

Opportunities and Challenges in Use of Nonhuman Primates in NIH-Sponsored Biomedical Research

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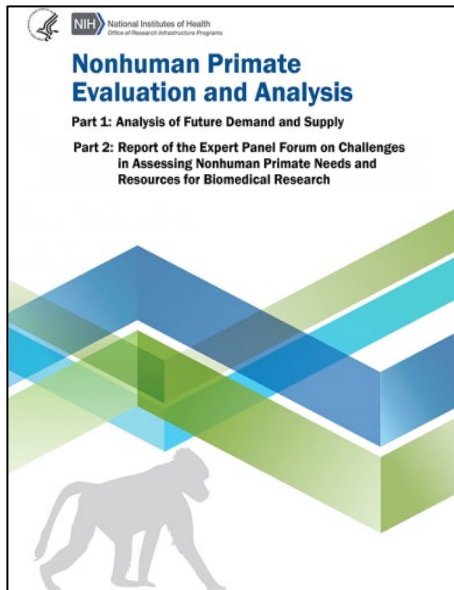
National Institutes of Health

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NIH Analysis of NHP Supply and Demand in 2018

Major Findings:



- ❑ Demand expected to increase for NHP species over the next 5 years, especially for rhesus macaques (10-25% increase) and marmosets
- ❑ NIH-sponsored NHP colonies serve as major resources for many investigators
- ❑ NIH-funded colonies may not be able to satisfy the predicted increase in demand for rhesus macaques and marmosets
- ❑ Other areas of need include the pipeline of NHP researchers, development of NHP-specific reagents and assays, and infrastructure improvements and support for the expansion of NHP research programs

NIH Analysis of NHP Supply and Demand in 2018 (cont.)

Recommendations:

- ❑ Expand rhesus macaque colonies, including SPF and enhanced SPF
- ❑ Expand existing marmoset colonies to provide breeders to satellite colonies
- ❑ Establish domestic colonies of cynomolgus macaques
- ❑ Determine genetics of domestic NHP colonies
- ❑ Develop reagents/assays; improve infrastructure; increase training; expand NHP colony capacity
- ❑ Enhance communication by establishing NHP planning groups
 - Trans-NIH NHP Working Group
 - NHP Consortium (including other federal agencies) to meet at least annually

COVID-19 Pandemic Exacerbated the NHP Shortage

CAUSES:

- ❑ Cessation of NHP importation from China, previously the largest supplier of NHPs to the U.S.
- ❑ Temporary diversion of NHPs to COVID-19 research, particularly rhesus macaques
- ❑ Infrastructure project delays at the NPRCs due to increased construction costs
- ❑ Delays in breeding group formation/socialization, which temporarily reduced breeding output

CONSEQUENCES:

- ❑ Increased cost of NHPs from commercial suppliers
- ❑ Broadening of animal characteristics for project assignment (investigators selected alternative animal models in experimental designs)
- ❑ Increased project delays or deferments

