

Introduction

The use of primates in experimentation is an extremely controversial issue. Some scientists claim that primate experimentation is crucial to medical advancement.¹ Others claim that the use of primates has not contributed to advances in the diseases that are currently killing humans (i.e. heart disease, cancer, HIV, etc.)² While humans are more closely related to primates than to other species, primates may still be too dissimilar to be suitable subjects in studies of human diseases. Significant questions are being raised regarding the actual utility of primate experimentation.

Many people also have significant ethical concerns regarding the use of primates in experimentation. The confinement of primates for use in experimentation has significant consequences due to their social nature. And if primates are psychologically similar to human beings in their ability to suffer, then the use of primates in potentially painful/stressful projects should raise serious moral questions.

However, with the expansion of certain fields of investigation, experimentation on primates is likely to increase in coming years. Discussions are currently underway which could lead to an increase in the funding of the Primate Center System by \$100 million per year.

Therefore, this is a particularly relevant time to be placing primate experimentation in general, and the larger primate labs in particular, under closer scrutiny. This report marks the launching of such an effort.

This report will discuss the level of funding given to primate experimentation on the national level. While the funding issue is being discussed, the closely related area of experimental duplication (and the potential waste of federal funding) will also be examined.

This document will also examine the conditions primates are subjected to within laboratories. While it is currently difficult to discuss the situation within all laboratories, certain specific labs will be examined regarding the way that primates are treated.

One basic area that has become difficult to discuss is the actual number of primates in laboratories. While the number of primates in labs has been released by the USDA in a more thorough way than ever before, the classification system used in releasing this information has made it impossible to compare current statistics with similar statistics from previous years. As a result, it will be impossible to discuss trends based on the cumulative statistics promulgated by the USDA. However, trends involving the use of primates in experimentation can still be discussed by utilizing a different methodology.

This report will utilize one primary source of information for the determination of trends for primate experimentation. The National Institutes of Health (NIH) CRISP system, which catalogues all grants funded by this agency will be the primary basis for comparison. This measure of experimental direction is crucial because the NIH funds the majority of experimentation performed within the U.S. Supplemental data will be obtained from the DOD project database.

In summary, this report will provide invaluable information regarding the number of primates within labs, the types of experiments performed on primates, the number of projects using primates, the funding of primate experimentation on the national level, and the conditions within labs that use primates.

Footnotes

Expert Panel's Recommendations for the Regional Primate Research Centers Program,
January 18, 2001, Office of Science Policy and Public Liaison

Is Primate –Modeled Research Crucial, C. Ray Greek, in *Pathways to Progress*, available at
<http://www.curedisease.com/Pathways/PathwaysFall03.pdf>

Executive Summary

While exact numerical comparisons regarding the number of primates in laboratories are difficult due to reporting inconsistencies, it is clear that a very high number of primates are currently imprisoned within U.S. laboratories. For fiscal 2002 the USDA reports the use of 52,275 primates in experimentation for the entire U.S. The USDA also reports that U.S. labs held 43,676 primates for breeding or conditioning. This places 95,951 primates within U.S. laboratories.

Funding for primate experimentation appears to be at an all time high with the National Institutes of Health currently directing over \$500 million to primate based projects. When other government sources are taken into account the overall funding estimate for the federal government likely exceeds \$530 million. The number of primate grants funded by the National Institutes of Health has risen 59.5% in the last ten years.

Government documents reveal a pattern of Animal Welfare Act violations within major primate laboratories across the United States. Primates appear to be dying of dehydration and literally wasting away within many large laboratories. Environmental enhancement appears to be another area of consistent violations of the Animal Welfare Act by laboratories across the U.S. Internal government documents also reveal that as many as 35% of all primates within laboratories experience some level of social isolation.

Despite the performance of experiments which specifically discuss stress and potentially painful conditions, large laboratories continue to mislead federal regulatory agencies by repeatedly reporting zero animals experiencing unrelieved pain or distress. This fallacious reporting is exemplified by documents filed by Harvard and the University of Wisconsin, Madison (UW). Documents filed with the NIH by Harvard for the year 2000 reveal that as many as 605 primates experienced unrelieved pain or distress during experimentation. However, Harvard reported no primates in this category to the USDA. Similarly, documents filed with the NIH by the UW expose 109 primates experiencing unrelieved pain or distress during experimentation. Post mortem records for an additional 29 primates at the UW indicate severe pathological conditions which would have caused substantial suffering for the primates. However, reports filed by the UW with the USDA again reveal the reporting of no primates experiencing unrelieved pain or distress. These filing discrepancies will be the basis of official complaints which will be filed against these universities with the USDA.

