells. | 102,089 | 76,567 | 178,656 | 07/31/28 |
| Pathobiology & Immunology | NIH | A glycolipid adjuvant to promote dose sparing, accelerate immunization schedules and extend durability of high-level protection with an attenuated, live sporozoite malaria vaccine | In our screens to identify an adjuvant that can promote dose sparing and prolong duration of protection with an attenuated malaria vaccine, a novel glycolipid, 7DW8-5 that binds CD1d, and stimulates iNKT cells, was the only agent over several TLR ligands tested, to demonstrate significant enhancement in a mouse malaria model. We propose further pre-clinical characterization of adjuvant activity in mice and primates, to support its inclusion with Sanaria's radiation-attenuated PfSPZ Vaccine in order to significantly enhance vaccine potency, efficacy and feasibility of use. | 93,611 | 70,676 | 164,287 | 03/31/26 |
| Genetics | NIH | Persistence of HIV-specific CD8+ T cell responses after long-term ART in early treated Thai children | These exploratory studies will provide important information about the persistence of HIV-specific CD8+ T cell responses in children who started early antiretroviral therapy. They may provide critical insight into differences in the phenotype and function of HIV-specific CD8+ T cells in children compared to adults that would affect their response to therapeutic interventions or viral rebound during treatment interruptions. | 11,244 | 8,489 | 19,733 | 05/31/26 |
| Pathobiology & Immunology | Open Philanthropy Project | Multi-stage malaria vaccine | The objective of this proposal is to develop a novel infant rhesus malaria challenge model and use this model to determine how age impacts immune responses to malaria vaccination and protection at challenge. | 62,817 | 6,282 | 69,099 | 02/01/27 |
| Pathobiology & Immunology | NIH | Mechanisms Programming Protective Immunity from RhCMV-SIV Vaccine and IL-15 Actions Project 1 & NHP Core | The world is in need of an effective HIV/AIDS vaccine, and the cytomegalovirus (CMV) vector-based HIV/SIV vaccine featured in our studies is highly efficacious and durable to uniquely mediate viral "replication arrest" efficacy in the Rhesus Macaque-SIV model. Vaccine immunity is mediated by unconventional MHC-E-restricted CD8+ T cell responses and induction of IL-15, which correlate with vaccine protection. The work proposed in this application will reveal the molecular mechanisms of immune programming by the CMV-based vaccine and IL- 15 actions to inform human testing of this vaccine concept in ongoing and future phase I/II trials. | 240,414 | 181,512 | 421,926 | 07/31/28 |
| Pathobiology & Immunology | NIH | Targeting CD180 to induce anti-KSHV response in nonhuman primates | Individuals with an underlying HIV-infection have an increased risk of developing AIDS-related malignancies. Kaposi sarcoma-associated herpesvirus (KSHV) is the necessary causal agent for Kaposi's sarcoma and is a cofactor in B cell lymphoproliferative disorders observed in AIDS patients. Devising a vaccine strategy that can inhibit KSHV infection amongst the population is a necessary first step in creating a vaccine to prevent the spread of KSHV worldwide and the results from the proposed studies utilizing the nonhuman primate model should help elucidate and define vaccine strategies to prevent KSHV infection or KSHV-associated disease. | 329,456 | 248,739 | 578,195 | 07/31/29 |
| Pathobiology & Immunology | NIH | Immunologic strategies to prevent congenital cytomegalovirus transmission and disease in rhesus monkeys | Congenital cytomegalovirus (cCMV) is the leading global infectious cause of birth defects, hearing loss, and long-term neurologic deficits in infants exposed during gestation. Despite being considered a top priority for several decades, development of an effective CMV vaccine has been limited due to a gap in understanding of protective immune responses and virologic determinants of congenital CMV transmission. This Program will identify new antigen targets and immunization strategies for CMV vaccines to prevent and reduce cCMV infection, guiding design and clinical trial testing of next generation HCMV vaccines to prevent congenital CMV transmission. | 79,356 | 59,517 | 138,873 | 05/31/29 |
| Pathobiology & Immunology | NIH | Development of a Thermostable Live-attenuated RNA Chikungunya Vaccine | This project aims to create a single-dose vaccine against chikungunya, a painful mosquito-borne virus for which no widely accessible vaccine currently exists, using an innovative RNA-based approach. The vaccine is designed to be thermostable, meaning it can stay effective without deep cold storage, so it's easier to transport and use in parts of the world that lack advanced refrigeration. Researchers hope this method will safely trigger strong and lasting immune protection and make the vaccine easier to manufacture and distribute broadly. | 470,669 | 353,002 | 823,671 | 01/24/26 |

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| Pathobiology & Immunology | NIH | Flavivirus and Alphavirus ReVAMPP (FLARE) | Our ReVAMMP Center (Flavivirus and Alphavirus ReVAMPP, FLARE) addresses the hypothesis that innovative approaches to antigen and vaccine design and monoclonal antibody screening will promote the development of platform technologies that can rapidly generate countermeasures against current and future flavivirus and alphavirus threats. With our allied industry partners, we will develop and optimize protein nanoparticle, virion- based, and mRNA vaccines, and mAb-based treatments to respond to emerging flaviviruses and alphaviruses with pandemic potential using a pathogen prototype, modular approach. | 285,359 | 214,019 | 499,378 | 07/31/27 |
| Genetics | Bill & Melinda Gates Foundation | Multiomic Spatial Analysis of Tissue Viral Rebound | This project will use multiple transcriptomic and protein platforms to characterize the local tissue environment after HIV/SIV viral rebound. | 91,330 | 9,133 | 100,463 | 06/30/26 |
| Pathobiology & Immunology | NIH | Multimodal PET CT imaging of SIVmac239 dynamics post ART interruption | HIV-1 primarily resides in immune compartments that are difficult to access through routine sampling in individuals living with HIV. However, non-invasive positron emission tomography (PET) imaging offers a promising approach to directly assess HIV burden in vivo, providing a valuable tool to evaluate the efficacy of HIV eradication strategies. The aim of this project is to leverage multimodal PET immunoimaging to visualize sites of viral persistence and identify early tissue foci of viral rebound in SIVmac239-infected rhesus macaques undergoing ART. | 560,439 | 423,131 | 983,570 | 06/30/29 |
| Pathobiology & Immunology | NIH | Targeting Tfh differentiation to increase the magnitude and durability of antibody responses in infant rhesus macaques after SHIV infection | Children living with HIV-1 can have low levels of HIV-specific antibodies and poorer antibody responses to vaccines than their peers, leaving them susceptible to additional infectious diseases. Here, we will use a proven animal model of perinatal HIV infection to study the dynamics of virus-specific and vaccine-specific antibody responses after using a novel strategy to target CD4+ T follicular helper cell differentiation in infants. If successful, these studies will offer insight into the development of antibody responses in children living with HIV-1 and provide an innovative approach to increase these responses to improve health. | 87,433 | 6,995 | 94,428 | 08/31/28 |
| Pathobiology & Immunology | NIH | Vaccine mediated cross alphavirus protection and vector transmission dynamics for IXCHIQ, a FDA licensed live attenuated chikungunya virus vaccine | In November 2023, FDA licensed IXCHIQ, the first chikungunya virus vaccine. This project aims to define alphavirus circulation dynamics in the novel landscape provided by IXCHIQ rollout. This will be accomplished by defining IXCHIQ-mediated protection against disease caused by other human pathogenic alphaviruses, evaluating potential for mosquito-borne IXCHIQ transmission, and determining the impact of prior alphavirus exposure on IXCHIQ efficacy against chikungunya virus infection. | 426,965 | 322,358 | 749,323 | 06/30/29 |
| Genetics | Industry | Characterization and Screening of Long Acting Leronlimab via Immunological Assays. | The first goal of this research proposal is to assess the functional properties of 28 leronlimab variants synthetically engineered and optimized by Absci. The second goal is to determine and report the CCR5 haplotypes of human study participants (maximum 60). | 7,644 | 6,994 | 14,638 | 09/22/26 |
| Pathobiology & Immunology | NIH | Selective Targeting of the PD 1+ HIV/SIV reservoir with novel anti PD 1 chimeric antigen receptor T cells | PD-1 is a well-characterized marker of the latent SIV/HIV reservoir with PD-1+ CD4+ T cells enriched for intact provirus. In previous work we demonstrated rapid and prompt depletion of T follicular helper cells and associated viral replication in nonhuman primates but increased extrafollicular viral replication due to depletion of PD-1+ CD8+ memory T cells. This proposal describes a drug-controlled second-generation anti-PD-1 CAR T cells which evaluates the effects of intermittent versus continuous PD-1+ cell depletion during antiretroviral therapy on immune function, intact provirus frequency, and reservoir dynamics. | 143,639 | 108,447 | 252,086 | 07/31/30 |
| Pathobiology & Immunology | Johns Hopkins Univ. | P1-11 Producing a new antimalarial drug | This project focuses on developing new medicines to treat malaria, especially ones that work against parasite strains that are becoming resistant to current drugs. The goal is to discover and advance safe, effective, and affordable antimalarial compounds that could help save lives and improve treatment options worldwide. | 171,982 | 25,797 | 197,779 | 06/30/26 |

# Appendix D: Research Highlights

**ONPRC NHP Research Advances**
Division Chief Living Document
V 08/25/25

## Introduction

Much basic biomedical research can be done in tissue culture, mice, or other models like fruit flies. However, some questions about human disease can only be studied in nonhuman primates because of their similar genetics, anatomy, and biology. Understanding and developing new therapies for diseases related to reproduction, behavior and cognition, metabolism, and infectious disease requires nonhuman primates due to their considerable similarities to humans relative to other model systems.

The ONPRC research portfolio encompasses multiple disease areas. Almost all areas of human disease and disorders are studied, with an emphasis on genetics, reproduction, development and aging, behavioral and systems neuroscience, metabolism, and infectious diseases.

## DIVISION OF COMPARATIVE MEDICINE (DCM)

### Overview

The Division of Comparative Medicine provides high-quality, well-characterized nonhuman primate animal models and research support services to the ONPRC and external collaborators by maintaining healthy, specific-pathogen-free (SPF) nonhuman primate breeding and research populations. To ensure the animals are physically and mentally healthy, DCM has a skilled team of veterinarians and staff who work closely with the center's scientists. DCM has seven units: Behavioral Services, Clinical Medicine, Compliance, Education and Training, Operations, Pathology Services, Resources and Logistics, and Surgical Services. Additionally, they manage four special resources related to Aging, Infectious Disease, Obesity, and Precision Medicine. Each unit interacts and communicates with the others to support researchers locally, regionally, and nationally.

**<u>Past Research Achievements</u>**

- **Blood volume calculation techniques:** Total blood volume is a key measure in critical care, but current methods for estimating it can be inaccurate or even misleading. Using nonhuman primates, we developed a new technique to measure blood volume quickly, accurately, safely, and inexpensively using a durable, wearable device. We expect wide-ranging applications of this technique, including the early identification of significant maternal blood loss during childbirth quantifying blood loss in trauma patients. **(Theodore Hobbs, D.V.M., M.C.R.)**
- **Effects of sedatives and/or anesthetics on the developing brain:** Using sedation and/or anesthesia early in life can cause different levels of brain cell damage in humans and animals. It may also be linked to learning disabilities and ADHD in children. Nonhuman primates are helping us understand how these drugs affect the developing brain. They are also helping us create protective treatments to reduce the impact of such exposure in infants and children. NHPs have also allowed us to study the long-term impacts on thinking and behavior after early exposure to certain anesthetics. **(Kristine Coleman, Ph.D.**, **Lauren Drew Martin, D.V.M., DACLAM)** PMID 27749311

- **Evaluation of a device to enable phlebotomy without discomfort:** We tested an oscillating device designed to make blood draws less painful and cause less bruising. A similar device is being evaluated to determine if it can reduce the force needed for injections into the brain. Improving the comfort and speed of these standard medical procedures is an important way to improve human and animal health, whether in research or medical care. **(Heather Sidener, D.V.M., DACLAM)**
- **Avoiding adverse drug reactions of common analgesics used in nonhuman primates:** Sustained-release buprenorphine is a helpful pain relief option for NHPs and comes in different strengths. The higher concentration version has fewer side effects than the lower concentration, making it the best option for pain relief for NHPs**. (Andrew Haertel, D.V.M., M.P.H.)** PMID: 33906705
- **Behavioral predictors of pairing success in rhesus macaques**: Pair housing is one of the most important components of behavioral management for caged macaques; however, it can result in aggression and injury if partners are incompatible. Knowing when to proceed and when to stop social introductions can be challenging and can have consequences for the partners. We found that certain behaviors exhibited early in social introductions (e.g., proximity, tandem threats) predicted success (i.e., partners remained co-housed with full contact for at least 28 days) in rhesus macaques. Identifying behaviors exhibited by monkeys early in the pair introduction that are predictive of long-term compatibility can shape pairing decisions, reducing later stress and potential injury. **(Rhonda MacAllister, DVM, Kristine Coleman, PhD)** PMID: 31916274

**New/Recent Research Achievements:**

- **Housing contributions to rhesus and pigtail macaque infant survival in breeding colonies:** Different breeding facilities use various housing setups, and research shows there isn't one perfect option. Instead, a mix of housing types is likely the best approach for helping infant NHPs thrive. **(Andrew Haertel, D.V.M., M.P.H.)**
- **Standard growth curve for captive infant rhesus and pigtail macaques:** Previous growth studies of captive rhesus and pigtail macaque infants didn't consider the effects of diarrhea on their growth. We created a growth model using healthy infant macaques to provide standard growth charts and tools to help identify those failing to grow during the first year of life. **(Andrew Haertel, D.V.M., M.P.H.)** PMID: 37771291, 35017515, 34158595, 30281825, 31451108
- **Wildfire smoke exposure is associated with infant respiratory illness and pregnancy losses:** Rhesus and Japanese macaques exposed to very poor air quality from wildfire smoke showed higher rates of poor health outcomes. Our study involved monkeys housed outdoors exposed to heavy wildfire smoke from nearby forest fires. The effects of the smoke could be assessed without the additional environmental complications that human populations face, such as diet, cigarette smoking, etc. **(Andrew Haertel, D.V.M., M.P.H.)** PMID: 38342984

**DIVISION OF GENETICS**

**Overview**

The Division of Genetics was created to take advantage of the opportunities in genetic research with nonhuman primates and to ensure experts are available to develop and use new tools for understanding and controlling human diseases. This division provides a unique research setting where scientists can explore important questions about the causes and treatments of genetic diseases.