NIH Responses to Offset the Ongoing NHP Shortage

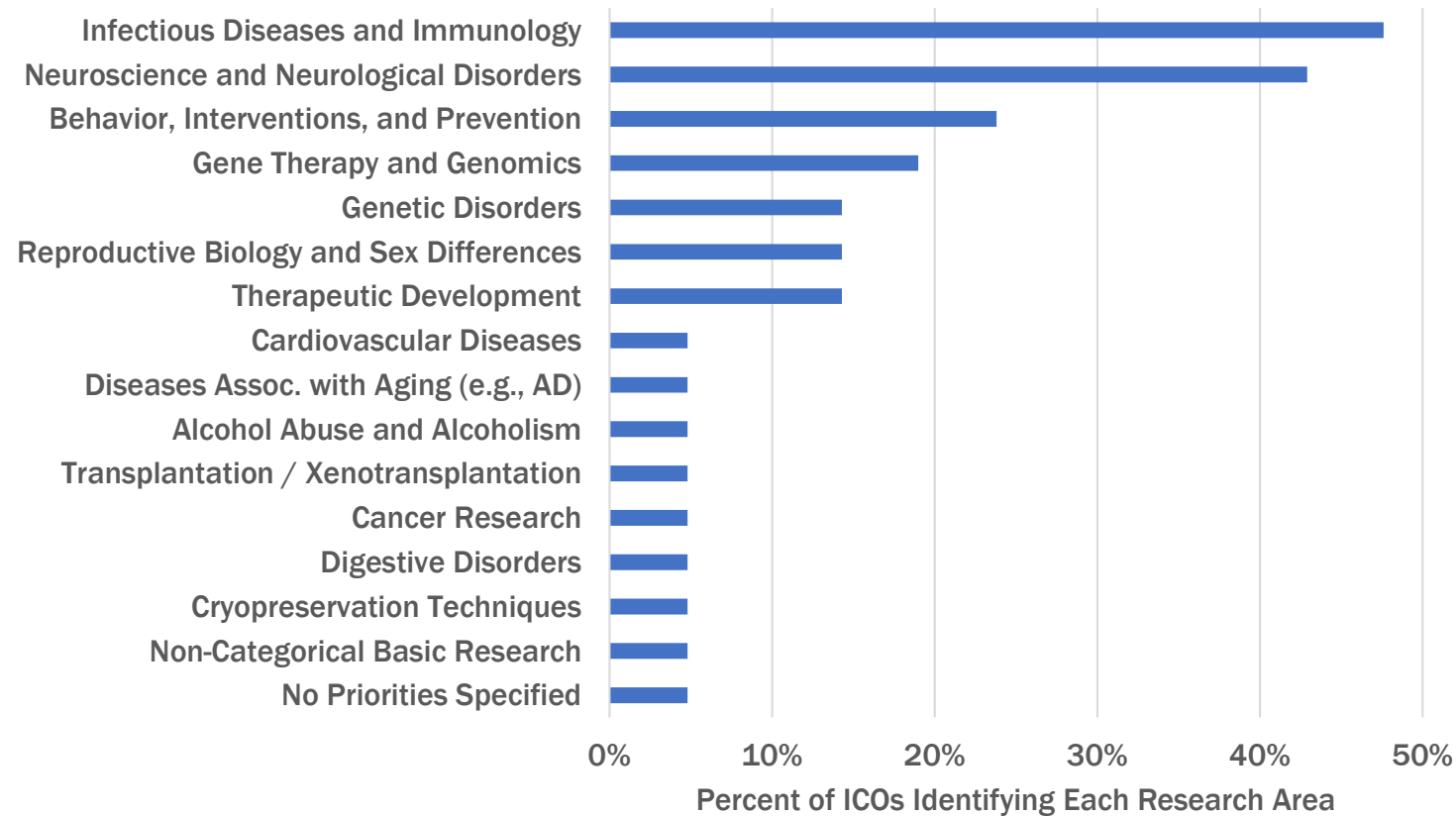
- ❑ SPF rhesus colony repurposing and repayment plan
- ❑ Notices of Limited Availability of Research NHPs (NOT-OD-20-173 and NOT-OD-21-080):
 - NIH COVID-19 Expert Panel prioritized NHP requests to minimize impact on other scientific areas
- ❑ Coronavirus Aid, Relief, and Economic Security Act supported:
 - NIH supplements for NHP colony infrastructure
 - NHP Studies Coordination Center to Support COVID-Related research at the NPRCs
- ❑ FY 2022 C06 construction opportunity for existing NIH-funded NHP colonies (PAR-21-363)



