NIH Awards Highlighted by the Press

Grant Title: Behavioral Sciences Training In Drug Abuse Research
Institution: National Development and Research Institutes, Inc. (NDRI)
Grant Number: 5T32DA007233-28
Type: (Supplement, etc.): Research Training Grant
ARRA (Y/N): N

NIH Statement:
The National Institutes of Health did not fund or approve the research described in the paper. This study was funded by the Hunter College Center for HIV/AIDS Educational Studies and Training. Dr. Christian Grov was supported as a postdoctoral research fellow at the time the research was conducted by a National Institute on Drug Abuse (NIDA)-funded training grant, which focuses on preparing behavioral scientists, especially racial/ethnic minorities, to conduct research in the areas of drug abuse, HIV/AIDS, and crime. These funds can only be used to support expenses like stipends, tuition and fees. These funds cannot be used to support research projects.

Description of the Research:

- NIH did not fund the research described in the paper “The Association Between Penis Size And Sexual Health Among Men Who Have Sex With Men.” This study was supported by the Hunter College Center for HIV/AIDS Educational Studies and Training.
- The first author of this paper, Dr. Christian Grov, was supported as a postdoctoral research fellow at the time this research was conducted by a National Institute on Drug Abuse (NIDA)-funded training grant, which focuses on preparing behavioral scientists, especially racial/ethnic minorities, to conduct research in the areas of drug abuse, HIV/AIDS, and crime. The NIDA grant was awarded to the National Development and Research Institutes Inc. (NDRI).
- These funds can only be used to support expenses like stipends, tuition and fees. These funds cannot be used to support research projects.
- The total cost of the training grant which supported more than a dozen pre-doctoral and post-doctoral fellows during the two years Dr. Grov received training (2006-2007) was ~1.8M; Dr. Grov received ~$58,000 during this period.

Scientific Justification for HIV/AIDS research:

- The HIV/AIDS epidemic continues to devastate the United States, with an estimated 1 million people living with HIV/AIDS and approximately 56,000 new HIV infections occurring annually.
over the course of the past decade. The persistence of this rate indicates that much remains to be done to improve the effectiveness of HIV prevention.

- Although only a small percentage of American men report having sex with other men, this group accounts for nearly half of all people in the United States living with HIV and more than half of all new HIV infections in this country each year. It is noteworthy that some men who have sex with men also have sex with women, meaning an HIV-infected man in this population could also spread the virus to a heterosexual woman.

- For diseases such as HIV/AIDS, which is spread through sexual and drug-using behaviors and for which no vaccine is yet available, preventing risk behaviors is our best hope for containing the spread of this epidemic.

- The development of effective interventions for HIV/AIDS prevention depends on a scientific foundation of biomedical research as well as behavioral research that identifies the psychological, social and cultural causes of risk-taking behaviors and the mechanisms that facilitate behavioral change.

Strategic Justification (strategic plan or other public document where topic area has been described as a priority)

- This training grant went through the NIH two-tier review process which includes:
  - Scientific and technical review
  - Consideration by an Advisory Council that includes public representatives. The Council makes recommendations based on alignment of the application with the research priorities of the NIH Institute/Center.

Grant Title: Maternal Rat Preferences for Pups versus Cocaine

PI: JOAN I. MORRELL

Institution: RUTGERS THE STATE UNIVERSITY OF NEW JERSEY

Grant Number: 5R01DA014025-02

Type: (Supplement, etc.): Research Grant

ARRA (Y/N): N


Description of the Research:

- The high incidence of cocaine abuse in women of reproductive age and the correlation between cocaine abuse with poor care giving and child abuse creates a pressing social problem.

- Research has shown that the repeated use of drugs of abuse disrupts a person’s normal hierarchy of needs and desires, displacing it with drives centered solely on drugs. Therefore, the motivational forces that normally drive a parent’s desire to care for their offspring may be disrupted by the use of drugs like cocaine.