**Past Research Achievements:**

- **Genetic models of human disease**: By working closely together, pathologists and geneticists have identified rare genetic diseases that occur naturally in the ONPRC breeding colony. Examples of these genetic diseases include Batton's Disease, Multiple Sclerosis, and Huntington's Disease. Each of these diseases matches a human disease, some of which cannot currently be studied due to the absence of a relevant model. Genetic model identification opens new opportunities to develop treatments and cure serious diseases. (**Betsy Ferguson, Ph.D., Don Conrad, Ph.D., Benjamin Bimber, Ph.D., Anne Lewis, D.V.M., Ph.D., labs**) PMID: 21674589 (MS), 30048804 (Batten), 31589838 (BBS7), 34364975 (PMD), 32096448 (KRT5), 36721163 (Review), 37984997 (MBD4 associated neoplasia syndrome), 38504345 (MLH1 sporadic colorectal cancer)
- **Paternal contributions to offspring health**: Children born to older fathers are at a higher risk for developing various diseases. Scientists don't fully understand why this happens, but it seems linked to DNA mutations that build up in sperm as men age. ONPRC researchers are studying the genomes of large primate families — some with more than 100 from one father — to better understand the causes and consequences of these age-related mutations. (**Don Conrad, Ph.D. Lab**) PMID: 37984997

**New/Recent Research Achievements:**

- **Creating NHP models of human diseases:** Using recently developed gene-editing techniques (CRISPR), ONPRC scientists have created NHP models of human diseases that are needed for the development of novel treatments and cures. ONPRC researchers have generated six gene-edited macaques, each carrying a mutation that results in a condition similar to what is observed in humans. PMID: 35710827
- **Technologies to accelerate transgenic NHP generation:** ONPRC scientists are leaders in the generation of genetically modified macaques, which includes four transgenic animals born at ONPRC since 2019. However, this process is still too expensive for most research questions. Researchers at ONPRC are using a technique called site-directed recombination to improve how DNA is integrated into macaque embryos. This helps ensure that only one gene copy is delivered to a safe location in the genome. By reducing costs, this technology can help create new macaque disease models that precisely replicate human diseases. (**Benjamin Bimber, Ph.D.**, **Benjamin Burwitz, Ph.D., labs**) PMID: 37175977, 35211637, 39937851
- **The function of 3D genome structure**: Division scientists created the first map showing the 3D structure of the gibbon genome. By comparing this structure with those of other primates and rodents, we identified crucial features for normal mammal development. By targeted mutation of select structures, we proved that they are functional. This map of 3D structures will help us understand human mutations related to developmental disorders in children. (**Lucia Carbone, Ph.D., Don Conrad, Ph.D. labs**) PMIDs: 38062027, 39903672,

- **Aggregation & Accessibility of NHP Genomic Data:** ONPRC scientists have genetic data from 3,500 rhesus macaques and 750 marmosets, providing essential tools to query and use this information in their research in the macaque genotype and phenotype resource (mGAP). This unique, open resource is an invaluable tool that enables incorporation of rhesus macaque genomic data into practical decisions related to animal model development and characterization, research, and animal care. Our scientists are actively working to expand this resource to include additional NHP species and to integrate these data with those from other key model organisms. (**Benjamin Bimber, Ph.D., Don Conrad, Ph.D., Jeffrey Wall, Ph.D. labs**)
- **Molecular Characterization of NHP Development:** Many human diseases are the result of early developmental defects. Functional genomics studies in humans primarily rely on adult tissues and lack critical cell states in specific developmental windows. ONPRC scientists are creating a reference NHP dataset and tissue bank spanning prenatal and postnatal development, enabling research into developmental changes in expression, childhood disorders, and the effect of genetic variation on development. (Lucia Carbone, Don Conrad labs). PMID: 39815096, 37244752

## DIVISION OF METABOLIC HEALTH AND DISEASE

### Overview

Obesity, high blood pressure, high cholesterol levels, fatty liver disease, and insulin resistance are signs that the body's metabolism isn't working properly. During the past 30 years, these issues have become much more common, largely due to rising obesity rates. The goal of the Division of Metabolic Health and Disease (MHD) and its investigators is to understand what causes these metabolic diseases so we can identify ways to treat them. Division members use innovative research methods, including studies with NHPs, because they closely resemble the complexities of human metabolic disease. They do this in collaboration with other ONPRC and OHSU investigators, as well as other researchers and experts worldwide.

**<u>Past Research Achievements:</u>**

- **Adverse transgenerational effects of protein deficiency during pregnancy:** Insufficient protein intake during pregnancy is a significant problem in low and middle-income countries. Division investigators, in collaboration with the ONPRC Divisions of Neuroscience and Developmental and Reproductive Sciences, demonstrated that reduced maternal protein consumption in NHPs affected placental function and the development of multiple organs in the offspring, with a particularly significant effects on bone, pancreas and brain development. **(Roberts, Ph.D. and Kievit, Ph.D. Labs)** PMID: 28443480, 32130027, 36646824.
- **Metabolic effects of polycystic ovary syndrome (PCOS)**: PCOS is associated with elevated testosterone levels and obesity is prevalent in women with PCOS. In collaboration with the ONPRC Division of Developmental and Reproductive Sciences, Division investigators used an NHP model of hyperandrogenemia and western-style diet-induced obesity to show that testosterone and diet exert both independent and additive effects on multiple aspects of

metabolism, with obesity exacerbating the effects of elevated testosterone. **(Varlamov, M.D., Ph.D. and Roberts, Ph.D. Labs)** PMID: 31848372, 33313720, 37766405.

- **Effects of obesity and insulin resistance on response to SIV infection and antiretroviral therapy (ART):** Division researchers, in collaboration with the ONPRC Division of Pathobiology and Immunology, combined existing NHP models of obesity and SIV infection and ART treatment to determine if pre-existing obesity increased the adverse metabolic effects of ART. These studies demonstrated that long-term ART increased markers of cardiometabolic risk factors in lean animals to levels seen in obese animals. **(Roberts, Ph.D. and Paul Kievit, Ph.D. Labs)** PMID 39115937
- **Maternal obesity and the impact on offspring:** Over the last 15 years, ongoing studies at ONPRC have focused on the contribution of maternal obesity on health during pregnancy and the development of the fetus **(Kievit, Ph.D. Labs and external collaborators)**. Some discoveries include:
    - Increased lipid deposition in the fetal liver with a high fat diet, resulting in signs of fatty liver disease at 3 years of age
    - Maternal obesity drives altered development and function of pancreatic islets
    - Placental function is disrupted in obese mothers
    - Maternal western-style diet reprograms skeletal muscle development and lipid metabolism
    - Maternal obesity or diet can have long-lasting impact on development of the microbiome and epigenetic landscape
- **Fetal hematopoiesis and the role of maternal diet:** Division researchers are using an NHP model to study how maternal obesity impacts fetal stem cells and the development of the fetal immune system. Current work has already demonstrated that stem cells are impacted negatively by a poor maternal diet, possibly resulting in inflammatory diseases later in life. **(Varlamov, M.D., Ph.D. Lab)** PMID: 36332628, 37058409, 36645353
- **Pharmacotherapy for obesity:** Collaborative research projects with investigators and industry partners have tested and developed novel pharmacotherapies for obesity and diabetes. Examples of mechanisms include modulation of MC4R activity (IMCRIVREE), Ox-LDL antibody antagonism (Orticumab), $PYY_{3-36}$ (CIN-110) and FGF21 (**Kievit, Ph.D. Lab)**

**<u>New/Recent Research Achievements:</u>**

- **Effect of estrogen replacement on response to SIV and ART**: Division investigators have created an NHP model to study postmenopausal women living with HIV. Research is designed to determine whether estrogen replacement can help reduce metabolic problems and improve the effectiveness of ART in controlling the HIV virus in the body. **(Kievit, Roberts and Varlamov Labs)**
- **Bone metabolism and HIV:** Collaborative efforts between MHD and investigators at Oregon State University are studying the impact of HIV/ART and estrogen on bone turnover in a NHP model of postmenopausal women. **(Sauter, Ph.D. Lab)**
- **Metabolic effects of long COVID:** In collaboration with the ONPRC Division of Pathobiology and Immunology, Division investigators used an NHP model of "long COVID" as induced by SARS-CoV-2 Delta and Omicron variants. The results obtained so far with the delta variant have shown that pre-existing obesity does increase the severity of some adverse effects of SARS-CoV-2 infection, but others are independent of pre-infection obesity. Notably, the

frequency of persistent adverse effects appears to be much higher than the current estimates for the human population based on clinical symptoms. **(Roberts and Kievit labs)**

- **Metabolic surgery and the impact on offspring:** Roux-en-Y gastric bypass (RYGB) is a the most effective surgery for weight loss, but current gaps in knowledge limit the understanding how these metabolic surgeries impact women's health during future pregnancies and their children's development. Studies focus on effects in the development of neuronal pathways controlling body weight homeostasis and pancreatic islet function in offspring **(Paul Kievit, Ph.D. lab)**
- **Metformin treatment during pregnancy:** Metformin is widely used for a large variety of maladies, including (pre-)diabetes, polycystic ovarian syndrome, and gestational diabetes. Current research is exploring the idea that early life exposure to metformin (with and without a Western-style diet) could lead to obesity and insulin resistance later in life, with initial findings already demonstrating that metformin accumulation during pregnancy can affect proper development of the kidney. **(Paul Kievit, Ph.D. lab)**
- **Impacts of maternal SIV infection and antiretroviral therapy on fetal hematopoiesis and immunity:** Antiretroviral therapy (ART) during pregnancy and breastfeeding can greatly reduce the chance of HIV-positive mothers passing the virus to their babies. However, HIV and/or ART-exposed uninfected children have demonstrated to have higher risks of serious infections and breathing problems at birth and later in life. In our studies, we explore how both the virus and the antiretroviral medications might influence the developing immune system in the offspring, with the ultimate goal of determining how these factors affect immune cells and shape long-term health. **(Varlamov, M.D., Ph.D. Lab)**

## DIVISION OF NEUROSCIENCE

### Overview

The Division of Neuroscience conducts research to understand how life sustaining brain functions are involved in biomedical disorders. Research in the division focuses on how sensory, associative and physiological systems interact in normal and disease states. Most research is addressing the role of specific life stages, such as pregnancy, adolescence, adulthood, and older age. Our scientists are leaders in leveraging advanced technologies used in human clinical studies in combination with interventions to alter the course of disease. Our findings translate into real-world applications, collaborating closely with OHSU clinician-scientists. The main areas of research include alcohol and substance use disorders, impact of aging on the development of neurodegenerative diseases like Alzheimer's Disease and Related Dementias (ADRD) genetic disorders that involve nervous system damage, including vision, hearing, and fine motor control, hormonal and inflammation processes.

**<u>Past Research Achievements:</u>**

- **Prevent or reverse age-related dementia**: ONPRC researchers were the first to discover how a certain mechanism stops new neural cells from forming in older brains. This discovery opens up new possibilities for exploring ways to prevent or even reverse age-related dementia by encouraging the growth of new neurons and stopping their decline. **(Larry Sherman, Ph.D. Lab)** PMID: 21872361, 28154169, 21905080
- **Hormone therapy for postmenopausal brain health**: Researchers looking into whether hormone therapy with estrogen would help the thinking ability of middle-aged, menopausal

monkeys. Over a year of testing, they found that the hormone estradiol improved and helped maintain memory for locations and attention to visual tasks (**Steven Kohama, Ph.D., Martha Neuringer, Ph.D., Labs**)

- **Curing blindness**: ONPRC and OHSU's Casey Eye Institute have begun human clinical trials to treat macular degeneration, a major cause of blindness. The work is based on ONPRC research developing multiple models of retinal degeneration and evaluating stem cell and gene therapy prior to human studies. (**Martha Neuringer, Ph.D., Trevor McGill, Ph.D. Lab**) PMID: 37056049, 26390090, 30062914
- **Infant formula and eye health**: ONPRC studies about the role various ingredients in breast milk play in healthy eye development have resulted in changes to infant formula worldwide. **(Martha Neuringer, Ph.D. Lab)**
- **Visualizing how the brain processes information:** The brain is divided into different areas that handle specific senses, like smell and sight, and help make sense of that information so we can respond. Many brain disorders come from small breakdowns in this communication process. Researchers at the ONPRC are pushing the envelope of brain "connectivity" using MRI imaging that can detect how diet, drugs, and personality affect brain function. **(Christopher Kroenke, Ph.D., Vincent Costa, Ph.D., Martha Neuringer, Ph.D., Elinor Sullivan, Ph.D., Kathleen Grant, Ph.D., Verginia Cuzon Carlson, Ph.D., Jodi McBride, Ph.D. Labs)**
- **Ocular immunology in retinal/neurodegeneration:** The healthy brain and eyes are secluded from constant surveillance by the systemic immune system. However, as neurons die with age or from neurodegenerative disease, this privilege erodes. ONPRC researchers are evaluating ways to understand the close relationship among the immune system and neurodegeneration and its intersection with cell and gene therapeutic strategies. (Martha Neuringer, Ph.D.; Trevor McGill, Ph.D. Labs) PMID: 29625461, 35239183, 37156915, 40251154.
- **Combatting multiple sclerosis**: ONPRC researchers have discovered a naturally occurring disease in monkeys that is very much like multiple sclerosis in humans — a discovery that could have a major impact on efforts to understand the cause of and treat this disease. (**Larry Sherman, Ph.D., Scott Wong, Ph.D., Bill Rooney, Ph.D. Labs)** PMID: 21674589, 26857488, 33440071, 33930224
- **Gene therapy for Huntington's Disease:** This debilitating and fatal disease is caused by a mutation in a known gene. ONPRC researchers have pioneered focusing on specific deep brain areas to replace defective genes. This work has led to new surgical techniques and MRI technologies for altering brain circuits related to other brain disorders. (**Jodi McBride, Ph.D., Theodore Hobbs, D.V.M., M.C.R., Christopher Kroenke, Ph.D. Labs**) PMID: 36205397, 32332773
- **Brain markers of Huntington's Disease:** ONPRC researchers have developed a new way to use Positron Emission Tomography (PET) and Magnetic Resonance Imaging (MRI) scans in monkeys to see the mutant proteins that causes Huntington's disease, and their downstream effects on brain function. This is a critical step that is now being leveraged in patients to track how well drug or gene-therapy treatments work in patients with the same condition. (**Alison Weiss Ph.D. Lab**) PMID: 37591545, 36544385, 36205397, 38237588, 37397804
- **Developing a non-invasive marker of adverse fetal alcohol exposure:** Drinking alcohol during pregnancy is the leading cause of abnormal brain development in the Western