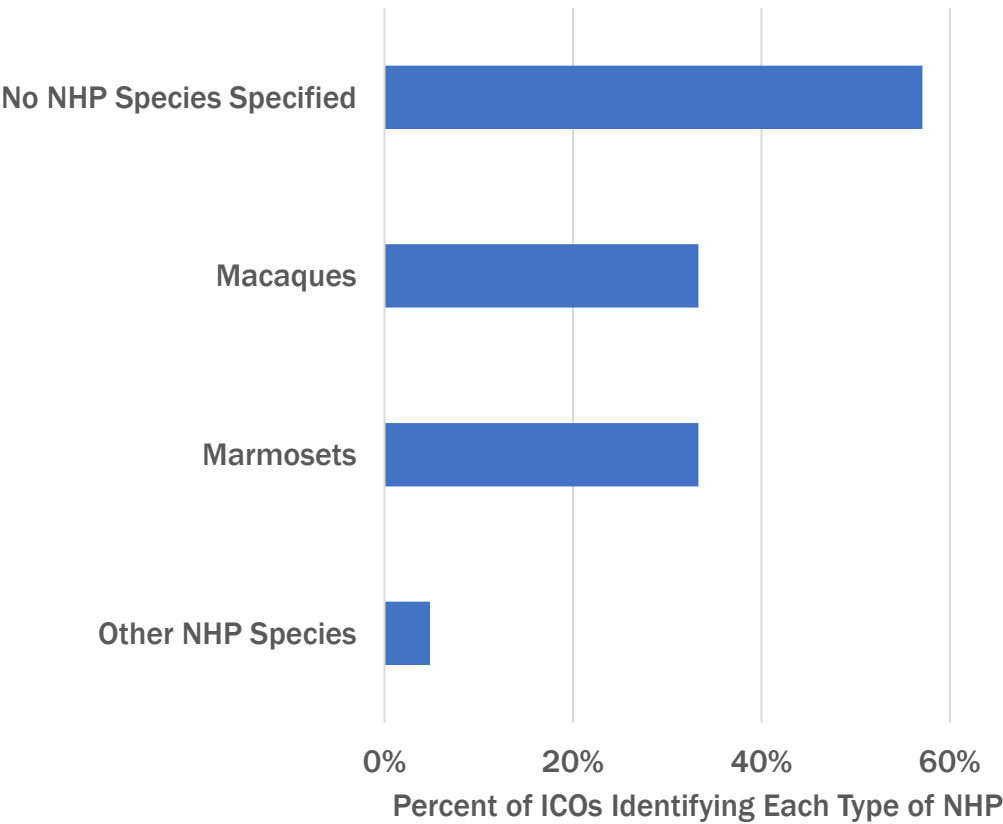
Results of July 2022 Data Call: Priorities and Challenges Associated with NHP Research