This report makes recommendations which will lead to the elimination of redundant experimentation, accurate reporting of experimentation by laboratories, and additional public oversight regarding the escalating use of primates within U.S. laboratories.

How Many Primates Are in Labs??

In the past all estimates regarding the number of primates in laboratories across the United States have been incomplete. These statistics have been based on data promulgated by the USDA. Previous USDA data has dealt specifically with the number of primates actually used in experimentation. No statistics were kept for the number of primates held in labs for breeding or other purposes. However, these practices changed for the reporting of statistics by the USDA for fiscal 2002.

For the first time statistics are now available which deal with all primates in labs, whether held for breeding, or actually used in experimentation. For fiscal 2002 the USDA reports the use of 52,275 primates in experimentation for the entire U.S. The USDA also reports that U.S. labs held 43,676 primates for breeding or conditioning. This places 95,951 primates within U.S. laboratories. This information may not be totally complete, because since 1985 the USDA has never been successful in obtaining reports from all U.S. labs. But it is reasonable to assume that the majority of primates have been accounted for.

This information (and more detailed data including state by state listings, etc.) is available at: <http://www.aphis.usda.gov/ac/ar2002.html>

The states which record the largest population of primates within laboratories are:

The 12 States with the Largest Populations of Primates within Laboratories		
State	Primate Population within labs	Major Primate Labs within the State
Louisiana	11,673	Tulane Primate Center & New Iberia Lab
California	8,841	UC Davis Primate Center
Texas	8,307	Southwest Foundation Primate Center
Maryland	7,593	NIH Labs
New Jersey	7,572	
Massachusetts	6,007	New England Primate Center
Georgia	5,227	Yerkes Primate Center
South Carolina	5,092	LABS of Virginia
Virginia	4,549	
Wisconsin	4,543	Wisconsin Primate Center
Washington	4,116	Washington Primate Center
Oregon	3,335	Oregon Primate Center
Total	76,855	

80% of the primates currently held within U.S. labs are located within 12 states, with 52% in the top six. Many of these primates are maintained within just a few labs (listed in the table above). For Example, in Massachusetts, where the total primate population within labs is just over 6000, the New England Primate Center (affiliated with Harvard) accounts for over 2000 of these primates (actual fiscal 2000 total was 2119). Similarly, even though California has approximately 200 labs, the Primate Center at UC Davis accounts for over 5600 (5645 during fiscal 2000). In fact, the labs which comprise the NIH National Primate Center System (UC Davis, University of Washington {Seattle}, University of Wisconsin {Madison}, Southwest Foundation for Biomedical Research, New England Primate Center {affiliated with Harvard}, Yerkes Primate Center {affiliated with Emory}, Oregon Primate Center {affiliated with the Oregon Health Sciences University} and the Tulane Primate Center account for 26,898 or 28% of the national total.

How are Primates Cared for Within Laboratories?

Are laboratories following laws regarding proper care of primates? This is a difficult question to answer. Many of the regulations regarding the care of animals are common to all species of animals. In other words, for the most part the regulations are the same whether we are speaking of primates or rabbits. The regulations which were derived from the Animal Welfare Act cover veterinary care, feeding, pain relief in surgery, etc. But very often the same regulation is used for all species. Therefore it is difficult to ascertain which violations pertain to primates.

USDA/APHIS information regarding violations of the AWA is available on the USDA website at <http://www.aphis.usda.gov/ac/violationssumwopara.pdf> and http://www.aphis.usda.gov/ac/FY2002_3_81_violation_sum.PDF.

Examining the violations listed at this location allow for approximately 1 out of every 4 labs to have a violation regarding animal care, and approximately 1 out of every 2 labs has a violation regarding the Institutional Animal Care & Use Committee, this is the internal body that is responsible for enforcement of the Animal Welfare Act within each facility, and for the approval of experimental protocols. As will be shown when specific facilities are examined, many of these violations were relevant to primates.