Hemisphere. Many women drink alcohol before they know they are pregnant, so this research is focused on developing MRI imaging biomarkers to detect harmful alcohol exposure in the first trimester. This information could identify infants who may need early interventions to address behavioral and cognitive issues related to fetal alcohol exposure. (**Verginia Cuzon Carlson, Ph.D., Christopher Kroenke, Ph.D., Elinor Sullivan, Ph.D. labs**)

- **Battling deadly addiction**: Drinking too much alcohol leads to 180,000 annual deaths in the U.S., a grim statistic that continues to rise. Research at ONPRC is uncovering what makes people more addicted to alcohol. Factors like genetic changes, how we think, how we handle stress, being in young adulthood, different phases of the menstrual cycle, and having an aggressive personality might help us find ways to prevent or treat alcoholism. **(Kathleen Grant, Ph.D. Lab)**
- **Finding markers in blood that reflect the alcohol-addicted brain:** For the first time, changes in genes linked to alcohol addiction were found in both blood and brain cells. This research points to a new way to characterize the alcohol-addicted brain of individuals with a blood test. (**Kathleen Grant, Ph.D., Betsy Ferguson, Ph.D. Labs**)
- **Combatting the effects of nicotine when pregnant women continue smoking:** ONPRC research shows that vitamin C can prevent some of the damage to fetal lungs caused by women who smoke while pregnant. The research has led to a new treatment with the goal of shielding unborn babies from the damaging impacts of nicotine when pregnant women are unable to stop smoking. **(Eliot Spindel, M.D., Ph.D., Cindy McEvoy, M.D., M.C.R. Labs)**
- **Brain changes over the lifespan**: Studies of nonhuman primate brain anatomy and function, with the goal of characterizing disease processes and evaluating interventions, depend on precise knowledge of normative brain changes over the lifespan. Template brain images and atlases derived from MRI data have been constructed from the fetal period through old age, and these resources are made feely available to the research community. **(Christopher Kroenke, Ph.D. Lab)**
- **Use of in utero MRI to detect neurodevelopmental alterations due to intrauterine exposures**: Effects of sub-optimal maternal diet, fetal exposure to drugs of abuse, and exposure to pathogens on fetal brain development have been characterized to inform Radiologists and Maternal Fetal Medicine clinicians of potential methods for early detection of altered neurodevelopmental trajectories that can be identified with MRI. **(Christopher Kroenke, Ph.D. Lab)**
- **Non-invasive assessment of placental function**: The blood oxygenation dependent signal intensity in MRI – the same phenomenon that enables "functional MRI", provides exquisite sensitivity to the ability of maternal blood within the placenta to provide oxygenated blood to the fetus. This has generated a new method for assessing placental function in pregnant women**. (Christopher Kroenke, Ph.D. Victoria Roberts, Ph.D. Labs)**
- **Effects of alcohol drinking on brain function and development over the lifespan**: Effects of alcohol on brain function and growth in fetal development, in adolescence, and its contribution to atrophy in the adult brain has been characterized in rhesus macaques using MRI methods. (**Christopher Kroenke, Ph.D. Kathleen Grant, Ph.D. Verginia Cuzon Carlson Ph.D. Labs**)
- **Developing a safer alternative to estrogen hormone replacement therapy (HRT) for the treatment of menopausal hot flushes in women:** ONPRC has developed a non-invasive way of monitoring menopausal hot flushes, using thermal imaging. Ongoing collaborative studies with the University of Maryland are evaluating the therapeutic potential of a novel prodrug,

10β,17β-dihydroxyestra-1,4-dien-3-one (DHED). Unlike HRT, DHED acts selectively within the brain and has no peripheral side effects; this makes it a safer alternative for the treatment of hot flush symptoms in women, especially those with an elevated risk of developing breast cancer. **(Henryk Urbanski, D.Sc., Ph.D. Lab)** PMCID: PMC7394307.

**New/Recent Research Achievements:**

- **Gene Therapy for Alcohol Use Disorder:** Adding a growth factor that boosts dopamine production in the brain's reward system prevented relapse to heavy drinking, opening up a new therapeutic approach for Alcohol Use Disorder. **(Kathleen Grant, Ph.D. Lab)**
- **Prenatal delta-9-tetrahydrocannabinol exposure alters fetal neurodevelopment in rhesus macaques:** When pregnant rhesus monkeys used cannabis, MRI scans and genetic tests showed signs of problems in their babies' brain development. This is the first clear evidence in primates that a mother's cannabis use affects the growth of the baby's brain. (**Jamie Lo, M.D., Christopher Kroenke, Ph.D. Labs**)
- **Promoting open-science practices to understand brain changes across the lifespan**: ONPRC scientists have contributed to the development of the first comprehensive, sex-stratified brain growth charts for macaques across the lifespan, based on over 1,500 MRI scans from 23 sites. By enabling direct comparisons with human brain development, this open-access resource fills a critical gap in translational neuroscience, enhances ethical standards in nonhuman primate research, offers a powerful tool for understanding brain disorders, and improves study design. (**Alison Weiss, Ph.D. Lab**) PMID: 39257737

- **Advancement of gene therapy for blindness using lipid nanoparticles:** Past efforts to use gene therapy for eye disorders didn't work well because they couldn't reach the outer layer of the retina. In a new approach, scientists from ONPRC and Casey Eye Institute used engineered nanoparticles to deliver mRNA to the inner retina safely. This is a significant step forward in using gene therapy to treat blindness. **(Martha Neuringer, Ph.D. and Trevor McGill Lab)**
- **Mechanisms of immunological memory:** For over 50 years, there has been debate regarding how long-term immunity is maintained after vaccination or infection. This question was recently answered by vaccinating NHP against tetanus and measuring the durability of vaccine-mediated immunity in the presence or absence of an immune cell called a memory B cell. These results provide a new understanding of how immune memory is maintained and will lead to improved vaccine approaches in the future. (**Mark Slifka, Ph.D. lab**) PMID: 29176567
- **Development of advanced vaccines against neglected infectious diseases:** Recent NHP studies have resulted in breakthroughs in vaccines that prevent severe diarrheal disease and diarrhea-associated infant growth stunting in addition to new and improved vaccines against neglected diseases such as West Nile virus (PMID: 27919629), yellow fever (PMID: 39019010) and chikungunya. These developments are not only important for protecting against human disease but may also result in improved veterinary vaccines against West Nile virus in horses and safer, more effective vaccines against lethal yellow fever in wild non-human primates. These vaccine studies have resulted in 3 NIH-funded Phase 1 clinical trials. (**Mark Slifka, Ph.D. lab**) PMID: PMID: 37365162 (diarrheal disease), 32637610, 27919629 (West Nile virus), 39019010 (yellow fever)

- **Characterization of novel agents that promote brain repair in multiple sclerosis.** Recent studies have identified novel agents that both block multiple sclerosis progression and promote repair in multiple-sclerosis-like brain lesions. These agents are being tested in the Japanese macaque model of multiple sclerosis to determine their potential efficacy in human clinical trials **(Larry Sherman, PhD. Lab)**. PMID: 37955120 (Blocking agents), 31490574/39454959 (promote repair)

## DIVISION OF PATHOBIOLOGY AND IMMUNOLOGY

**Overview**

The COVID-19 pandemic shows how serious the threat of new and returning infectious diseases can be. In addition to SARS-CoV-2, the World Health Organization estimates that at least 30 new diseases have appeared in the last 20 years and now together threaten the health of hundreds of millions of people, endangering the health of millions, many of which have no treatments, cures, or vaccines. Scientists at the Division of Pathobiology and Immunology (DPI) at the ONPRC are working to tackle these issues. They have a skilled team of virologists, immunologists, and pathologists who use nonhuman primates to help study infectious diseases in a meaningful way.

**Past Research Achievements:**

- **Protecting babies born to mothers with HIV:** ONPRC researchers are using human monoclonal antibodies to protect babies born to mothers with HIV by giving a single dose soon after birth. This safe and non-toxic treatment helps prevent the virus from taking hold in the baby's body, so no additional treatment is needed. (**Nancy Haigwood, Ph.D., Ann Hessell, Ph.D., Jonah Sacha, Ph.D. Labs**) PMID 26998834
- **Developing an HIV vaccine candidate that may have the ability to completely clear HIV from the body:** Research on cytomegalovirus, which most people carry, has shown some unique characteristics of the disease - discovered in part by ONPRC scientists – that may help in the battle to prevent HIV. There are ongoing clinical trials as a result of these findings. **(Louis Picker, M.D., Scott Hansen, Ph.D., Jonah Sacha, Ph.D., Klaus Frueh, Ph.D. Labs)** PMID 24025770
- **Infectious disease vaccine development**: Researchers developed a promising new cytomegalovirus-based vaccine approach that has greatly improved the possibility of a vaccine for HIV, as well as for other global diseases, including tuberculosis, influenza, and malaria**. (Louis Picker, M.D., Klaus Frueh, Ph.D., Jonah Sacha, Ph.D., Brandon Wilder, Ph.D. Labs)** PMID: 39030218, 29334373
- **Hepatitis B virus:** Right now, about 247 million people worldwide have chronic hepatitis B, which can cause liver problems and cancer. Recently, a cure was found for hepatitis C, which has rejuvenated efforts to find a cure for hepatitis B. ONPRC is teaming up with drug companies and academic institutions to test new treatments aimed at curing chronic hepatitis B. **(Benjamin Burwitz, Ph.D., Jonah Sacha, Ph.D. Labs)** PMID 29247188

**New/Recent Research Achievements:**

- **New treatment for bladder cancer:** An experimental immune-modulating compound was tested at ONPRC and based off the study a human dose was then selected. This compound,

now called Anktiva, was recently approved by the FDA for the treatment of bladder cancer**. (Jonah Sacha, Ph.D. Lab)** PMID: 26511282

- **Establishment of the first nonhuman primate model of HBV:** Using gene therapy, ONPRC has created the first macaques that can be infected with hepatitis B. Previously, chimpanzees were the only nonhuman primate model of hepatitis B infection but cannot be used in research any longer. ONPRC scientists recently developed a model of hepatitis B infection in the rhesus macaque, an accomplishment that has alluded scientists for decades. This will help researchers test new treatments to cure hepatitis B. (**Benjamin Burwitz, Ph.D. Lab)** PMID 37236188
- **Demonstration of the mechanisms of HIV cure following stem cell transplantation:** A macaque model for stem cell transplantation has revealed how this treatment can cure HIV, replicating cases of HIV cure in human patients. This discovery means researchers can test other therapies to cure HIV on their own without needing stem cell transplants. (**Jonah Sacha, Ph.D. Lab)** PMID: 37236188
- **Candidate HIV vaccine now in clinical trials:** A prophylactic HIV vaccine discovered and refined at ONPRC is now in human clinical trials. (**Louis Picker, M.D., Klaus Frueh, Ph.D., Scott Hansen, Ph.D. Labs)** PMID: 24025770
- **Treatment for Yellow Fever Virus infection:** There is no treatment for Yellow Fever Virus, an infection with a 5% mortality rate. Given the recent re-emergence and multiple outbreaks of Yellow Fever Virus infections, there exists an urgent need for safe and effective therapies. Such a therapy was demonstrated at ONPRC and is now entering human clinical trials in Brazil. **(Ben Burwitz, Ph.D., Jonah Sacha Ph.D.)** PMID 36989376

## DIVISION OF REPRODUCTIVE AND DEVELOPMENTAL SCIENCES

### Overview

The goal of the Division of Reproductive and Developmental Sciences (DRDS) is to perform basic and applied research to improve our understanding of nonhuman primate reproduction and development, from conception to birth and beyond. This knowledge will help treat reproductive disorders, manage fertility, and improve the health of women and their babies. DRDS Research covers all stages of reproduction, including egg and sperm development, fertilization, embryogenesis, pregnancy, fetal growth, and early life.

The Division's accomplishments can be grouped into five main research areas: reproductive syndromes/pathologies, non-hormonal contraception, infertility and oncofertility, development, aging and the environment, and disease models & therapies.