Extramural Programs: Priority Research Areas and NHP Species

Priority NHP Research Areas Identified by ICOs*



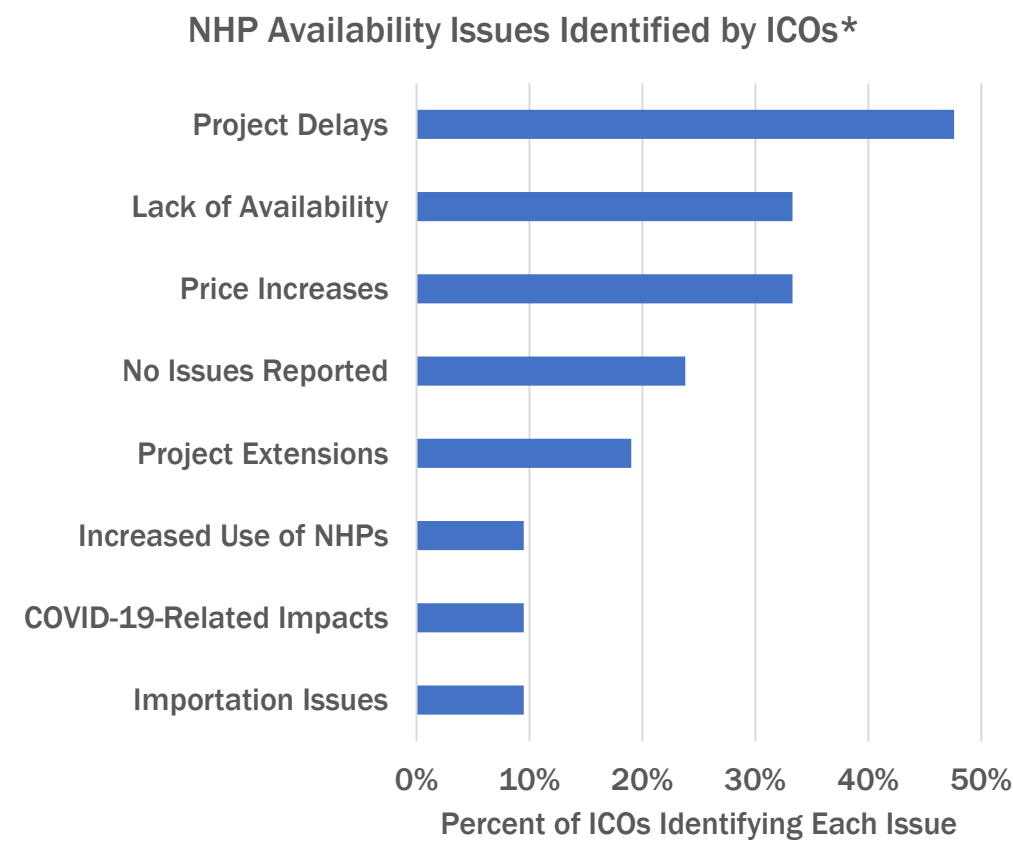
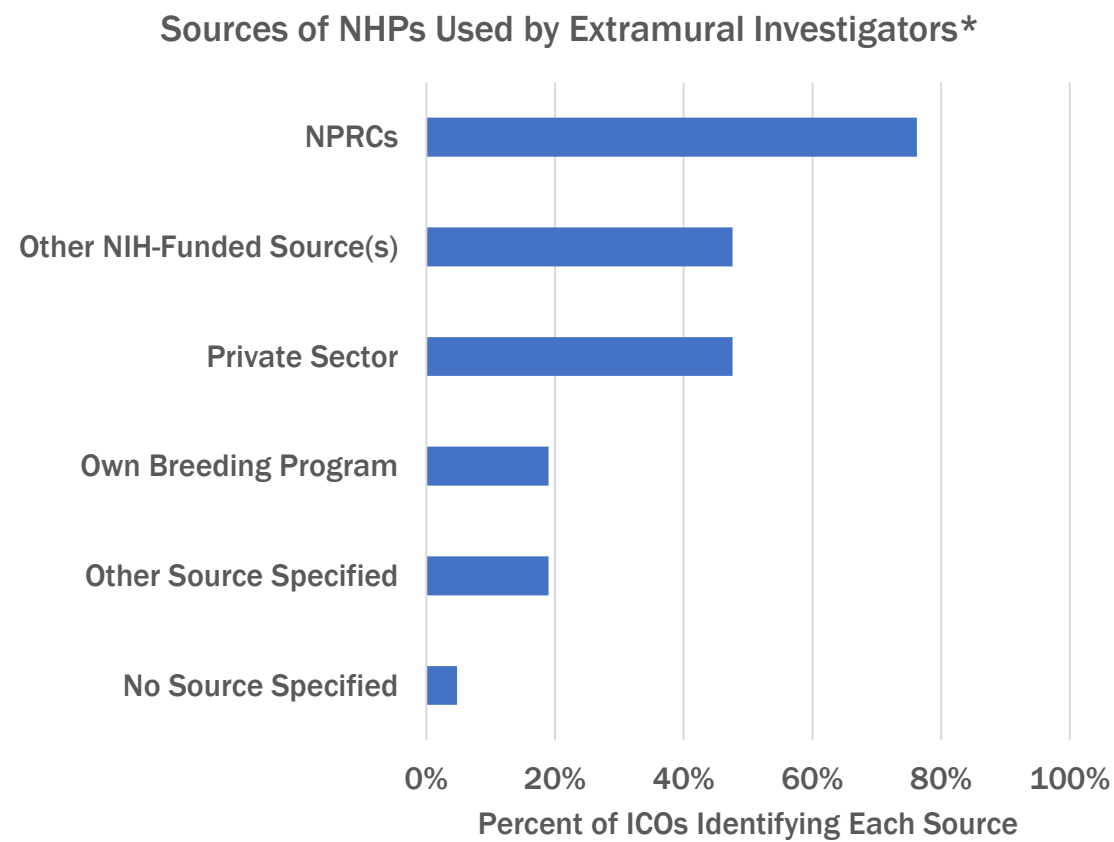
Priority NHPs Identified by ICOs*