It is also significant to note that there were 227 separate violations of the requirements for providing environmental enhancement for primates. Many of these violations took place in research facilities. The trend towards non-compliance with this new area of enforcement will be examined when specific facilities are discussed. The psychological well being of primates within laboratories is a major concern. Isolation has been shown to have very deleterious effects on the psychological well being of primates. Therefore, during 2000 – 2001 the USDA undertook a Housing Survey to investigate the conditions within which primates are housed. Research facilities had a much worse record for providing socialization for primates than did either exhibitors or animal dealers. Dealers housed 89% of their animals in pair/group housing; exhibitors gave 91% of the primates in their care socialized housing. Research facilities gave only 65% socialized housing. Or, 35% of the primates in research facilities experienced some level of social isolation. Problems with environmental enhancement are common in the specific facilities which will be examined next.

While this discussion of national trends in AWA violations has been useful, an examination of specific facilities will provide examples of violations at well-known laboratories.

Northwestern University

Inspection reports from USDA visits to Northwestern University dated 6/11/02 indicate violations within areas including veterinary care, IACUC, and personnel qualifications. Within these documents the deaths of several primates are discussed. Primate 8D4 died within ½ hour of the completion of a marathon 9-hour surgical procedure. Other investigators at Northwestern had completed similar procedures in half the time. Another primate, 9K2, is said to have died as a result of water deprivation. Apparently this primate was involved in a procedure wherein the animal's water intake was severely limited. At the same time the automatic watering system for a set of 4 monkeys, one of which was primate 9K2, was malfunctioning. This caused 9K2 to be water deprived even at times when water was supposed to be available, leading to death. The other three primates in this quad are also said to have been "very thirsty" when they finally received water.

University of Pittsburgh

On 1/22/03 the University of Pittsburgh Plumborough Primate facility was cited for the use of expired drugs, inadequate care of primates recovering from anesthesia, inadequate storage of primate food, and unnecessary isolation of primates. On 3/4/03 this same facility was again cited for the use of expired drugs. Inadequate (too small) primary enclosures for primates was another violation on this date.

University of Pennsylvania

USDA inspection reports from 6/20/02 indicate violations in the area of environmental enhancement for primates. Several examples are illustrative: “Two single housed rhesus in IHGT are exhibiting stereotypic behaviors but are receiving no additional special enrichment. These are rhesus 94B106 who is stress pacing and AC3H who is very aggressive and exhibiting saluting behaviors.”

Johns Hopkins University

USDA reports from inspections on 6/24/02 reveal violations in many areas. The IACUC is cited for inadequate justification of the use of baboons and squirrel monkeys in drug studies. Environmental Enhancement is also an issue at this facility because “Over half of the nonhuman primates are singly housed. . . . A baboon was housed alone with no other nonhuman primate contact and minimum enrichment at Asthma and Allergy. The baboon was acting distressed, pacing in circles.”

University of Florida

On August 26, 2002 the university is cited for inadequate veterinary care due to an incident involving several primates. There are two squirrel monkeys who had been used in experiments involving food deprivation. However, they still seem to have been underweight even after the food restrictions were removed.

Emory University

USDA inspection reports dated 3/18/03 discuss violations in the areas of IACUCs for improper internal inspections, and Housing facilities for non-human primates. A report from 8/23/02 discusses the death of Rhesus monkey #3566 on 4/16/02. Apparently this primate had been steadily declining since 6/01 – losing 32% of his/her body weight in this 14-month period. This primate had received multiple MPTP treatments over a 6-month period. The primate received treatment for clinical problems on 3/16 & 3/31. Health concerns were again raised on 4/14. However, the researchers did not observe the primate on this day, and were unavailable for contact from the veterinary staff. Husbandry staff didn't report the animal's anorexic condition until 4/15 – when the animal was found with no evident heartbeat or respiration, and hypothermia. The primate was revived, but was found dead the next morning.

Another incident at Emory described in the USDA report involves an “. . . anorexic, barely mobile, syringe-fed monkey that had been living in a sleep study cubicle for ‘several days’ following multiple, systemic MPTP injections.”

The USDA inspector concludes the report with this comment: “Recent incidents described herein demonstrate (a) lack (of) timely communications between investigators/husbandry staff and the attending veterinarian, one of which resulted in an animal death.”

