

Implementing the CHIMP Act: The Case for Federally Promulgated Criteria to Immediately Retire Chimpanzees from Laboratories to Sanctuary

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Over 900 chimpanzees continue to languish in laboratories in the U.S., the last remaining large-scale user of chimpanzees for research.¹ The U.S. government owns or financially supports nearly 600 of them.² Some were wild-caught in Africa; others were born in a lab or sent from zoos, circuses, and animal trainers. Some were taught to communicate using sign language or raised in family settings - only to be sent into biomedical experimentation when funding ran out or they became too strong to manage. According to available information, more than one-third of all chimpanzees in laboratories - approximately 350 - are elderly³; the vast majority are not actively being used in research; most have been held for decades; and all are suffering.

The first significant use of chimpanzees in research in the U.S. dates back to the 1920s, and the current large population is the result of a 1986 National Institutes of

Health (NIH) initiative to breed chimpanzees thought to be useful for AIDS research. However, research on chimpanzees has been shown to be unnecessary and even disadvantageous to human medical advances, including in HIV/AIDS. Although chimpanzees are our closest relatives, they - like all other species used to study human health and disease - differ significantly from humans. These differences can result in crucial disparities in the way disease occurs or progresses in chimpanzees versus humans, and in how we respond to drugs and treatments.

For these reasons, chimpanzee use in biomedical research has decreased dramatically and is at a historic low. In fiscal year 2011, of the more than 94,000 active projects sponsored by the NIH, only 53 used chimpanzees (0.056%).⁴ Even the two areas of historic widespread use have rapidly declined: AIDS-related chimpanzee studies fell by nearly 90% from 1998 to 2005,⁵ and chimpanzee use in

hepatitis C research has declined by nearly 60% over the past 30 years and is at an historic low. Over the same period, the use of non-animal hepatitis C research methods increased 80-fold.⁶ The vast majority of chimpanzees currently in laboratories are not presently part of an active research protocol, and most will never be used in research.⁷

As stated in a 2000 U.S. Senate Committee Report, because chimpanzees turned out not to be “suitable” models for research, the federal government was left with “a

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¹ Institute of Medicine. 2011. *Chimpanzees in Biomedical and Behavioral Research: Assessing the Necessity*. The National Academies Press. http://www.nap.edu/openbook.php?record_id=13257

² National Institutes of Health Office of Research Infrastructure Programs. 2012. “Costs for Maintaining Humane Care and Welfare of Chimpanzees.” http://dpcpsi.nih.gov/orip/cm/chimpanzee_maintenance.aspx Accessed 29 October 2012.

³ Based on 2011 - 2012 FOIA responses from NIH and on correspondence with facilities.

⁴ Institute of Medicine. 2011. *Chimpanzees in Biomedical and Behavioral Research: Assessing the Necessity*. The National Academies Press. http://www.nap.edu/openbook.php?record_id=13257

⁵ Bailey, J. 2008. “An Assessment of the Role of Chimpanzees in AIDS Vaccine Research.” *Alternatives to Laboratory Animals* 36 (4) (September): 381-428.

⁶ Bailey, J. 2010. “An Assessment of the Use of Chimpanzees in Hepatitis C Research Past, Present and Future: 1. Validity of the Chimpanzee Model.” *Alternatives to Laboratory Animals* 38: 387-418.

⁷ Abee, C, T Rowell, J VandeBerg, and S Zola. 2011. “Re: Preservation of the National Chimpanzee Research Resource.” September 16 letter to Dr. Jeffrey Kahn, Chair of the Institute of Medicine of the National Academies Committee on the Use of Chimpanzees in Biomedical and Behavioral Research. Publicly available through FOIA request.

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surplus of several hundred chimpanzees that are no longer useful in medical research” and were being “warehoused in expensive federally funded research laboratory facilities.”⁸ While rejecting euthanasia as an option, the U.S. Congress addressed this “surplus” problem in 2000 by enacting the Chimpanzee Health Improvement, Maintenance, and Protection (CHIMP) Act to provide a system for the lifetime care of chimpanzees determined to be “not needed” in research. However, 12 years later the goal of the CHIMP Act has yet to be realized. The purpose of this article is to discuss a Rulemaking Petition which seeks to fulfill the Congressional intention of the law and retire chimpanzees to sanctuary.