*21 ICOs (NCATS, NCCIH, NCI, NEI, NHGRI, NHLBI, NIA, NIAAA, NIAID, NIAMS, NIBIB, NICHD, NIDA, NIDCD, NIDCR, NIDDK, NIEHS, NIGMS, NIMH, NINDS, and OAR)

Results of July 2022 Data Call: Priorities and Challenges Associated with NHP Research

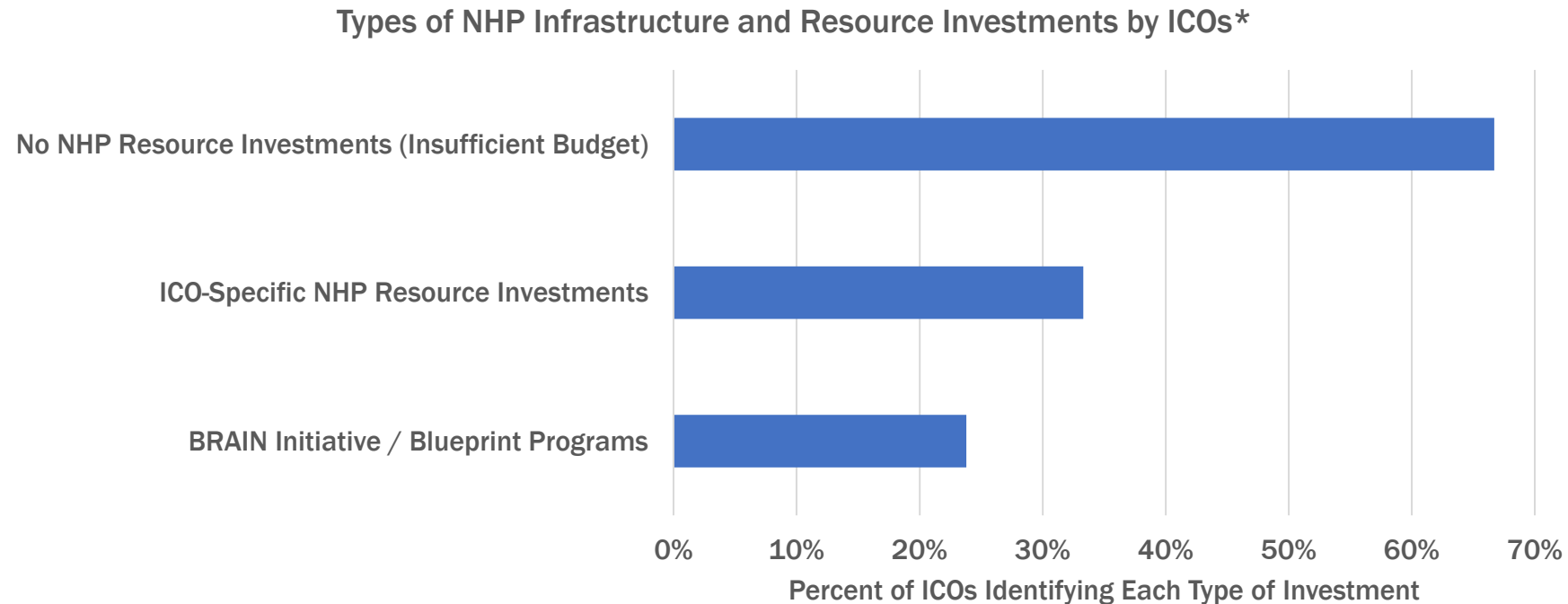
Extramural Programs: NHP Sources and Availability Issues



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Results of July 2022 Data Call: Priorities and Challenges Associated with NHP Research