Other inspection reports (from 3/30/00) list deficiencies in space requirements, environmental enrichment, and veterinary care. In relation to the Environmental enrichment violations the inspector makes an interesting statement: “. . . although a significant percentage of the macaques at the Yerkes Field Station are partially or entirely bald, this condition has not been noted as not normal, assessed for the extent of the condition, nor possible reasons or solutions investigated. The baldness appears to be due to overgrooming, and may indicate a need for the opportunity to express other normal behaviors (climbing, exploring) more frequently.”

The care of primates at Emory University is particularly important because Emory is the home of the Yerkes Primate Research Center, which handles over 3000 primates per year.

Duke University

USDA documents regarding inspections at Duke University performed on 9/17/02 indicate problems with the Environmental Enrichment program for primates. One specific owl monkey is noted as exhibiting symptoms of psychological distress. These symptoms include: self-clasping, poor haircoat, and depression. These violations follow a previous inspection (8/21/01) which also listed violations in the area of environmental enrichment.

This is significant because Duke University routinely handles over 400 primates per year.

Yale University

USDA documentation for routine inspections of Yale University dated 9/3/02 cites inadequate veterinary care for the use of outdated drugs (oxytetracycline and penicillin). Three nonhuman primates (94-37, 00-38 and 00-39) are exhibiting signs of distress as a result of insufficient environmental enhancement. Violations also exist in the areas of IACUCs in the area of records regarding experiments with kittens and personnel qualifications relating to inadequate dosing of post-operative analgesics. However, the most significant violation on this date is the fact that several primates were without water at the time of inspection. The inspection of 9/6/01 also showed a primate, which indicated signs of psychological distress.

Harvard University

Government documents for 1/22/01 reveal violations in the areas of IACUCs, veterinary care, housing, and environmental enrichment. Several primates were recovering from anesthesia without posting of their condition or observation. Several primates are noted with substantial hair loss (a potential sign of stress), and another primate is showing evidence of a bloody nose. Primate #210-99 – “exhibits hair loss, crouching type behavior, and pattern type movements around cage. No evidence in records that any behavioral abnormalities were noted.” Information from other sources (i.e. a report filed by Harvard with the NIH) indicates that there

are hundreds (457 in fiscal 2000) of primates at the New England Primate Research Center (NEPRC --affiliated with Harvard) that exhibit sufficiently aberrant behavior as to be used in studies of self-injurious behavior. The status of primates at Harvard/NEPRC is significant because according to government documents this facility handles well over 2000 primates per year.

McLean Hospital

USDA documents for inspections performed at McLean Hospital on 2/2/00 list many problems in the area of Veterinary Care and IACUCs relative to primates. Drugs that had expired as much as 2 years and 10 months before the inspection were still in use. Primates (#261-85 and #258-90) have “excessive generalized hair loss” and the records for these primates do not indicate that this has even been noticed. Primate #91-94 is “limping and holding left leg up.” Again, this health issue is not even mentioned in the records for this primate. There are violations regarding the IACUC which refer to a project which deprives primates of food.

By December 5, 2000 other expired drugs have piled up at McLean Hospital, and the condition of primates #261-85 and #258-90 have still not been noticed. And primate 91-94 now is “. . . still holding leg up and observations of foot at time of this inspection showed curled up appearance (disuse atrophy?).” Another primate, #347 also has unidentified health care issues.

University of California, San Francisco

Inspection reports for the University of California, San Francisco (UCSF) beginning in September of 2000 reveal a continuing pattern of animal abuse and neglect. On September 27 & 28 USDA/APHIS officials performed an inspection of UCSF labs as a result of a complaint which was filed against the facility. Their inspections found that the complaint was “basically valid.” The complaint centered around experimentation on primates which denied them sufficient food and water. Violations in areas of IACUC, Personnel Qualifications, Veterinary care (“Monkey #17562 was identified as not being a good candidate for a water restriction study, due to a chronic diarrhea problem, according to veterinary statements in the animal’s medical record. The records did not indicate a resolution of the chronic diarrhea [a water loss problem], yet this animal remained assigned to the protocol and was placed on a long-term water restriction schedule in October 1999. The animal was also noted as thin and not gaining weight as early as July 13, 1999, yet no medical attention was provided for this problem until August, 2000.”), Handling, and Feeding. The inspector concludes the report with a very damning statement: “In my professional judgment, the nutritional requirements of these animals were not met for either food or water.”