**<u>Past Research Achievements:</u>**

- **Deriving novel patient-specific stem cell lines to avoid immune rejection:** Stem cells can renew themselves and turn into different types of cells in the body. Scientists have created and studied several new stem cell lines from rhesus macaques using techniques like somatic cell nuclear transfer (SCNT) and reprogramming with specific factors. These patient-specific stem cells could help treat or improve many degenerative diseases while avoiding rejection by the patient's immune system. **(Shoukhrat Mitalipov, Ph.D. Labs)**
- **Making birth control better, safer, and more accessible:** Research in DRDS identified new birth control methods that are safer, more effective, and easier to use than current options.

Scientists are mainly focused on creating new permanent contraceptive methods that don't involve hormones or surgery, making them accessible for women in areas with limited healthcare resources. **(Jon Hennebold, Ph.D., Jeffrey Jensen, M.D., Ov Slayden, Ph.D., Mary Zelinski, Ph.D. Labs)**

- **Elucidating the underlying causes of female infertility:** Polycystic ovary syndrome (PCOS) is a significant cause of infertility in women and is often linked to obesity and hyperandrogenemia. Researchers found that the combination of a Western-style diet, which tends to be high in unhealthy fats and sugars, and low doses of testosterone had detrimental effects on early embryo development, placenta formation, the severity of endometriosis, and genetic changes in fat tissue in mothers relative to either diet or testosterone effects alone. **(Shawn Chavez, Ph.D., Antonio Frias, M.D., Jon Hennebold, Ph.D., Leslie Myatt, Ph.D., Charlie Roberts, Ph.D., Ov Slayden, Ph.D. Labs)**
- **Increasing *in vitro* fertilization (IVF) success rates:** Human IVF was introduced more than 45 years ago, but it is still only successful 30-40% of the time. Scientists in DRDS have found factors in the ovary that could help predict whether an egg can be fertilized and develop into an embryo that can implanted in the uterus. They've also identified imaging techniques during the culture process that can help choose which embryos are most likely to implant successfully and lead to a healthy pregnancy. **(Shawn Chavez, Ph.D., Jon Hennebold, Ph.D. Labs)**
- **Preserving cancer survivors' ability to have biological children:** Many cancer treatments for women are also toxic to their eggs. Research at DRDS aims to protect the eggs in the ovaries during chemotherapy and radiation. One approach involves removing and freezing parts of the ovary so they can be transplanted back into individuals after the end of their cancer treatment, restoring fertility. For patients who can't have ovarian tissue transplants, scientists have also created methods to grow egg-containing follicles in the lab for fertilization. **(Adam Krieg, Ph.D., Jing Xu, Ph.D., Mary Zelinski, Ph.D. Labs)**
- **Using advanced imaging to assess placental and fetal health:** The placenta is essential for connecting the mother and fetus during pregnancy. Scientists at ONPRC have created advanced imaging systems that closely examine how well the placenta works and the growth of fetal organs with high resolution. This technological breakthrough will help develop early diagnostic tools to identify and potentially reduce developmental issues in infants. **(Antonio Frias, M.D., Christopher Kroenke, Ph.D., Jamie Lo, M.D., Victoria Roberts, Ph.D. Labs)**
- **Examining intrauterine infection in preterm birth, and infant health:** Infections during pregnancy can cause preterm birth, which can lead to birth defects. ONPRC researchers are studying how these infections cause preterm birth and inflammation, leading to brain injuries and other issues that affect their development and health early in life. **(Meredith Kelleher, Ph.D., Larry Sherman, Ph.D. Labs)**
- **Preventing birth defects in infants from mothers infected with Zika virus:** Zika infection during pregnancy increases the risk of abnormal brain development in the fetus and other birth defects in newborns. Researchers are studying how this virus affects the growth of the placenta and fetus. Their findings will aid in developing vaccines that protect against Zika infection while being safe for mothers and babies. **(Antonio Frias, M.D., Jamie Lo, M.D., Victoria Roberts, Ph.D., and Daniel Streblow, Ph.D. Labs)**
- **Understanding the effects of marijuana use on reproduction and pregnancy:** Marijuana is one of the most commonly used drugs during pregnancy, but there is a lack of guidance on

its effects for patients. Ongoing research is using advanced imaging, genetic analysis, and behavior assessments to explore how long-term marijuana use affects egg and sperm development prior to conception, as well as the impact of its use during pregnancy on the development of the placenta, fetus, and newborns. **(Kathleen Grant, Ph.D., Christopher Kroenke, Ph.D., Jamie Lo, M.D., Victoria Roberts, Ph.D., Eliot Spindel, Ph.D., Elinor Sullivan, Ph.D. Labs)**

- **Assessing the role of the vaginal microbiome in female reproductive health:** Changes in the microbial community in women's urogenital tract can cause issues such as pelvic inflammatory disease, bacterial vaginosis, susceptibility to sexually transmitted diseases, miscarriage, and preterm birth. Research at ONPRC has studied the vaginal microbiome of female rhesus macaques to better understand how a diverse microbiome influences health and if there are ways to change the microbial community for improved outcomes. **(Ov Slayden, Ph.D., Mark Slifka, Ph.D. Labs)**

**New/Recent Research Achievements:**

- **Testing gene and cell therapies to correct disease-causing mutations:** Genetic mutations cause many human diseases and disorders. Researchers use mitochondrial replacement therapy (MRT) to prevent diseases caused by faulty mitochondria in eggs. Scientists also use gene editing techniques to study how diseases like blindness and deafness develop, test possible genetic treatments, and eliminate inherited genetic defects in eggs, sperm, and embryos. **(Benjamin Bimber, Ph.D., John Brigande, Ph.D., Benjamin Burwitz, Ph.D., Jon Hennebold, Ph.D., Shoukhrat Mitalipov, Ph.D., Martha Neuringer, Ph.D. Labs)**
- **Using advanced imaging and nanoparticles to ablate endometriosis:** Endometriosis is a painful disease where tissue similar to the lining of the uterus grows outside of it, leading to infertility and severe pelvic pain. ONPRC researchers, working with Oregon State University, have created a method to not only improve the diagnosis of endometriosis, but also specifically target endometriosis sites using MRI and tiny particles called nanoparticles. This approach could help women diagnosed with endometriosis, for which only surgical interventions are available. **(Ov Slayden, Ph.D. Lab)**
- **Investigating the efficacy of emergency contraceptives:** Ulipristal acetate (UPA) is one of the most used emergency contraceptives, but its efficacy differs between human populations. Ongoing studies are determining whether differences in the metabolism of UPA in the ovary and/or genetic predisposition increases the risk for unintended pregnancy from emergency contraceptive use. **(Alison Edelman, M.D., Jon Hennebold, Ph.D., Jeffrey Jensen, M.D. Labs)**
- **Uncovering the factors contributing to aneuploidy in embryos: Chromosomal** losses and/or gains, or aneuploidy, are a major contributor to embryo loss and IVF failure. Studies continue to define the mechanisms by which aneuploidy arises or is potentially overcome with the goal of identifying non-invasive characteristics that predict embryo success versus demise. **(Shawn Chavez, Ph.D., Lucia Carbone, Ph.D., Jon Hennebold, Ph.D. Labs)**
- **Discovering the key components of amniotic fluid:** Amniotic fluid is important for fetal development during pregnancy and yet, little is known about its composition. An examination of the proteins present in amniotic fluid demonstrated that they change with gestational age and are involved in blood clotting, which may prepare the body for the demands of delivery **(Jamie Lo, M.D., Eliot Spindel, Ph.D. Labs)**

- **Elucidating how genes in the placenta influence pregnancy outcomes:** A comparison of the genes present in human versus nonhuman primate placentas revealed an over-representation of genes implicated in pregnancy-related disorders such as preeclampsia in human placentas. This may explain why women are more susceptible to pregnancy complications than other female primates and provide new targets for therapeutic intervention. **(Shawn Chavez, Ph.D., Lucia Carbone, Ph.D., Victoria Roberts, Ph.D. Labs)**
- **Determining if antibiotics protect the fetus from infection:** Recent evidence suggests that intrauterine infection during pregnancy still causes inflammation despite being undetectable in amniotic fluid. Ongoing studies are investigating whether maternal antibiotics can protect the fetus from infection during pregnancy and delay preterm birth. **(Meredith Kelleher, Ph.D. Lab)**
- **Using trophoblast organoids to model placental development:** In support of New Approach Methodologies (NAMs), researchers have optimized the collection and propagation of trophoblast organoids from placental biopsies in ongoing pregnancies. Culture of the organoids is being used to model normal placental development and assess their response to a wide variety of conditions. **(Victoria Roberts, Ph.D. Lab)**

## MISC. PROJECTS

**Past Research Achievements**

- **Using advances in gene editing to understand human disease:** ONPRC scientists are using new gene-editing techniques to learn more about why some people are more likely to get viral infections and to understand diseases such as blindness and deafness. The findings from these studies will help researchers create new treatments to cure these conditions. **(Jon Hennebold, Ph.D., Benjamin Bimber, Ph.D., Benjamin Burwitz, Ph.D., Martha Neuringer, Ph.D., John Brigande, Ph.D. Lab)**
- **Molecular Imaging Technologies:** Scientists from all ONPRC divisions are working on research that involves new "smart" imaging tools. These tools can detect the molecular and cellular processes that lead to diseases and help evaluate how well treatments are working. These new imaging tools have been used in diseases including atherosclerosis, viral infections such as HIV, neurologic diseases, placental insufficiency and heart attacks.

# Appendix E: Report to the Legislature

OHSU

# House Bill 5006
## Budget note response

January 2026

# Contents

# Executive summary

The closure of the Oregon National Primate Research Center is achievable, but would be a significant undertaking for OHSU and would require a significant amount of time and financial support to make possible.

ONPRC currently runs a deficit, which is a result of several years of rising personnel costs and relatively flat animal funding and recoveries. In FY 2026 approximately 78% of operating expenditures at the ONPRC were dedicated to clinical, colony, site, and administrative operations. Despite this deficit, OHSU certifies that no state general funds are used to backfill operations at the center. State general funds make up less than 1 percent of OHSU's more than $6 billion in annual revenue.

## Scenarios and costs

This budget note report demonstrates possible paths forward in the event a closure becomes necessary and a plan that could be put in place to achieve a desired scenario. Each of these options presents their own unique challenges and costs.

- **Immediate transition to closure** would involve sunsetting all operations and transitioning all animals to other sites. The timeline to transition directly impacts the financial investment. The ability to carry out this scenario is dependent on the ability to transition NHPs. **Estimated cost over eight years: $241m.**
- **Sustain current grants only and then move to closure** would keep primates on current research studies until the natural end date of those grants. Primates not being actively used on grants would begin transitioning out of the primate center. Once all grants have ended, move to full closure. **Estimated cost over eight years: $118m.**
- **Conversion to a sanctuary** would retain animal colony, clinical, and site management, while eliminating all research operations, either immediately or after the end date of current research studies. Conversion of an NPRC to a sanctuary would be a novel pursuit that will require additional planning. While federal funding through the P51 grant may be available to help transition, it does not currently cover the full cost of operating the ONPRC and would not in the future.[3] **Estimated cost over eight years: $220m to $291m (costs would continue beyond the eight-year period).**
- **Continuing operations** will require reducing the colony footprint to the optimal size for reduced financial investment and risk, while remaining viable as an independent animal colony. **Estimated cost over eight years: $50m to $70m.**

3 NOT-OD-25-163 grants.nih.gov/grants/guide/notice-files/NOT-OD-25-163.html

## Disposition of animals

The disposition of the animals would present unique challenges and could take more than five years. The current census for animals at the ONPRC is around 4,793. The transition of a large number of non-human primates in a closure will require distribution across many recipients (e.g. NPRCs, zoos, sanctuaries, universities, industry).

In the event of a closure, OHSU commits to engage outside organizations, which could include those proposed by the proponents of the budget note (Born Free USA and Chimpanzee Sanctuary Northwest) to validate any transition logistics.

## Staff transitions

Currently, the Oregon National Primate Research Center has about 267 full-time employees who work across a variety of departments that serve the center. Of those, about 212 are union represented.

Internal transfer options within OHSU will require more intensive engagement and would be dependent on the timing of any closure. The majority of employees at the ONPRC manage animal care and do not offer comparable transfer opportunities within the institution.

## Disposition of property

The ONPRC encompasses about 154 acres in Washington County. The National Institutes of Health has legal interest in the land and the structures. Any sale of the property or closure of the center would require negotiation with NIH on its ultimate financial interest. OHSU also owns additional parcels of land that make up West Campus that the NIH does not hold an interest in.

In order to make the West Campus property available for sale in certain closure scenarios, OHSU would have to relocate the Vaccine and Gene Therapy Institute and OHSU data center that are co-located on the ONPRC parcel. In addition, there would likely be necessary remediation of the land and deconstruction of existing facilities.

It is projected that the sale of the whole of OHSU's West Campus property would net between $28 million and $45 million.

In total, disposition of West Campus, including all three parcels of land along with the relocation of other OHSU infrastructure and remediation work, would cost between $316 million and $583 million. **This cost would be in addition to any of the closure scenarios.**

## Impacts to OHSU

Absent new investments in other scientific areas, closure of the primate center would reduce OHSU's research portfolio by over $100M annually, inclusive of current P51 and other primate direct and indirect expenditures. OHSU will need to make significant added investments into its scientific endeavors to replace this amount of the portfolio.

# Background

During the 2025 session of the Oregon Legislature, a budget note was included in House Bill 5006 tied to an appropriation of $100,000. A budget note is direction from the Legislature on how to spend a specific appropriation. This budget note directed reporting around the Oregon National Primate Research Center, a center of Oregon Health & Science University, and a potential plan for closure in the event of a 25% cut in funding from the National Institutes of Health. The budget note does not direct the closure of the ONPRC, nor does it require the closure of the ONPRC. OHSU is a public academic health center established under ORS 353.