Inadequate Application of the CHIMP Act

The Secretary of Health and Human Services (HHS) has the authority under the CHIMP Act to issue criteria for determining whether a chimpanzee is “not needed” for federally funded research and which, in turn, would trigger the requirement that any such chimpanzee must be retired to sanctuary. However, because to date the Secretary has not defined criteria, labs have been allowed to decide which chimpanzees, if any, to retire. This approach has created a conflict of interest, as the laboratories

holding chimpanzees receive federal funding to maintain and care for them and, therefore, have a financial motivation to keep them.

Thus, relatively few - only about 161 - chimpanzees have been retired since the CHIMP Act was enacted in 2000.⁹ This reality is indefensible considering the overarching purpose of the statute and that 80-90% of chimpanzees now in laboratories are not being actively used in research;¹⁰ use of chimpanzees for biomedical research has declined dramatically and chimpanzees have been determined to be unnecessary in nearly all areas of current biomedical use; a significant number of chimpanzees in laboratories are elderly, have inadequate medical records, have been used in multiple areas of research, and are suffering physically and psychologically; retirement to sanctuary would be beneficial for the chimpanzees’ well-being; and retiring chimpanzees to sanctuary would be economically beneficial to the American public - in tax dollar savings and reallocation of remaining federal funds to more promising areas of research.

A Rulemaking Petition to Define Retirement Criteria

In response to this problem, the New England Anti-Vivisection Society, along with co-petitioners the North American Primate Sanctuary Alliance (NAPSA), Save the Chimps, Fauna Foundation, Animal Protection of New Mexico, the Kerulos Center, former Senator Bob Smith (a lead sponsor of the CHIMP

Act), and Friends of Washoe filed a formal Rulemaking Petition with the Secretary of HHS requesting the government issue criteria defining when a chimpanzee is not needed for research and therefore eligible for retirement. In the U.S., a concerned party may file a Rulemaking Petition with any government agency by documenting the need for and requesting specific agency action. The submitted Rulemaking Petition proposes scientifically based standards by which to determine when chimpanzees in laboratories are “not needed” in research within the meaning of the CHIMP Act. They include the following:

1. Chimpanzees held or proposed for research in which chimpanzees have been determined to be unnecessary
A 2011 National Academies’ Institute of Medicine report found that most current use of chimpanzees for biomedical research is unnecessary.¹¹ In addition, further evidence shows that chimpanzees are not needed in research areas they have been used in such as HIV/AIDS, cancer, hepatitis C, comparative genomics, malaria, drug development/pharmacokinetics,

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⁸ Senate Committee on Health, Education, Labor, and Pensions. 2000. *Senate Report on Chimpanzee Health Improvement, Maintenance and Protection Act*. S. Rep. No. 106-494, 106th Cong., 2d Sess. 1.

⁹ Karen Allen, Director of Organizational Advancement at Chimp Haven, personal communication: “Of 161

chimpanzees retired to Chimp Haven under CHIMP Act, 119 were alive as of January 6, 2012.”

¹⁰ As per John VandeBerg Panel Presentation at The International Primatological Society XXII Congress August 3-8, 2008 Edinborough, Scotland.

¹¹ Institute of Medicine. 2011. *Chimpanzees in Biomedical and Behavioral Research: Assessing the Necessity*. The National Academies Press. http://www.nap.edu/openbook.php?record_id=13257



71% of the American public believed that a chimpanzee held in a laboratory for 10 years or more should be retired



biodefense, and monoclonal antibodies studies.¹² Under the CHIMP Act, chimpanzees should not be held in laboratories for potential research in areas in which they have been determined to be unnecessary.

2. Chimpanzees who have not been assigned to a research protocol in 10 or more years

The majority of federally owned and/or supported chimpanzees have been held in laboratories for decades. Yet, 80-90% are not in active research or testing protocols.¹³ A significant impetus for the CHIMP Act was to save taxpayer dollars - it is fiscally untenable to continue to house and maintain up to 10 times the number of chimpanzees currently being used for research or testing. Sanctuaries provide high quality care at a lower cost than laboratories. Further, a 2006 public opinion survey showed that 71% of the American public believed that a chimpanzee held in a laboratory for 10 years or more should be retired.¹⁴ This finding came *prior* to increased public concern for chimpanzees in research in the wake of growing socio-political and

scientific debate about their use during the last six years.

3. Chimpanzees with inadequate medical records and with multi-use histories

Chimpanzees in laboratories commonly have inadequate medical records, which limit researchers' abilities to have a complete understanding of the chimpanzees' histories and to adequately interpret data from any research in which they are used. In addition, many chimpanzees have been infected with multiple viruses and used in multiple areas of disease research, sometimes in different laboratories, further confounding research data and casting further doubt on its scientific validity.