On 5/17 – 25/01 UCSF is cited for IACUC violations for performing survival surgery on an animal that was sick, and for inappropriately monitoring a research protocol that involved confining primates to restraint chairs for a period of up to 8 hours, and improper use of post-operative analgesics. UCSF is also cited for inadequate veterinary care of sheep at this time.

On 7/30/01 UCSF is again inspected as a result of a complaint. The complaint was apparently filed because a primate had been ill and vomiting for approximately 5 weeks. This primate was also involved in a training protocol that involved water restriction.

On 1/28/02 the UCSF IACUC is again cited for ineffective monitoring of experimental procedures. Specifically, the primate water restriction project is mentioned again. Insufficient

means of monitoring the weight loss of primates, and the endpoint necessary for the advent of veterinary involvement are deemed to be insufficient. The lab is also cited for inappropriate feed storage, primary enclosures, sanitation, and inappropriate waste disposal.

On 8/5/02 UCSF is again cited for IACUC violations for investigators not following experimental protocols, insufficient administration of analgesics, insufficient consideration given to potentially painful & stressful procedures (in primates), and inadequate veterinary care. The veterinary care incident involved a marmoset that had been allowed to lose 36% of his/her body weight without receiving any treatment. Violations in sanitation and cleaning are again mentioned.

On 2/4/03 UCSF is again cited for IACUC violations regarding post-surgical monitoring of primates and inadequate use of analgesics. These violations involve projects where holes were bored into the skulls of primates. The facility is also cited for falsification of animal records, and inadequate sanitation.

University of Washington, Seattle

USDA inspection reports for the University of Washington, Seattle (UW) reveal multiple violations for 4/1/03. Expired food was being given to cats and guinea pigs. Water was being denied to rabbits in the Comparative Medicine Building. The watering system had been disconnected for a period of 48 hours without being noticed by the animal care staff.

Internal documents obtained from the UW indicate significant problems in areas of primate care. One primate (K93464) died (9/01) as a result of ingesting a set of latex gloves. Another primate (T93497) died (1/01) after being anesthetized for a blood draw, potentially as a result of anesthetic overdose. Another primate (#93169) died (7/00) of anesthetic overdose. Two primates (A00131 & 98026) in the care of investigator CC Tsai died with “total absence of body fat stores” and “total absence of subcutaneous fat.” Dehydration is also discussed in reference to primate #98026. Primate F93276 died 6/01 is discussed as having “Malnutrition, chronic, severe” and “Dehydration, severe.”

University of Wisconsin Primate Health Care

In order that the health of primates within large colonies could be examined, necropsy reports (post mortem records) for primates within the Wisconsin Primate Research Center (for the year 2000) were examined. 31 of the primates were euthanized for experimental purposes. 129 adult primates died of pathological conditions. 61 (47%) of these animals were suffering from gastro-intestinal tract conditions. 15 (11.6%) were suffering from hepatitis; 15 (11.6%) were suffering from pneumonia. 40 of these primates were considered thin, and another 7 were cachectic or emaciated. Therefore, 47 (36%) were in substantially inadequate nutritional condition. Other pathological conditions included trauma, bone fractures, meningitis, encephalitis, and severe endometriosis. The fact that 47% of the primates at the Wisconsin Primate Center were suffering from gastro-intestinal tract diseases at their death is indicative of a colony of highly stressed animals.

During 2000 182 primates were born at the Wisconsin Primate Research Center. 36 of these primates died of varying conditions. There were also 11 stillbirths. Therefore, out of 193 pregnancies, this provides an infant mortality rate of slightly over 24%, or one out of four

primate pregnancies leads to death. An infant mortality rate of this magnitude could be the result of severely stressed primates.

The prevalence of significant disease and the fact that animals are allowed to become emaciated, to suffer severe trauma, and to sustain severe pathological conditions leads to the conclusion that primates within this facility suffer substantially from disease conditions, in addition to, or as a result of the experiments to which they are subjected.

A substantial number of the primates who died at the UW of pathological conditions appear to have suffered substantially. The severe pathological conditions which caused the deaths of 29 of these primates indicate that these animals would have met the conditions for being listed in Column E of the University of Wisconsin's Annual Report to the USDA. This column lists animals who experienced unrelieved pain or distress. Lymphocytic enteritis, vegetative endocarditis, severe endometriosis, severe traumatic lacerations, severe chronic peritonitis, severe chronic pneumonia, severe acute meningoencephalitis, could all be considered conditions which would cause a primate to suffer. These are only a few of the causes of death of the 29 primates in question. This information, along with other data, will be used to file an official complaint with the USDA against the University of Wisconsin, Madison for violations of the Animal Welfare Act.