Extramural Programs: NHP Infrastructure and Resource Investments



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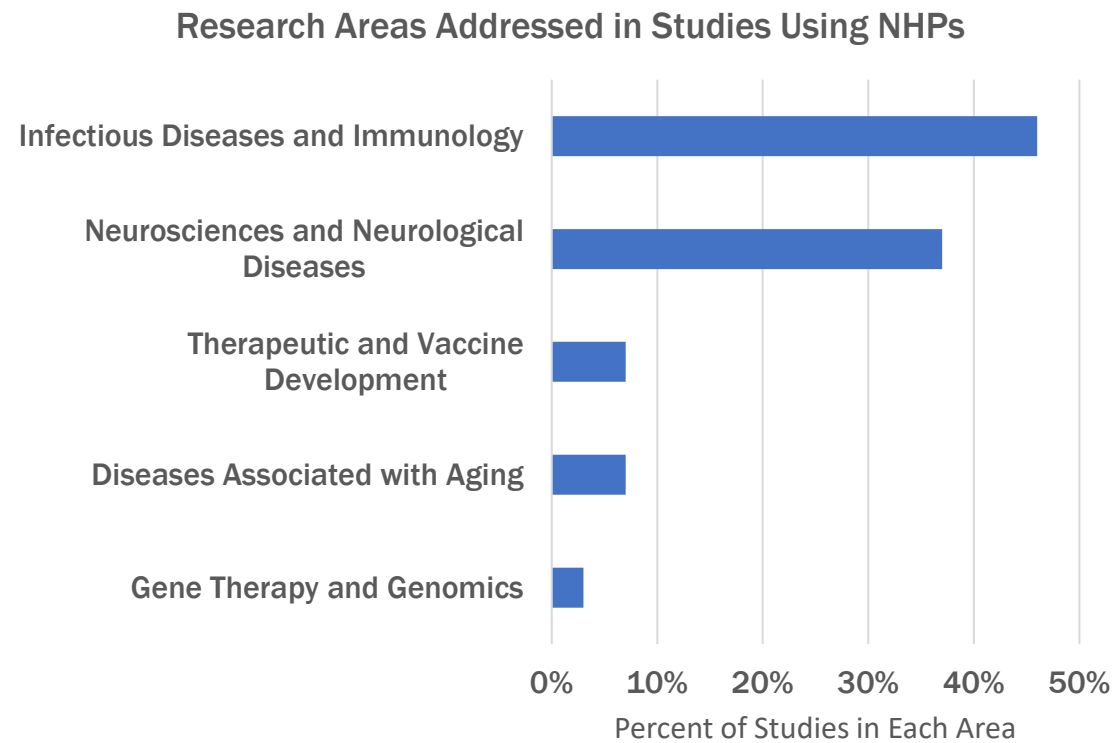
Presentation to the NASEM Committee on NHP Model Systems: State of the Science and Future Needs Workshop