### Budget note

The Oregon Health & Science University (OHSU) will study and review the current and future financial viability of the Oregon National Primate Research Center (ONPRC). OHSU shall complete a report and submit it to the House Emergency Management, General Government, and Veterans Committee of the Oregon State Legislature by no later than January 1, 2026. The report shall include:

- All funding sources used for ONPRC operations since 2023, and including projected funding sources through the 2027 fiscal year. (response on pgs. 12–15 of report below)
- The projected impact of funding reductions from the National Institutes of Health (NIH) and any other federal sources. (response on pg. 16 of report below)
- Confirmation that no state general funds (including direct appropriations, indirect allocations, or pass-through funds) are or will be used for any costs associated with the operation, maintenance, administration, or research activities of the ONPRC. Such costs include, but are not limited to, personnel costs, infrastructure support, utility expenses, or any institutional overhead that directly or indirectly support ONPRC activities. (response on pg. 16 of report below)
- A comprehensive plan and a proposed agreement for timely closure in the event that ONPRC experiences a reduction exceeding 25% of its total NIH grant income compared to fiscal year 2024 levels, or if state general funds (including direct appropriations, indirect allocations, or pass-through funds) are needed to be used for any costs associated with the operation, maintenance, administration, or research activities of the ONPRC. Such costs include, but are not limited to, personnel costs, infrastructure support, utility expenses, or any institutional overhead that directly or indirectly support ONPRC activities. (reponse on pgs. 19–36 of report below)

The plan for closure shall include:

- A detailed timeline for closure. (response on pgs. 25–32 of report below)
- Disposition of animals. (response on pg. 33 of report below)
- Staff transition and retraining planning. (response on pg. 34 of report below)
- Reallocation or repurposing of state-supported infrastructure. (response on pg. 35 of report below)
- Potential impacts to university operations and mitigation plans. (response on pg. 36 of report below)

## How OHSU developed the budget note report

OHSU began a review of the operations of the ONPRC in early 2025. The goal of this review was to achieve financial sustainability for the ONPRC to continue research at the ONPRC in order to continue.

OHSU retained Huron Consulting Group, a national expert in the operations of national primate research centers to help develop the budget note report. Huron undertook that work. To inform the budget note, Huron conducted an operational and financial review of the ONPRC. Huron conducted a detailed review of operations, payroll, and grant financial data to identify historical trends and the future drivers of expenditure and cost recovery. They interviewed ONPRC and other OHSU leaders to understand current operations, future operating plans, and to better understand the potential impact of proposed alternative scenarios. Huron additionally provided insights into future closure scenarios based on direct experience with closure and turnaround projects at other primate research operations. Outcomes of their work included financial projections for future operating scenarios and planning considerations in the case of closure.

# Overview

The Oregon National Primate Research Center (ONPRC) is one of seven national primate research centers currently operating in the United States. ONPRC was formally dedicated in 1962 as part of the Regional Primate Research Centers Program established by Congress in 1959. The ONPRC merged with OHSU in 1998, becoming an institute of OHSU.

The ONPRC is located on approximately 154 acres in Washington County, about 20 minutes west of downtown Portland on OHSU's West Campus. In addition to the ONPRC, the Vaccine and Gene Therapy Institute (VGTI) and OHSU's data center are co-located on OHSU's West Campus. In total, OHSU's West Campus comprises 217 acres.

ONPRC operations, core facilities, animal colonies, research and scientific leadership have been continuously supported by the National Institutes of Health (NIH) for the past 65 years. Scientific projects conducted at ONPRC are predominantly supported by research grants from the NIH and other government agencies, private philanthropy and corporations. ONPRC has five research divisions:

- Genetics Division
- Metabolic Health & Disease Division
- Neuroscience Division
- Pathobiology & Immunology Division
- Reproductive & Developmental Sciences Division

Currently, there are 561 employees on OHSU's west campus, including:

- 73 faculty members
- 38 postdocs and students
- 187 AFSCME-represented members of Research Workers Union
- 181 animal care team members represented by AFSCME 328
- 82 unclassified administrative staff

Of those employees, 267 are assigned to the ONPRC.

## FY25 ONPRC Income Statement

OHSU has an overhead and cost methodology that allocates indirect costs on a consistent basis across all revenue producing units of OHSU, generally using standard cost accounting metrics such as allocating costs by dollars, square feet and FTEs.

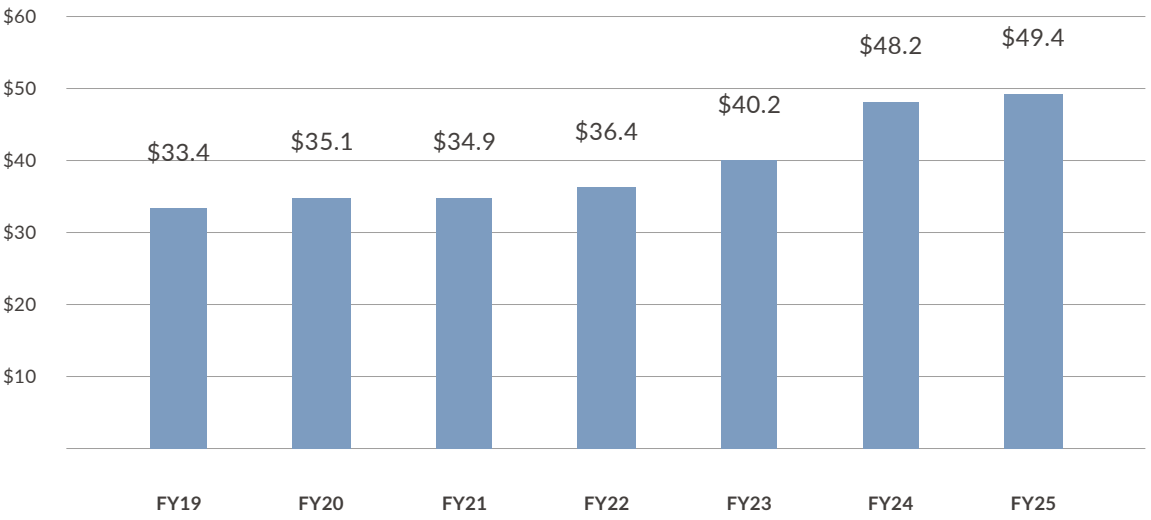
**FY25 ONPRC Income Statement** (thousands)

| | |
|---|---|
| Grants and contracts | $65,445 |
| Gifts applied to operations | $363 |
| Other revenues | $185 |
| Research support from hospital revenues | $1,935 |
| FY25 operating revenues | $67,928 |
| Faculty and manager salaries | $24,170 |
| All other salaries (represented staff) | $12,816 |
| Employee benefits | $12,396 |
| Total salaries and benefits | $49,382 |
| Supplies and services | $19,936 |
| Allocated overhead costs, net | $10,787 |
| FY25 operating expenses | $80,105 |
| FY25 operating income (loss) | $(12,177) |

Note that grant receivables of $9,070k from FY21 through FY24 were also written off during FY25.

Total salaries and benefits at ONPRC rose 36% between FY22 and FY25 as OHSU increased pay for front-line staff. At the same time, the federal P51 core grant — the major source of infrastructure funding for the Primate Center — remained flat.

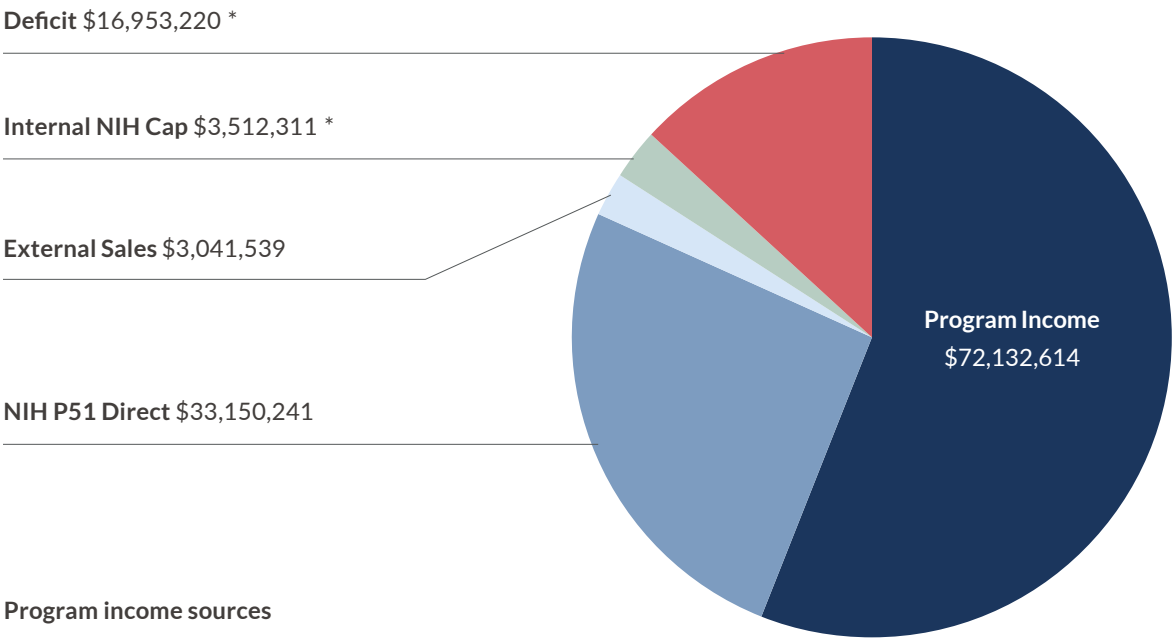
**ONPRC salaries and benefits** (millions)



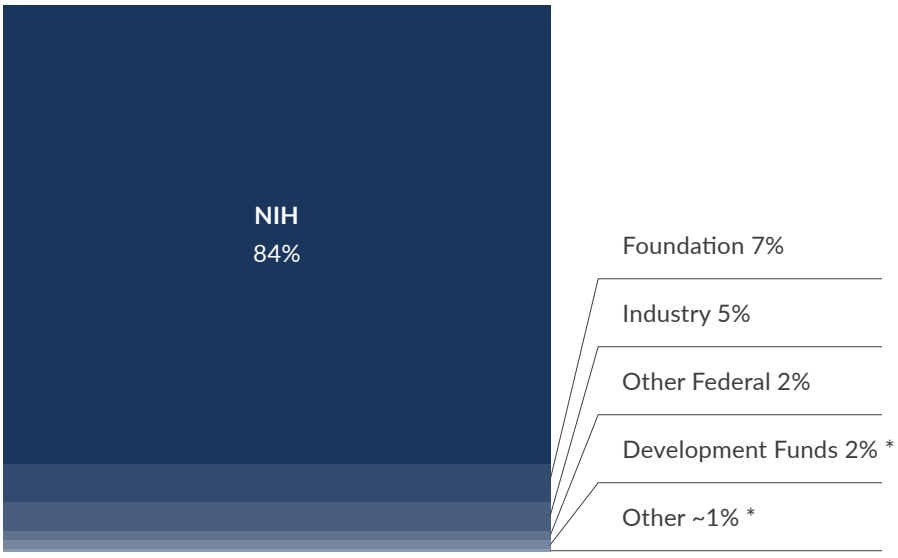
## All funding sources used for ONPRC operations since 2023, and including projected funding sources through the 2027 fiscal year

### Funding sources, FY23–FY25 (3 years total)

ONPRC is funded primarily through external sources. Funding for deficits, federal compliance restrictions, and some development funds may be provided from internal, non-state sources.