4. Elderly chimpanzees

According to available information, more than one-third of the over 900 chimpanzees held in U.S. laboratories are elderly¹⁵ (i.e., a male chimpanzee 25 years or older or a female 30 years or older).¹⁶ These aging chimpanzees have spent most or all of their lives in an unnatural environment as research subjects, and they have been exposed to many different biomedical protocols and pathogens and subjected to a multitude of stressful procedures. It has been unequivocally demonstrated that cellular insults

caused by stress, illness, and exposure to certain chemicals adversely affect the aging process.¹⁷ Therefore, it is likely that any results gained from chimpanzee aging studies would be both difficult to interpret and impossible to extrapolate to the average human being.¹⁸ There also are increased physical risks for elderly chimpanzees who are used in experiments.

5. Chimpanzees with physical illnesses

Autopsy reports, medical records, and the health statuses of chimpanzees in or from laboratories indicate a high probability that many chimpanzees currently in laboratories could be suffering from multiple and/or terminal diseases. A recent review of autopsies performed over the last 10 years on chimpanzees who died in laboratories, or after transfer from laboratory to sanctuary, revealed that 64% of those chimpanzees suffered significant chronic illnesses and 69% had multi-organ diseases that should have made them ineligible for research on scientific, as well as ethical, grounds. Some chimpanzees remained in laboratories even though their autopsy records indicated that they had been suffering from multi-organ diseases, they had "Do Not Resuscitate" orders in their medical

¹²Institute of Medicine. . 2011. *IOM Public Workshop of the Committee on the Use of Chimpanzees in Biomedical and Behavioral Research*. Washington, D.C. <http://iom.edu/Activities/Research/Chimpanzees/2011-AUG-11.aspx>. Bailey, J. 2011. "Lessons from Chimpanzee-based Research on Human Disease: The Implications of Genetic Differences." *Alternatives to Laboratory Animals* 39 (6) (December): 527-540. Bailey, J. 2010. "An Assessment of the Use of Chimpanzees in Hepatitis C Research Past, Present and Future: 2. Alternative Replacement Methods." *Alternatives to Laboratory Animals* 38 (6) (December): 471-494. Bailey, J. 2010. "An Assessment of the Use of Chimpanzees in Hepatitis C Research Past, Present and Future: 1. Validity of the Chimpanzee Model." *Alternatives to Laboratory Animals* 38: 387-418. Bailey, J. 2009. "An Examination of Chimpanzee Use in Human Cancer Research." *Alternatives to Laboratory Animals* 37 (4) (September): 399-416. Bailey, J. 2008. "An Assessment of the Role of Chimpanzees in AIDS Vaccine Research." *Alternatives to Laboratory Animals* 36 (4) (September): 381-428.

Bailey, J, J Balcombe, and T Capaldo. 2007. *Chimpanzee Research: An Examination of Its Contribution to Biomedical Knowledge and Efficacy in Combating Human Diseases*. Project R&R: Release and Restitution for Chimpanzees in U.S. Laboratories. <http://www.releasechimps.org/pdfs/chimp-efficacy-paper-main.pdf>. Bailey, J. 2005. "Non-human Primates in Medical Research and Drug Development: a Critical Review." *Biogenic Amines* 19 (4): 235-256.

¹³As per John VandeBerg Panel Presentation at The International Primatological Society XXII Congress August 3-8, 2008 Edinborough, Scotland.

¹⁴2006 poll conducted by the Humane Research Council. 1,678 U.S. adults (age 18 and over) completed the survey with valid responses, resulting in a margin of error of about +/- 2.4% [at a 95% confidence level].

¹⁵Based on 2011 - 2012 FOIA responses from NIH and on correspondence with facilities.

¹⁶Videan, EN, J Fritz, and J Murphy. 2008. "Effects of Aging on Hematology and Serum Clinical Chemistry

in Chimpanzees (Pan Troglodytes)." *American Journal of Primatology* 70 (4): 327-338.

¹⁷Kregel, KC, and HJ Zhang. 2007. "An Integrated View of Oxidative Stress in Aging: Basic Mechanisms, Functional Effects, and Pathological Considerations." *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* 292 (1): R18-R36. Jones, D. P. 2006. "Extracellular Redox State: Refining the Definition of Oxidative Stress in Aging." *Rejuvenation Research* 9 (2): 169-181. Hawkley, LC, and JT Cacioppo. 2004. "Stress and the Aging Immune System." *Brain, Behavior, and Immunity* 18 (2): 114-119. Stadtman, ER. 2002. "Importance of Individuality in Oxidative Stress and Aging 1, 2." *Free Radical Biology and Medicine* 33 (5): 597-604.