- These experiments examine the behavioral, neurobiological, and hormonal basis underlying the motivation to either care for offspring or to seek out cocaine and how that might be modified by prior maternal and/or prior cocaine experience.

- Understanding the brain mechanisms and associated hormonal changes that are disrupted by chronic drug use can inform the development of targeted treatments for cocaine addiction while restoring maternal behaviors like caring for one’s children.
Scientific Justification:

- Cocaine remains a significant problem in society. According to the National Survey on Drug Use and Health, in 2009 about 37 million Americans aged 12 and older reported using cocaine or crack at least once, and 1.1 million met criteria for abuse or dependence on the drug.
- In 2008-2009, there were an estimated 455,000 women of reproductive age who had used cocaine in the past month.
- Currently, we have no FDA approved medications to treat cocaine addiction, and available behavioral therapies are of limited benefit to many addicted patients.
- Development of an effective treatment for cocaine addiction hinges on a deeper understanding of the brain changes triggered by cocaine.
- Animal research is necessary to investigate the effects of cocaine administered under controlled experimental circumstances. Thus, in order to determine the cocaine-induced brain changes that a successful treatment would have to either mitigate or reverse, this type of study must be carried out in animals.
- The results of this research could dramatically expand the universe of potential targets for the development of cocaine addiction treatments.

Strategic Justification (strategic plan or other public document where topic area has been described as a priority)

- This grant went through the NIH two-tier review process which includes:
  - Scientific and technical review
  - Consideration by an Advisory Council that includes public representatives. The Council makes recommendations based on alignment of the application with the research priorities of the NIH Institute/Center.
- This work is in line with The National Institute on Drug Abuse’s strategic plan http://www.drugabuse.gov/StrategicPlan/StratPlan10/Index.html which sets one of the objectives:
  - To improve and expand our understanding of basic neurobiology as it relates to the brain circuitry underlying drug abuse and addiction.

Grant Title: Behavioral Intentions and Associated Outcomes over Party-Oriented Vacations
PI: RAJEEV RAMCHAND
Institution: RAND Corporation
Grant Number: 5R03DA026724-02
Type: (Supplement, etc.): Research Grant
ARRA (Y/N): N

Description of the Research:

- Men who have sex with men (MSM) continue to comprise the largest proportion of new HIV/AIDS diagnoses in the US. Despite the widely acknowledged importance of sexual behavior in determining the transmission of HIV and other sexually transmitted infections (STIs), a better understanding of what contributes to the intentions to engage in risky behaviors can lead to the development of more effective targeted interventions to reduce HIV spread.
Substance use among MSM is a significant risk factor for contracting HIV and other STDs. Whether by injection or other routes, drugs have intoxicating effects that can alter judgment and inhibition and lead people to engage in impulsive and unsafe behaviors.

MSM from geographically diverse locations are known to participate in “party-oriented vacations” that facilitate risky behaviors (including drug use and risky sexual behaviors), and then to return to their families, spouses, partners, etc., placing them at risk of transmitting any sexually transmitted diseases they may have acquired.

The researchers are studying the intentions of MSM to engage in risky behaviors prior to participation in these events, the role of normative beliefs in their intentions to engage in risky behaviors, and how their intentions and beliefs are modified after participation.

Assessing the synergistic effects of drug use and social setting on the intentions, health beliefs, and risk behaviors of men at risk for HIV who participate in these events is a vital first step in the design of effective HIV prevention strategies that can be implemented in this specific context, where risk is at its highest.

Scientific Justification:

The HIV/AIDS epidemic continues to devastate the United States, with an estimated 1 million people living with HIV/AIDS and approximately 56,000 new HIV infections occurring annually over the course of the past decade. The persistence of this rate indicates that much remains to be done to improve the effectiveness of HIV prevention.

Although a small percentage of American men report having sex with other men, this group accounts for nearly half of all people in the United States living with HIV and more than half of all new HIV infections in this country each year. Some men who have sex with men also have sex with women and may contribute to the heterosexual spread of HIV in the general population.