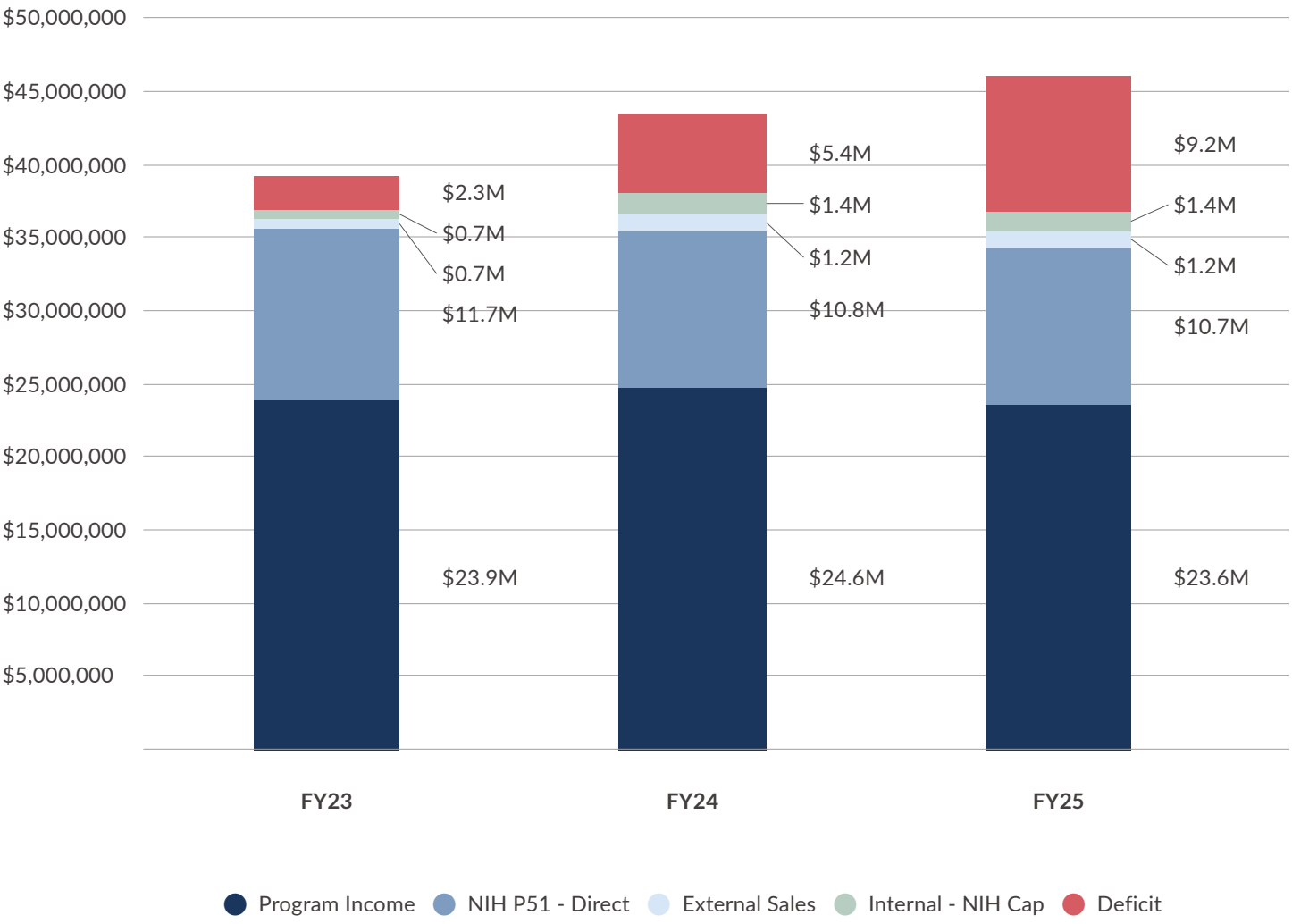



**Program income sources**



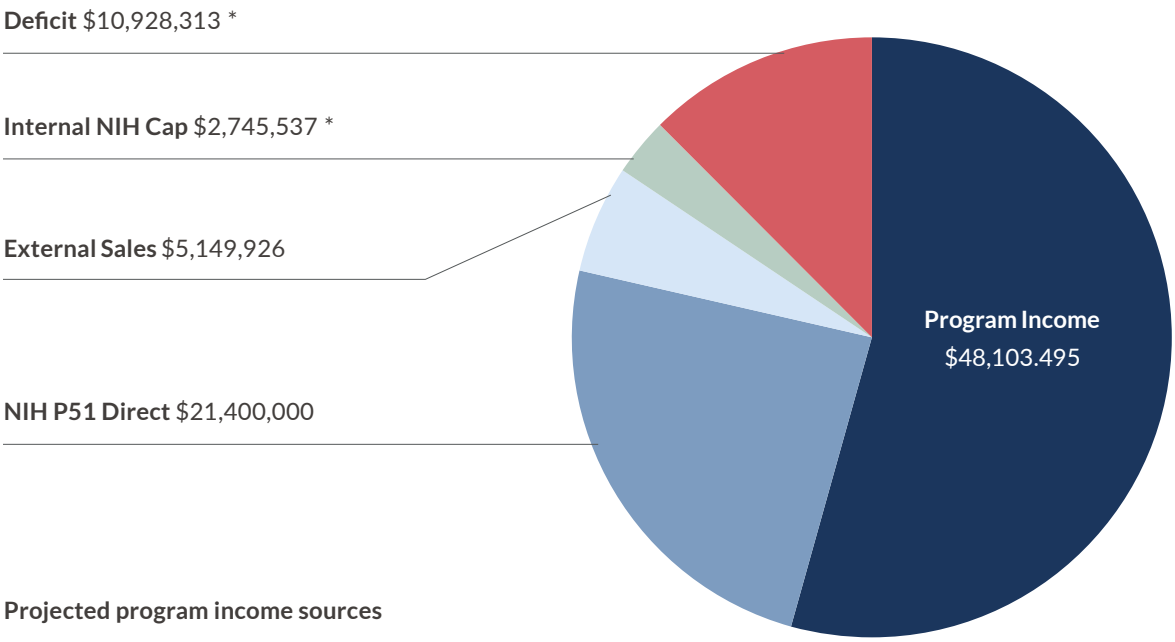

* Denotes funds provided from internal, non-state sources

## Funding sources, FY23–FY25

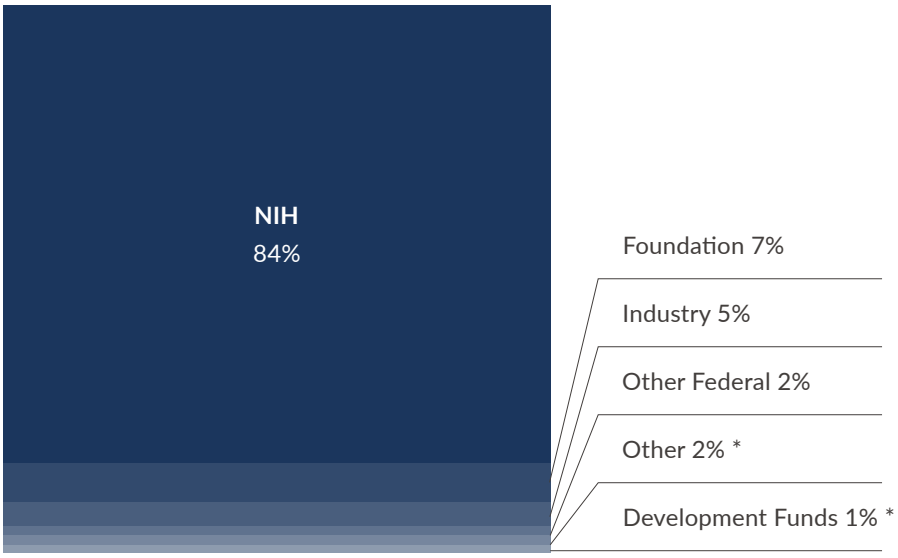


## Projected funding sources, FY26–FY27 (2 years total)

For FY26–FY27, federal money continues to be budgeted as the primary source of future funding. Funding for deficits, federal compliance restrictions, and some development funds may continue to be provided from internal, non-state sources. These are only projections and could change depending on a variety of unforeseen factors.

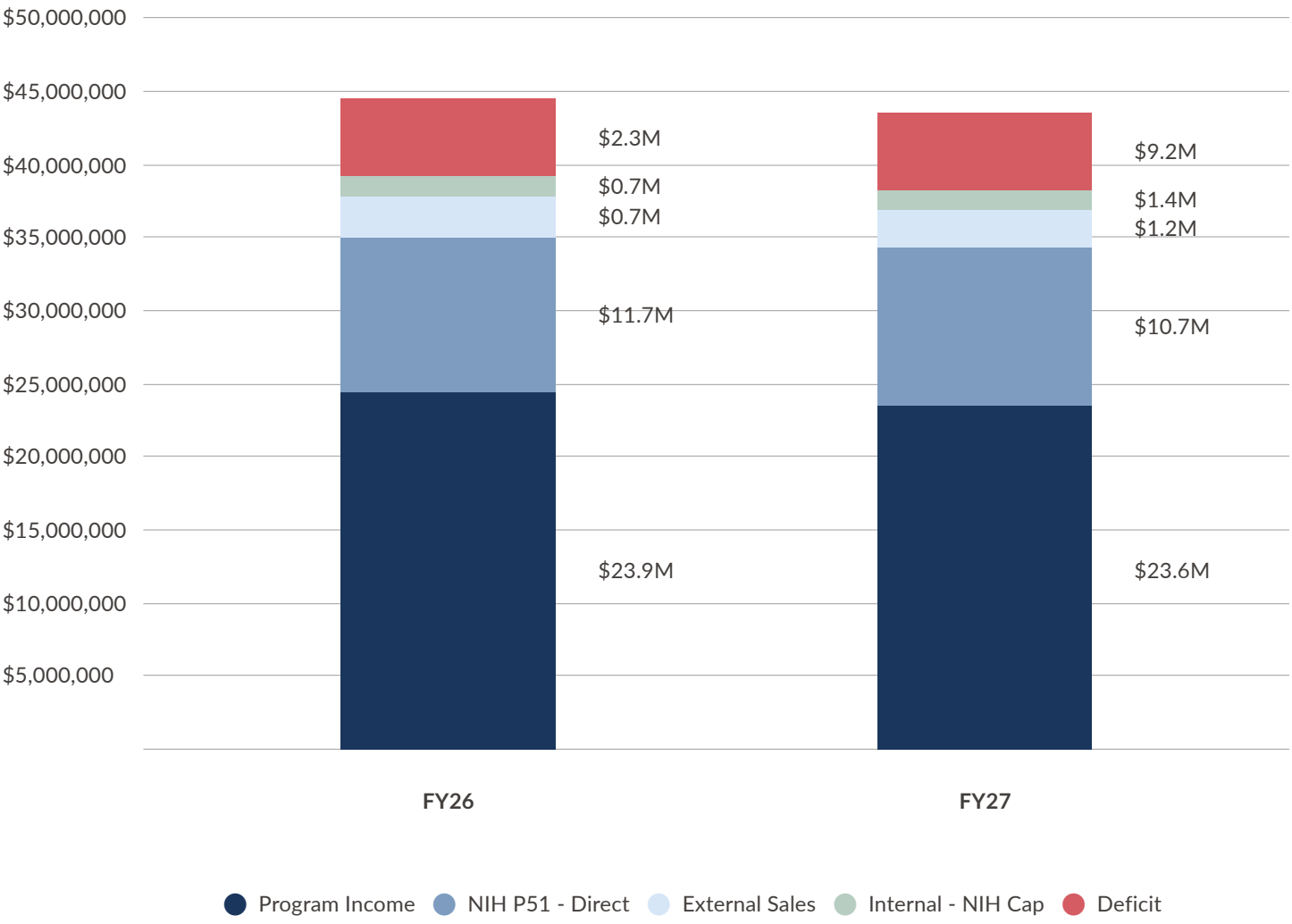



**Projected program income sources**




* Denotes funds provided from internal, non-state sources

Projected funding sources, FY26–FY27



## The projected impact of funding reductions from the National Institutes of Health (NIH) and any other federal sources

OHSU is in close contact with the National Institutes of Health and will report any significant changes to funding to the ONPRC to the Oregon Legislature.

Federal funding will remain the primary source of funds for ONPRC.

## Confirmation of No State General Funds Use

As negotiated with the proponents of the budget note and is commonly understood under Oregon state law and in the legislative budget making process, "state general funds" are the unrestricted dollars the Oregon Legislature has to allocate during a budget cycle. Oregon's Chief Financial Officer defines "State General Funds" as:

> *Money available for the state budget that is not dedicated to a specific agency or purpose and that can be used for general purposes of state government. Most General Fund money in Oregon derives from personal and corporate income taxes. Some revenue from liquor, cigarettes, and other sources go into the General Fund.*[1]

In the 2025–27 Legislatively Approved Budget, general funds accounted for about 11.7% of $37.7 billion dollars of the total $138.9 billion state budget.[2]

Using the above definition, which is also the negotiated agreement of the meaning of those funds for the purpose of this budget note, OHSU receives an annual State General Fund appropriation from the Oregon Legislature. **These vital resources for OHSU's education mission make up less than 1% of OHSU's overall annual revenue.** Specifically, state general fund dollars go to the schools of medicine, dentistry and nursing, the Area Health Education Center and Office for Rural Health and OHSU 30-30-30. In addition, they support programs including the Child Development and Rehabilitation Center, Oregon Poison Center, Children's Integrated Health Database, the Statewide Behavioral Health Capacity Dashboard and Oregon Perinatal Collaborative. OHSU also receives state general funds through the Oregon Health Authority to support Graduate Medical Education across the state.

1 www.oregon.gov/das/Financial/Documents/Budget-Glossary.pdf

2 www.oregonlegislature.gov/lfo/Documents/2025-2 LAB Summary 2025-27.pdf

**2025–27 Legislatively Approved Budget**

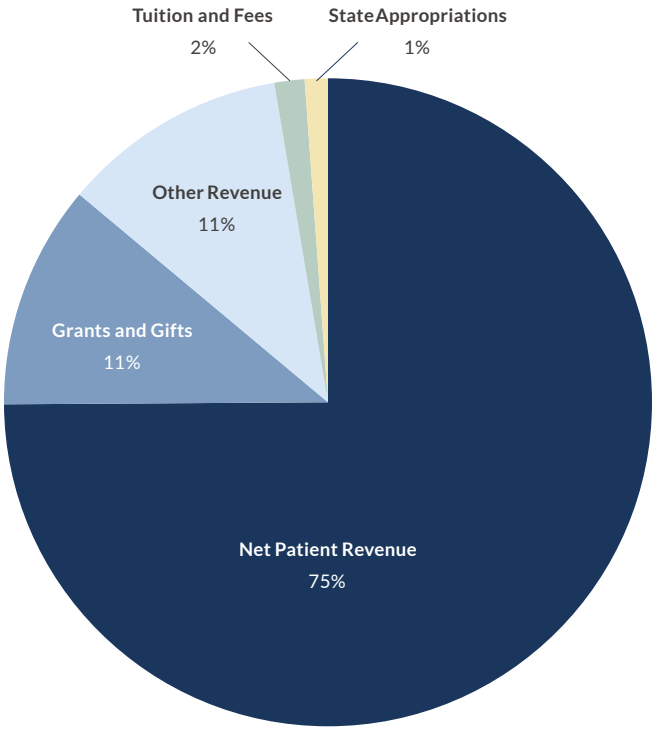
| | |
|---|---|
| Education and General | $125,359,752 |
| School of Medicine | $32,355,546 |
| School of Nursing | $27,981,933 |
| School of Dentistry | $13,113,519 |
| Area Health Education Center and Office for Rural Health | $5,732,885 |
| OHSU 30-30-30 | $46,175,870 |
| Child Development and Rehabilitation Center | $10,403,097 |
| Oregon Poison Center | $4,291,994 |
| Children's Integrated Health Database | $2,140,000 |
| Statewide Behavioral Health Capacity Dashboard | $4,280,000 |
| Oregon Perinatal Collaborative | $500,000 |
| **Total** | **$146,974,843** |

OHSU confirms that no state general funds (including via direct appropriations, indirect allocations, or pass-through funds) are or will be used for any costs associated with the operation, maintenance, administration, or research activities of ONPRC. Such costs include, but are not limited to, personnel costs, infrastructure support, utility expenses, or any institutional overhead that directly or indirectly support ONPRC activities.