Is Experimentation on Primates Increasing? How Much Money is Spent on Primate Experimentation?

Due to changes in the way that the USDA categorizes primates within research facilities it is impossible to compare fiscal 2002 animal use statistics with those from previous years. Since trends cannot be elucidated by discussing individual animals, the number of research projects which utilize primates will be discussed. The National Institutes of Health is the government agency which funds the single largest portion of animal research. Therefore, the number of grants funded by this agency will be used as a gauge of the overall direction of primate experimentation. The time period used will be a ten-year span (1993 – 2002).

National Institutes of Health Primate Grants			
Species	# 2002 grants	#1993 grants	%increase
Macaque	1070	680	57.4
Baboon	177	101	75.2
Chimpanzee	62	31	100.0
Squirrel Monkey	94	77	22.1
Marmoset	40	22	81.8
Aotus	28	15	86.7
Mangabey	<u>12</u>	<u>4</u>	<u>200.0</u>
Totals	1483	930	59.5%

As the table indicates, the use of primates in experimentation has increased by 59.5% in the last ten years. Searches within the NIH system on generic terms reveal similar trends. Projects utilizing monkeys increased by 51.9% over the same ten-year period (from 297 to 451), and projects using the word primate increased 77.8% in ten years (from 559 to 994).

Again, exact totals are not available regarding the amount of funding that primate experimentation receives from the federal government. However, an estimate can be derived from the number of grants listed above. The most recent average grant amount posted by the National Institutes of Health is approximately \$300,000 per grant. When this is multiplied by the number of grants listed above, and the amounts of specific large grants (i.e. grants for the Primate Centers, and several other large primate labs) are added in an estimate for the amount spent by the NIH on primate experimentation can be derived. This total is \$502,291,729 (see explanation below). Similarly, searching the DOD database (available at <http://www.scitechweb.com/acau/brd/>) provides a total of 68 projects involving primates. Assuming the same cost level as the NIH, the DOD is spending approximately \$20,400,000 on primate experimentation. This would give us a grant total of \$522,691,729 spent on primate experimentation from only two federal agencies. This total would not include funding of projects from agencies such as NASA, the USDA, etc. It would be safe to say that the federal government is currently spending between \$530,000,000 and \$550,000,000 per year on primate experimentation.

2002 National Primate Experimentation Funding Estimate

Total of NIH-funded Primate Grants	1483	x	\$300,000 =	\$444,900,000
Total of Specific large Primate Grants (i.e. Primate Center base grants, etc.)				\$ 57,391,729
Total DOD projects	68	x	\$300,000 =	\$ 20,400,000
Other Federal Agencies (USDA, EPA, NASA, etc.) probably over				\$ 7,000,000
Estimate Total Federal Spending on Primate Experimentation				~\$530,000,000

What kinds of Experiments are Performed on Primates?

Searches within the NIH CRISP system revealed some common areas of experimentation that utilize primates. These areas of experimentation were examined in macaque monkeys, the most commonly used species of primates. CRISP searches reveal 29 experiments that study heart disease in macaques, and 34 that study cancer. However, this same system contains 55 projects that study cocaine in macaques, 54 that study neurobiology, 34 that study alcohol, and 188 that study neural information processing in macaques. Another 20 projects study macaque sex and an additional 55 examine reproduction in macaques. It appears that the NIH is more interested in getting primates drunk or stoned and showing them a good time, than in curing real diseases.

The CRISP system lists a total of 1,070 projects that involve macaque monkeys. 188, or 17.5% are in the area of neural information processing. Another substantial (110 or 10.3%) set of grants study alcohol or addictive drugs in macaques.

<u>Macaque Monkey Project Categorization</u> <u>Based on the National Institutes of Health CRISP system</u>	
Heart Disease	29
Sex	21
Cancer	34
Neurobiology	58
Reproduction	16
Stress	68
Learning	62
Alcohol & Addictive Drugs	110
Memory	105
Behavior Tests	230
Neural information processing	187

Many of these experiments, by their very design (i.e. experiments that study psychological stress, or neurobiology) potentially subject primates to unrelieved pain and or distress. Facilities are required by law to report experiments that cause unrelieved pain or distress to the USDA, and explain why no anesthesia was used. Are these experiments being reported?