For diseases such as HIV/AIDS, which is spread through sexual and drug-using behaviors and for which no vaccine is yet available, preventing risk behaviors is our best hope for containing the spread of this epidemic.

The development of effective interventions for HIV/AIDS prevention depends on a scientific foundation of biomedical research as well as behavioral research that identifies the psychological, social and cultural causes of risk-taking behaviors and the mechanisms that facilitate behavioral change.

Strategic Justification (strategic plan or other public document where topic area has been described as a priority)

This grant went through the NIH two-tier review process which includes:

Scientific and technical review

- Consideration by an Advisory Council that includes public representatives. The Council makes recommendations based on alignment of the application with the research priorities of the NIH Institute/Center.

This work is in line with The National Institute of Allergy and Infectious Diseases strategy plan “NIAID: Planning for the 21st Century: 2008 update” http://www.niaid.nih.gov/about/whoWeAre/Documents/niaidstrategicplan2008.pdf which sets one of the priorities for HIV/AIDS non-vaccine prevention strategies as:

- Encourage further development and evaluation of behavioral interventions and communication strategies to reduce high-risk behavior associated with HIV transmission. (p13)
This project also address the goals for supporting prevention research as described in the FY-2010 Trans-NIH plan for HIV-related research (http://www.oar.nih.gov/strategicplan/fy2010/index.asp). In particular, the strategic plan aims to:

- Support domestic and international intervention research on the HIV prevention role of programs designed to enhance healthy sexual development and protective behaviors (including avoidance of too-early or nonconsensual sex, abstinence from unsafe sexual behavior, and access to and use of barrier methods) throughout one’s lifetime. (p76)

Grant Title: Hair and Toenail Nicotine as Biomarkers of Actual Population Exposure to Tobacco

Institution: National Cancer Institute (NCI)
Grant Number: 5R03CA139536-01 and -02
Type: (Supplement, etc.): RO3 Grant
ARRA (Y/N): Y

Description of the Research:

- Serum, saliva and urine have been more widely used than hair and nails as biological markers (or biomarkers) for estimating tobacco exposure.
- Serum, saliva and urine biomarkers have a short half-life whereas human hair and toenail nicotine biomarkers are more stable, leading to more accurate representation of overall tobacco exposure.
- Little is known about nicotine levels in hair and toenails and the overall variability among healthy individuals. The aim of this study is to assess the levels of nicotine in hair and toenails and their variability in a healthy general population in California participating in the California Tobacco Survey.
- A total of 500 participants were randomly selected and interviewed by phone about their exposure to tobacco and hair and toenail samples were collected by mail. A subsample of 100 participants will be asked to send salivary samples to be compared to toenail and hair nicotine levels.
- Results from this study will help standardize these biomarker levels and provide reference values for wider future use as well as improve the prediction of cancer risk.

Scientific Justification for biomarker research:

- Tobacco smoking is the single most preventable risk factor for cancer and is responsible for lung cancer being the leading cause of cancer mortality in the U.S. and worldwide.
- Biomarkers of tobacco exposure offer objective measures that can complement improve questionnaire-based assessment of tobacco exposure.
- Nicotine levels in human hair and toenail may be good biomarkers of exposure to tobacco.
- Toenail nicotine biomarker has been found to be a strong predictor of lung cancer, independent of individual smoking history, but population-based reference values do not exist and are needed for their wider use in population-based studies.
- Collection of toenail specimens is not unique to this study. To assess whether Vitamin E or selenium could reduce prostate cancer risk, a large NCI-sponsored study (SELECT) asked men to collect toenail clippings to assess selenium levels in the body because selenium concentrates in fingernails and toenails. Toenails were chosen over fingernails because they take longer to grow and thus contain more history of someone's selenium intake. Toenail specimens have also been used as biomarkers of arsenic and manganese as well as selenium.

**Strategic Justification (strategic plan or other public document where topic area has been described as a priority):**

- This grant went through the NIH two-tier review process which includes:
  - Scientific and technical review
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