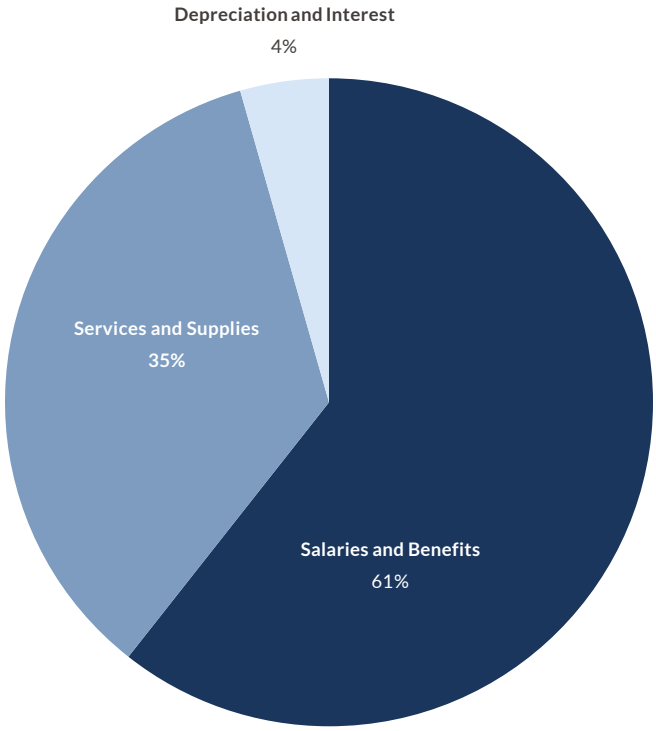
## OHSU's overall budget and revenue

OHSU's board of directors approved an annual budget for the current fiscal year totaling $6.194 billion with $6.149 billion in operating revenue. This budget includes the $147 million general fund allocation from the state of Oregon.

### Operating Revenues
$6.15 Billion




### Operating Expenses
$6.19 Billion




Any revenue to support budget shortfalls at the ONPRC comes from the roughly $6 billion in non-state general fund revenue at OHSU.

# Possible plan and timeline for ONPRC closure

Huron Consulting Group developed four scenarios to explore potential future plans for ONPRC, encompassing options for immediate transition to closure, phased closure, conversion to sanctuary, and continued operations. The purpose of developing these scenarios was to identify expected funding and operating requirements, and to determine estimated financial impacts over a comparable timeline.

## Scenario projections

Huron projected the costs of each scenario based on expected expenditures and revenues, and the costs of executing future plans.

| Scenario | Investment required (8-year period) | |
|---|---|---|
| ❶ **Immediate closure** | ~$241 million | Immediate transition to closure would involve sunsetting all operations and transitioning all animals to other sites. Accomplishing this timeline requirement would require significant investments by OHSU and would be dependent on identifying willing recipients with sufficient infrastructure to accommodate. |
| ❷ **Sustain current grants only** | ~$118 million | Sustain current grants only and then move to closure would keep primates on current research studies until the natural end date of those grants. Primates not being actively used on grants would begin transitioning out of the primate center. Once all grants have ended, the Center would then transition to full closure. |
| ❸ **Sustain current grants and convert to sanctuary** | ~$220–291 million | Conversion to a sanctuary would retain animal colony, clinical, and site management, while eliminating all research operations. Conversion of an NPRC to a sanctuary would be a novel pursuit which would require additional planning. |
| ❹ **Continued operations** | ~$50 million (70% closure)–$71 million (20% closure) | Continuing operations would require reducing the colony footprint to the optimal size for reduced financial investment and risk, while remaining viable as an NIH-funded NPRC. |

To assess each of the scenarios and develop an associated cost estimate, a series of assumptions were made to assess future state. Those assumptions were:

- 3% inflation on expenses (salaries and benefits).
- F&A rates remain at current rates, 75.5%.
- NIH P51 funding is used in support of both ongoing operating expenditures and planned transition costs, except in an immediate transition to sanctuary or immediate closure. Projections do not assume future renewal of P51 funding in sanctuary or closure scenarios.
- P51 funding through the current award term (4 Years) is included in the current projections for continuation, closure, and sanctuary scenarios. Closure and sanctuary scenarios, projections do not assume P51 funding for future competitive cycles beyond 4 Years.
- Implementation of near-term changes identified by the Center (e.g., 10% rate increases, specific faculty retirements, sunset of selected cores, select reduced payroll allocations)
- Certain costs are variable with colony size, facility footprint, and scientific volume. Other costs will be fixed and require adjustments reasonable for new operational size.
- Relevant facilities will be decommissioned in closure scenarios.
- Rhesus macaques will be sold if possible. Species other than rhesus macaques will be donated, at a cost to OHSU. The donation assumption reflects the historical difficulty of placing other species to new external recipients for either research or non-research purposes. For example, ONPRC has been pursuing opportunities to transition the colony of Japanese macaques for nearly a decade.
- Decrease in research volume in the years leading up to close for anticipated closure options
- One-time costs will apply across scenarios as applicable (e.g., severance and PTO payout for personnel departures).

Not included in the assumptions but potentially impactful to any scenario are:

- Union requirements outside of policies for PTO payout and severance.
- Operational or financial data after the project start date of FY2025.
- Targeted reductions in specific scientific divisions, outside of identified retirements.
- Costs for the disposition of the land and the relocation of the data center and VGTI.

## Scenarios

### 1 Immediate transition to closure

The immediate closure scenario assumes an immediate end to primate research at ONPRC. A primary objective in the immediate closure scenario would be to transition the animals to other sites on an accelerated timeline. Huron's projection assumes a two-year timeframe, which is significantly aggressive, and would be subject to adjustment based on further engagement with external recipients.

To meet the most accelerated timeframe, the projection assumes that ONPRC would donate the entire colony to external recipients. It also assumes:

- NIH P51 funding would end immediately, coinciding with the stoppage of research activities
- Payback of NIH-funded capital investments
- Retaining the West Campus site
- Remaining facilities are physical plant and non-ONPRC buildings

### 2 Sustain current grants only and then move to closure

The primary closure scenario will allow continuing operations for a transition term, followed by full closure of ONPRC. During the transition term existing research would be allowed to finish through natural endpoints, and the entire colony would be transferred to external recipients. The projection for this scenario assumes that the full transition from the initial decision to completed research and full colony transfer will require 4–5 years. After the transfer of the animals, the project assumes a post-closure stabilization of 1 year for site decommissioning, remaining staff transition, and project management.

Due to a longer period of time to transition the animals, the projection assumes that some of the rhesus macaque colony may be sold to external recipients for research purposes.

The scenario projection also assumes:

- End of P51 funding after the current competitive segment, year 4 of the projection. Based on existing awards terms, the majority of research will be completed by year 4.
- Payback of NIH-funded capital investments
- Retaining the West Campus site
- Remaining facilities are physical plant and non-ONPRC buildings

### 3 Sustain current grants and convert to a sanctuary

Conversion of an NPRC to a sanctuary site would be unprecedented and would be a significantly complex undertaking. Current sanctuary expenditure projections are based on the feasibility of transitioning existing ONPRC operations to meet the needs of a future sanctuary, i.e., retaining clinical and colony operations, administrative management of the campus, and phasing out scientific expenditures. In Award Year 65, approximately 78% of operating expenditures were dedicated to clinical, colony, site, and administrative operations. As a result, conversion to a sanctuary is not expected to significantly reduce the current overall operating costs of ONPRC.

Planning for a sanctuary would need to include additional design and validation logistics. Future planning would include developing a design that utilizes the existing operations (site, facilities, equipment, personnel), closing or converting specific components of current operations that may not be needed for a sanctuary, and building infrastructure where gaps may still exist to meet sanctuary requirements. In the event of a conversion to a sanctuary, OHSU would engage other sanctuaries across the country to validate the significant amount of work that would be needed to be undertaken.

A recent change to the allowable uses of the NIH's P51 grant will allow support of sanctuary transition expenditures. However, the current ONPRC deficit and projected diminishing recoveries will require that P51 funding be used for its primary purpose, funding of the Center, rather than to support new transition costs. Projections also assume that ongoing P51 funding support will be dependent on the ongoing pursuit of the established programmatic goals of the award.

The timeline and assumptions for the conversion of ONPRC to a sanctuary will depend on decisions regarding the completion of existing research. If existing research is allowed to continue through the established award terms, there will be a longer transition period to sanctuary. During the completion of existing research, projections assume that P51 funding will continue through the next competitive cycle. Animals may be donated or sold during this transition period. During this period, other research funding will continue to support ongoing research while the center transitions a portion of the colony to other facilities.

If existing research is not allowed to continue, scenario projections assume that P51 funding will end immediately. Any animal reductions in the colony will be dependent on donations only.

Other assumptions for the sanctuary scenario include:

- NPRC will seek a 20% decrease in the colony through a combination of animal use and donation.
- The West Campus site would be retained. Only buildings with a scientific focus will be decommissioned.
- The Center would incur one-time costs in the transition to a sanctuary, including facility conversion and HR transition costs.

## 4 Continuing operations

The scenario to continue operations assumes that the ONPRC would reduce the animal colony to the size to optimally meet current and future research demands. Research would continue in this scenario, although may be reduced based on the targeted colony size through sales and donations. This period of reduction would require a multi-year transition period, where the primary activity would require sale or donation of animals to external sites.

Projections for this scenario are further modeled on two sub-options, a modest reduction of 20% of the starting animal colony and a more significant reduction of 70% of the starting colony. In the modest (20%) reduction scenario, the projection assumes that rhesus macaques may be sold at their current market rates over 3-year period to reach the target colony size. In the more significant (70%) reduction scenario, rhesus macaques may be sold at a modest discount over a 5-year period to reach the target colony size.

Other assumptions for continuing operations, regardless of target colony size, include:

- Continuation of the NIH P51 funding
- Reduction of research to align with target colony size
- Reduction of facilities to match the new operating size

## A detailed timeline for closure

An exact timeline and plan for closure of the ONPRC would be wholly contingent on a number of factors including, but not limited to, the circumstances under which a closure is occurring, what federal funding may be made available in a closure, what state funding may be available in a closure, and which closure scenario is pursued. For the purposes of planning for how a closure could occur, the timeline spans five years of active closure, followed by post-closure activities. That timeline could be longer or shorter depending on the facts and circumstances that arise.

### Plan and timeline for closure

Closure would occur in three primary phases. Specific timing will depend on Phase 1 planning.

| | Phase 1<br>**Planning**<br>YEAR 1 | Phase 2<br>**Execution**<br>YEARS 2–5 | Phase 3<br>**Closeout**<br>YEAR 5+ |
|---|---|---|---|
| **Program Management** | Establish teams and workplans | Ongoing management | Finalize program and closeout |
| **Animals** | Evaluate viability and create plan | Transition animals | |
| **Grants/Science** | Timing needs for science, NIH planning | Finish science, transition researchers, assets | |
| **Human Resources** | Leadership coordination, phasing plan | Retention programs, phased transition | |
| **Facilities/Site** | Site and facilities disposition plan | Transition buildings/ equipment | TBD — Transition VGTI, Data Center, prep site, as needed |
| **Administration** | Inventory records, knowledge transfer plan | Record disposition and retention, IT closeout | |

Any plan for closure would involve the close engagement of staff from across OHSU and experts from outside OHSU, as the impacts will touch every portion of the university. In considering a plan for closure, workstreams would be established to be staffed by key experts and staff to do detailed planning and evaluation of each workstream area. Each of these will be vital in assessing how to orderly and efficiently wind down operations. Those include:

| | |
|---|---|
| **Program Management**, which will coordinate workstreams and report to OHSU leadership. | **Human Resources**, which will create and execute on a phasing plan while managing retention. |
| **Animals**, which will oversee the care and transfer of animals in preparation of closure. | **Facilities/Site**, which will consider the final disposition of facilities, equipment and the site. |
| **Grants/Science**, which will coordinate transition of researchers and scientific researchers. | **Administration**, which will emphasize knowledge and IT transfer activities. |

## Program Management

The Program Management workstream will coordinate workstreams and report to leadership.

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Years 5+ |
|---|---|---|---|---|---|
| Establish teams and governance | | | | | |
| Establish workstreams | | | | | |
| Set key milestones for overall plan | | | | | |
| Develop budget | | | | | |
| | Weekly engagement and management | | | | |
| | Quarterly budget review and adjustment | | | | |
| | | | | | Final budget and reconciliation |
| | | | | | Close workstreams |
| | | | | | Project capstone |

## Animals

The Animals workstream will set and execute on timing for the overall closure plan.

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Years 5+ |
|---|---|---|---|---|---|
| Establish viable transfer options — assess, engage, inform timeline options | | | | | |
| Develop a phase out plan based on options | | | | | |
| | Continued external outreach for ongoing placement | | | | |
| | Manage individual deals, transition animals | | | | |
| | Identify and coordinate on special needs | | | | |
| | Close small animal operations | | | | |
| | Close and decommission animal space | | | | |

## Grants/Science

Grants/Science workstream will coordinate transition of researchers and scientific resources.

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Years 5+ |
|---|---|---|---|---|---|
| Engage divisions to understand timing needs, retention needs | Manage faculty transitions, partner with HR | | | | |
| Engage with NIH to confirm payback arrangements | | | | | |
| Identify scientific assets to transfer, e.g., tissue banks, databases | | | Transition scientific materials | | |
| Develop a phase out plan with Center and Division leadership | Identify study and grant endpoints, animal needs | | | | |
| | Sunset cores | | | | |
| | | | Close out base grant | | |
| | Close out awards, studies | | | | |
| | | | Memorialize achievements | | |
| | | | Science complete | | |

## Human Resources

HR workstream will create and execute on a phasing plan, while managing retention.