One large laboratory that uses many primates in experimentation is the New England Primate Research Center which is affiliated with Harvard. During fiscal 2000 Harvard did not report any primates as being used in experiments which involved unrelieved pain or distress. An examination of the experiments conducted by researchers at the Primate Center reveal a large number of projects which may have subjected primates to unrelieved pain or distress. In fact, our calculations (based on the fiscal 2000 Primate Center Progress Report filed by Harvard with the NIH) reveal that as many as 605 primates may have experienced unrelieved pain/distress at the New England Primate Center, affiliated with Harvard. The projects which use these 605 primates are listed in Appendix A of this report. Since it is a violation of federal regulations to

perform such experiments without reporting them as potentially painful/stressful to the research subjects, an official complaint will be filed with the USDA against Harvard to request an investigation.

It is also believed that many of the experiments performed at the Wisconsin Primate Research Center potentially subject primates to substantial pain and/or distress. These projects are also listed in Appendix A

During Fiscal 2000 the University of Wisconsin, Madison (home of the Wisconsin Primate Research Center) reported that no primates felt any pain or distress during experimentation. This stands in direct contradiction the very psychological nature of many of the experiments (see Appendix A) performed at the Primate Center, which are purposely designed to cause stress in primates. Therefore, it is believed by this author that the University of Wisconsin, Madison has violated the Animal Welfare Act, and an official complaint will be filed with the USDA to investigate this situation as well.

Recommendations of this Report

1. The United States Department of Agriculture should develop specific definitions of experimental procedures potentially causing pain or distress within primate experiments. These definitions should discuss issues such as social isolation, severe confinement (i.e. use of primate restraint chairs, head immobilization etc.), severe food/water limitations, the use of electric shock, etc. Facilities should be required to report experiments of this type, as causing pain or distress, and should be subject to regulatory action for failure to do so.
2. The General Accounting Office should perform an audit of the National Institutes of Health to address the use of primates in duplicative experiments, forwarding the results to the United States Department of Agriculture for regulatory action against those laboratories performing unnecessarily duplicative procedures, and those procedures should be immediately terminated.
3. The National Institutes of Health should develop guidelines to prevent the unnecessary duplication of experimental projects. For example, a limitation should be placed on the number of projects funded in specific areas on a species by species basis.
4. Laboratories utilizing primates should open their doors to closer public scrutiny, including tours of both laboratories and holding facilities for print and broadcast media. These same laboratories should also make relevant records (such as primate health care records, necropsy reports and research protocols) available to the public.
5. Congressional oversight hearings investigating the funding of projects by the NIH should be convened upon completion of the GAO audit.

Appendix A

Potentially Painful/Stressful Experiments at the New England Primate Research Center	
Project Name	# of primates
Characteristics of Self-Injurious Behavior in Rhesus Monkeys	24
Abnormal Behavior in Rhesus Monkeys: Prevalence and Potential Risk Factors	362
Basal Cortisol Excretion & Negative Feedback Sensitivity in Self-Biting Monkeys	24
Relationship Between Biting Behavior, Endorphins, & Acupuncture Analgesia States	24
Physiological Correlates of Self-Injurious Behavior in Captive Rhesus Monkeys	23
Labor-Supply Analysis of Cocaine Self-Administration	4
Benzodiazepine Receptors and the Subjective Effects of Triazolam and Ethanol	10
Self-Administration of Cocaine-Heroin Combinations	4
Immunopathogenesis of Mycobacterium/SIV Coinfection in Macaques	10
Viral Localization by In Situ Hybridization	85
Early Brain Injury in the Simian Immunodeficiency Virus macaque Model of Aids	15
Therapeutic Potential of Dopamine Transport Inhibitors	4
Functional Organization of Visual Area MT	6
Recordings in Alert Animals	<u>10</u>
Total	605

Potentially Painful/Stressful Experiments at the Wisconsin Primate Research Center	
Project Name	# of primates
The Amygdala and Primate Sleep	19
The Effects of Juvenile Experience on maternal Psychobiology	40
Affective Social Style: Social and Psychobiological Substrates	30
Development and Regulation of Emotion	<u>20</u>
Total	109