Intramural Research Program

**Stephen Denny, D.V.M., M.S., DACLAM
Director, Office of Animal Care and Use
National Institutes of Health**



Intramural Research Program: Priority Research Areas and Levels of Review

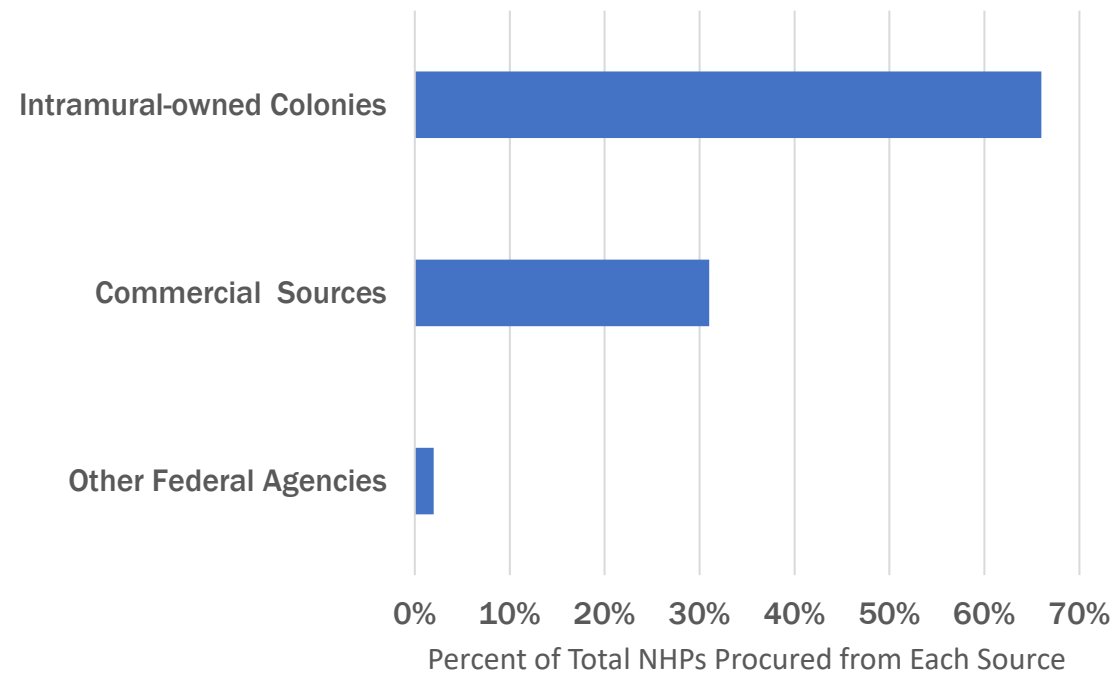


Review of Study Proposals Using NHPs

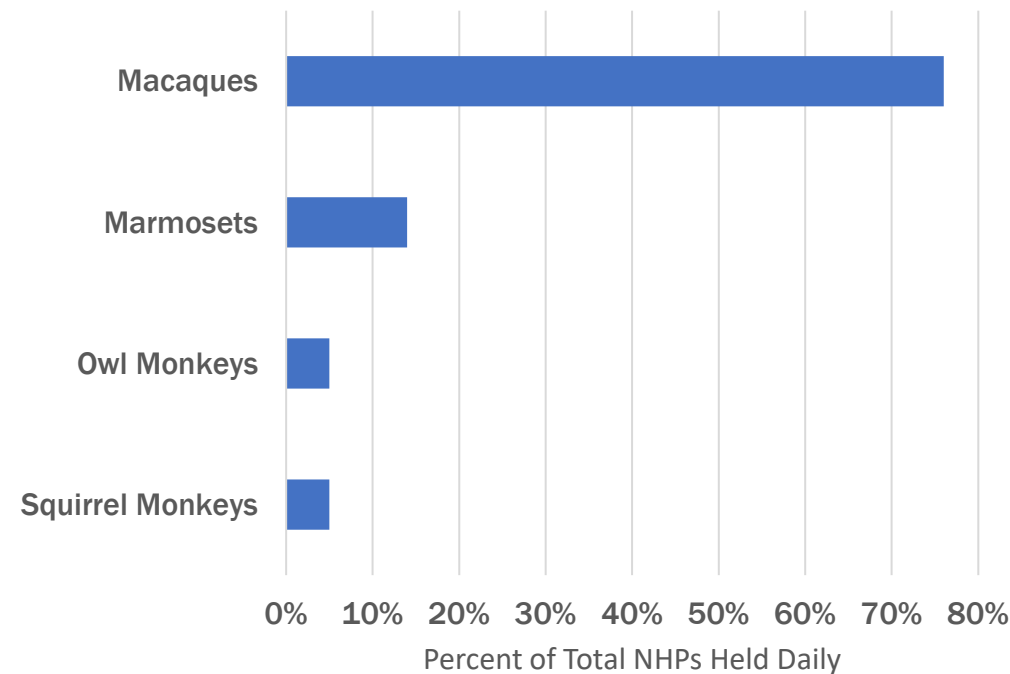
- ☐ Scientific Merit Review Committee
- ☐ Animal Care and Use Committee

Intramural Research Program: NHP Sources and Species

Sources of NHPs Used by Intramural Investigators



Types of NHPs Used in the IRP Research Program



Intramural Research Program: Challenges in Use of NHPs

- ☐ Maintaining aging NHP housing facilities
- ☐ Projecting the number of NHPs, NHP species, and program infrastructure required to meet the IRP's future research program needs

Committee Q&A