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Years 5+ |
|---|---|---|---|---|---|
| Assign and HR partner and team | | | | | |
| Initiate planning with unions, division and Center leadership | | | | | |
| Evaluate union requirements, retention needs, transfer opportunities | Continued external outreach for ongoing placement | | | | |
| Develop phasing plan for staff | Execute transition plan | | | | |
| | Identify and address vulnerabilities | | | | |
| | Conduct retention programs, issue retention bonuses | | | | |
| | Oversee internal and external placement | | | | |
| | Manage well-being programs | | | | |
| | Transition staff until stable state | | | | |

## Facilities/Site

Facilities/Site workstream will determine the final state of equipment, facilities and site.

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Years 5+ |
|---|---|---|---|---|---|
| Conduct physical asset inventory / confirm current records | | | | | |
| Prioritize near term space consolidation options | | | | | |
| Evaluate decommission, demolition, transition needs | Prepare site, buildings, capital assets for final intended state | | | | Prepare site for final intended state |
| Develop phasing plan for facilities/site | Transfer physical equipment to end state | | | | |
| | Develop hazardous waste disposal plan | | | | |
| | | | | | Develop site coverage plan |
| | | | | | Transition VGTI/Data Center as needed |
| | | | | | Transition staff until stable state |

## Administration

Administration workstream will emphasize knowledge and IT transfer activities.

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Years 5+ |
|---|---|---|---|---|---|
| Conduct high level inventory of records to inform plan | | | | | |
| Create high level plan, emphasis on near term needs | Coordinate with researchers to retain necessary records | | | | |
| | | | Expanded Inventory | | |
| | | | Detailed plan | Execute plan | |
| | | Finalize P51 records | | | |
| | Sunset cores | | | | |
| | | | | | IT Equipment Transfer |
| | | | | | Transition of records, administrative personnel |

## Disposition of animals

The current census for animals at the ONPRC is around 4,793. The transition of a large number of non-human primates in a closure will require distribution across many recipients. Reduced capacity for non-human primates in existing sanctuaries and NPRCs could challenge the ability to reduce the colony within the four-to-five-year timeframe considered in closure scenarios and could push closure and cost out beyond that timeframe.

Limits on external placement would significantly impact timeframe and costs, e.g., a limit of 480 per year (4x sales volume of AY 65) would extend closure to a 10-year period.

Current projections assume that a higher volume of animals could be possible by engaging industry and other recipients in addition to sanctuaries and NPRCs. These volumes may additionally require lower sales prices or donations to accomplish.

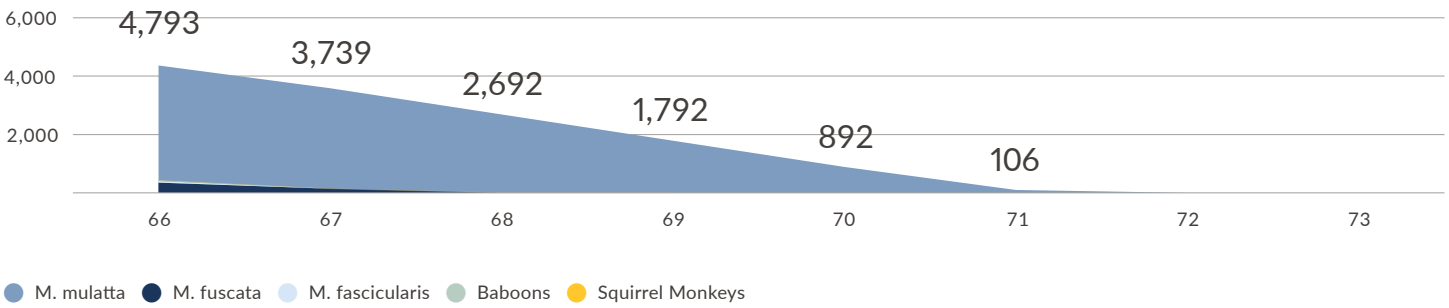
### Considerations for NHP transition

Transition of a large number of NHPs in a closure (see below) will require distribution across many recipients which will require significant time and ongoing engagement.

| Destination | Risks |
|---|---|
| NPRCs | Optimal destination based on P51 requirements, limited capacity exists requiring time and investment to place animals. |
| Universities | Placement for rhesus macaques possible at limited volumes. |
| Zoos | Placement for Japanese macaques and species with less research application, but very limited volumes. |
| Sanctuaries | Placement for larger volumes. May require significant investment. |
| Industry | P51 restrictions on transition, pending no other recipients. Rhesus macaques are less utilized in pharma. |

### NHP census projection in closure

In the event of the forced closure or reduction scenario, OHSU would engage outside organizations, which could include those proposed by the proponents of the budget note (Born Free USA and Chimpanzee Sanctuary Northwest) to validate any transition logistics.



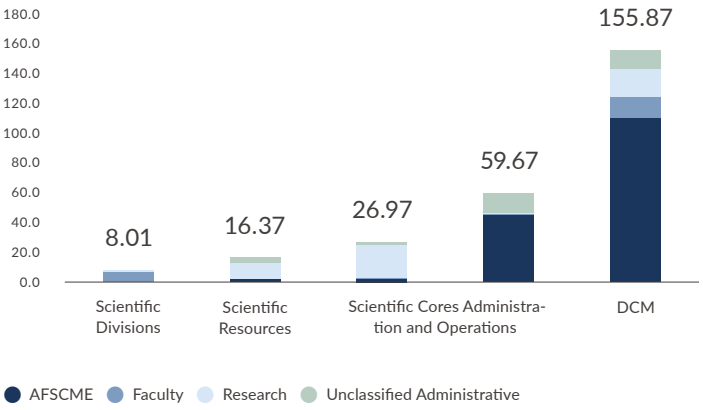
## Staff transition and retraining planning

Currently, the Oregon National Primate Research Center has about 267 full-time employees who work across a variety of departments that serve the center. Of those, about 212 are members of AFSCME 328 or the Research Workers Union, which is an AFSCME affiliate.

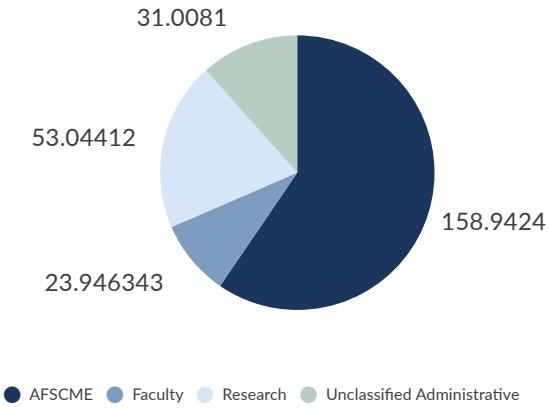
Internal transfer options within OHSU will require more intensive engagement and would be dependent on the timing of any closure. The majority of employees at the ONPRC are in the Division of Comparative Medicine, which largely manages animal care at the ONPRC. Those positions require highly specialized skills that are less aligned with other OHSU operations and do not offer comparable transfer opportunities within the institution.

A large percentage of the current workforce is affiliated with AFSCME, and workforce reductions or transfers would require much more additional planning and discussion, in alignment with labor contract terms. Depending on what closure scenario were to be made, key personnel would need to be identified for continued operations in the short and long term.

**Total FTEs by Component AY66**




**Total FTEs by Classification AY66**



## Reallocation or repurposing of state supported infrastructure

OHSU's West Campus is home to multiple OHSU facilities, including the ONPRC. Disposition of the property would not be required in any of the scenarios, especially in the event the ONPRC became a sanctuary. In the event the disposition of the property becomes necessary, relocating OHSU West Campus operations to other locations would require significant financial investment, projected at approximately $316 million to $583 million. **Note that a sale of the approximate 154-acre ONPRC property will not provide material net proceeds to fund ONPRC closure costs.**

### Site disposition considerations

Sale of the West Campus site would not fund closure efforts. Disposition of the site would require significant investment after payback of interest on NIH purchased assets, site decommissioning, and relocation of non-ONPRC operations.

| | | | | Projected Investment |
|---|---|---|---|---|
| **Capital equipment** | $5.3M net book value of grant-purchased assets — Yr 65 | NIH payback. Depreciates to $0.23M by Year 72 | **$0.2M** |
| **Buildings and improvements** | Costs to move and rebuild non-ONPRC operations | Costs to relocate Data Center, Jay Nelson Building, NIH payback for remaining interest | **$343M–$629M** |
| **Site** | Estimated sale amount of West Campus | Projected sale price less building decommissioning and site preparation costs | **$(28M)–$(45M)** |
| | | | **$316M–$583M** |

Considerations for the disposition of the ONPRC property that is part of OHSU's West Campus, includes interest the National Institutes of Health maintains on the property and buildings that were partially or fully funded by the NIH. In addition, other OHSU facilities are co-located on the ONPRC property, including OHSU's data center and the Vaccine and Gene Therapy Institute (VGTI), housed in the Jay Nelson building. Relocating both the data center and VGTI would cost between $343 million and $629 million (the cost estimate is the cost to replace the existing Jay Nelson building on the ONPRC campus and data center facilities), depending on the scope and scale of those projects.

NIH interest in the existing ONPRC property would be the subject of negotiation and the amount could vary, depending on the claim the NIH wished to make on the property. For the purposes of this analysis, we assume that the NIH might claim up to $16 million, which is about 50% of an assumed $33 million median-value of the ONPRC property.

The sale of the ONPRC property also assumes cost of site cleaning and building decommissioning on campus. These projections include the sale of three parcels of land, including parcels that do not have a federal interest. It is projected that the sale of the whole of OHSU's West Campus property would net between $28 million and $45 million.

In total, disposition of the entirety of OHSU's West Campus property, including the 154-acre ONPRC, assuming the sale of the property along with the relocation of other OHSU infrastructure, would cost between $316 million and $583 million. **This cost would be in addition to the cost projections for any of the closure scenarios.**

## Potential impacts to university operations and mitigation plans

The timelines, plans and strategies contained within this budget note report provide the steps that would be undertaken in the event a closure of the ONPRC becomes necessary. This report outlines how OHSU would seek to minimize to the greatest extent possible impacts to the broader institution, its workforce and the animals at the ONPRC. A number of factors would need to solidify in order to add additional detail and steps, including the circumstances of the closure, the scenario identified for closure, and availability of existing and new resources to OHSU to close the ONPRC.

One of the most significant potential impacts to OHSU through closure of the ONPRC, absent new investments in other scientific areas, would be an estimated reduction in OHSU's research portfolio by over $100m annually, inclusive of current P51 and other primate direct and indirect expenditures. OHSU will need to make significant added investments into its scientific endeavors to replace this amount of the research portfolio.

OHSU would work with the National Institutes of Health to identify other opportunities to invest in research to support the institution's research mission.

# Proposed agreement

A number of material issues, uncertain at this time, would need to be determined and resolved satisfactorily before terms of an agreement between OHSU and the State of Oregon (the "State") can be negotiated.

Resolution of such issues would allow OHSU to determine:

- Which scenario for closure or operations reduction of the ONPRC (the "Selected Closure Scenario") could apply,
- The projected timeline (the "Projected Closure Timeline") for the Selected Closure Scenario, and
- The federal and state funding amounts OHSU would need to receive in order to pursue the Selected Closure Scenario (the "Closure Funding").

Assuming the issues are resolved satisfactorily, such agreement between OHSU and the State could include terms and conditions covering, among other things:

1. OHSU intent that if the subject conditions precedent are met, to pursue the Selected Closure Scenario chosen by OHSU and the Proposed Closure Timeline, as set forth in exhibits to be attached to the agreement.
2. Conditions precedent to OHSU's obligations to pursue the Selected Closure Scenario could include:
    - (i) A reduction exceeding 25% of the total NIH grant income received by the ONPRC compared to the total NIH grant income received by the ONPRC for fiscal year 2024 provided that the ONPRC is not expected to have revenue sources from private industry or others available to replace NIH grant income, or (ii) if state general funds are needed to be used for any costs associated with the operation, maintenance, administration, or research activities of the ONPRC .
    - Receipt by OHSU of governmental and third-party approvals, consents, waivers and other actions, with acceptable terms, necessary to pursue the Selected Closure Scenario and the placement and care of NHPs under such scenario, including (i) approvals from NIH and the Institutional Animal Care and Use Committee (IACUC), and (ii) any amendment to Oregon laws, rules and regulations required to allow OHSU (or applicable other party) to operate a NHP sanctuary at the OHSU West Campus property.
    - No violation of law, rule or regulation shall arise from pursuing the Selected Closure Scenario, including assurance that the Selected Closure Scenario will be compliant with OHSU's obligations under the Animal Welfare Act.
    - No breach of any agreement affecting ONPRC's operations shall arise from pursuing the Selected Closure Scenario.
    - Receipt by OHSU of appropriate measures to reduce the impact on affected OHSU and ONPRC learners and programs.
    - Receipt by OHSU of an acceptable plan to limit impacts to represented OHSU/ONPRC employees (with appropriate funding of such plan included in the Closure Funding).
    - Confirmation that the Closure Funding will be available to OHSU.
    - Receipt by OHSU of appropriate indemnity and hold harmless assurances (i) for complying with the agreement and (ii) from claims of breach of contract with respect to any ONPRC research grant or contract.
    - Review and approval by the OHSU Board of Directors of the Selected Closure Scenario, the Proposed Closure Timeline, the Closing Funding, and the terms of agreement.

3. Termination Rights could include:
    - OHSU's right to terminate the agreement if it appears that the entire Closure Funding will not be available to OHSU.
4. Other terms and conditions mutually agreed to by OHSU and the State.

The above is not a contract or binding obligation, but rather a description of items that could be addressed in a mutually acceptable definitive agreement negotiated and executed between OHSU and the State.


OHSU