¹⁸Bailey, J. 2006. "A Brief Overview of Chimpanzees and Aging Research". Project R&R: Release and Restitution for Chimpanzees in U.S. Laboratories. <http://www.releasechimps.org/pdfs/brief-overview-of-chimpanzees-and-aging-research.pdf>

records, or they had been diagnosed with terminal illnesses prior to death - in some cases months and even years prior to death.¹⁹

6. Chimpanzees suffering psychologically

The stress that chimpanzees endure in laboratories should make them ineligible for research. With few exceptions, laboratories are barren, hostile environments that deprive chimpanzees of trees, fresh air, grass, family, and friends. Though they are supposed to be given contact with their own species, such contact can be very minimal and does not match their natural, rich family network. For some experiments it is legal to isolate them entirely. The pain of procedures and the stress and fear of never fully knowing what is happening compounds these already adverse conditions. Even the impact of “routine” blood draws or injections is magnified because they typically require anaesthetization, which in the laboratory is often by dart gun. Darting - known as “knockdowns” - is terrifying for chimpanzees and they anxiously try to evade the darts. Sometimes they are surrounded by many lab

personnel with dart guns, and it is not unusual for a chimpanzee to be darted several times to administer the correct dose.

These extremely stressful laboratory conditions can result in chimpanzees suffering from self-mutilation, stereotypic behaviour, learned helplessness, inappropriate aggression, fear, withdrawal, diarrhoea, anorexia, high infant mortality, post-traumatic stress disorder, anxiety, and other abnormal behaviours. Chimpanzees in labs exhibit multiple signs of chronic stress and psychological suffering, which not only severely impacts their well-being, but also makes them inappropriate for research. The stress experienced by chimpanzees has adverse effects on any experimental results due to changes in biochemical pathways and gene expression that result in organ damage and/or disease.²⁰ For example, the impact of stress on the immune system and inflammatory responses is critical, as most chimpanzee experimentation involves studying infectious diseases.²¹ Even the stress of routine procedures like transporting chimpanzees, cage cleaning, and anaesthesia for physical examinations cause changes to body weight, hormone levels, heart rate, and blood pressure.²² Years of psychological and physical trauma, including all of these stressors, affects experimental data and makes chimpanzee use scientifically indefensible.

7. Family or group member of a chimpanzee being retired

Finally, because of the importance of keeping chimpanzee social groups

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together, and the Animal Welfare Act’s mandate that those who use primates in research must consider their psychological well being, the Petition proposes that criteria should specify that if a chimpanzee is determined to be “not needed” and therefore required to be sent to sanctuary, a family or significant group member should accompany the chimpanzee to live at the sanctuary even if the family or group member has not likewise been determined to be “not needed.”

Retirement to Sanctuary is Urgent

It is urgent that the Secretary of HHS define specific, enforceable criteria to retire chimpanzees to sanctuary as time is running out for many elderly and ill chimpanzees. With appropriate federal funding, there is space for all federally owned and supported chimpanzees in NAPSA facilities (including Chimp Haven, the statutorily designated recipient for retired chimpanzees), which all meet the high standards set by the Global Federation of Animal Sanctuaries. Implementing such criteria would help ensure hundreds of chimpanzees who have been subjected to years of trauma, confinement, and research can at last live out the remainder of their lives in sanctuaries capable of providing for their physical and psychological well-being.

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¹⁹Capaldo, T, and M Peppercorn. 2012. “A Review of Autopsy Reports on Chimpanzees in or from U.S. Laboratories.” *Alternatives to Laboratory Animals* 40: 259–269.

²⁰Balcombe, JP, ND Barnard, and C Sandusky. 2004. “Laboratory Routines Cause Animal Stress.” *Contemp Top Lab Anim Sci* 43 (6) (November): 42–51.

²¹For a discussion and references see (Bailey, J. 2011. “Lessons from Chimpanzee-based Research on Human Disease: The Implications of Genetic Differences.” *Alternatives to Laboratory Animals* 39 (6) (December): 527–540.)

²²Capdevila, S, M Giral, JL Ruiz de la Torre, RJ Russell, and K Kramer. 2007. “Acclimatization of Rats After Ground Transportation to a New Animal Facility.” *Lab Anim* 41 (2) (April): 255–261.