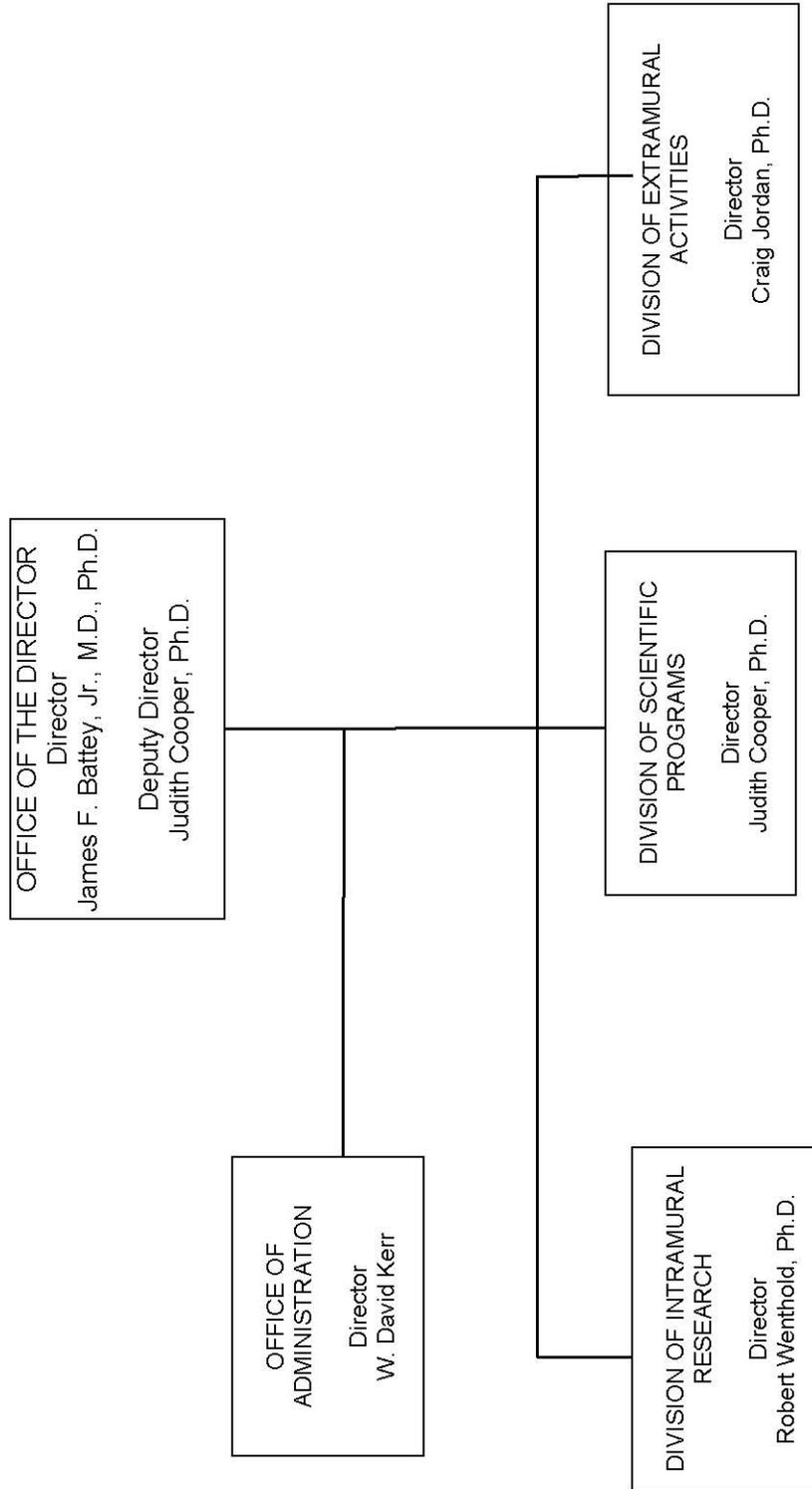


DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH

National Institute on Deafness and Other Communication Disorders

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**NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders**



FY 2009 Proposed Appropriation Language

NATIONAL INSTITUTES OF HEALTH

National Institute on Deafness and Other Communication Disorders

For carrying out section 301 and title IV of the Public Health Services Act with respect to deafness and other communication disorders ~~\$401,146,000~~ **\$395,047,000** (Department of Health and Human Services Appropriation Act, 2008)

**National Institutes of Health
National Institute on Deafness and Other Communication Disorders**

Amounts Available for Obligation 1/

| Source of Funding | FY 2007 Actual | FY 2008 Enacted | FY 2009 Estimate |
|---|-------------------|--------------------|---------------------|
| Appropriation | \$393,458,000 | \$401,146,000 | \$395,047,000 |
| Pay cost add-on | 210,000 | 0 | 0 |
| Rescission | 0 | -7,008,000 | 0 |
| Subtotal, adjusted appropriation | 393,668,000 | 394,138,000 | 395,047,000 |
| Real transfer under Director's one-percent transfer authority (GEI) | -676,000 | 0 | 0 |
| Comparative transfer to NIBIB | -18,000 | 0 | 0 |
| Comparative transfer to OD | -8,000 | 0 | 0 |
| Comparative transfer to NCRR | -101,000 | 0 | 0 |
| Comparative transfers to the Office of the Assistant Secretary for Admin. and Mgmt. and to the Office of the Assistant Secretary for Public Affairs | -1,000 | 0 | 0 |
| Comparative transfer under Director's one-percent transfer authority (GEI) | 676,000 | 0 | 0 |
| Subtotal, adjusted budget authority | 393,540,000 | 394,138,000 | 395,047,000 |
| Unobligated balance lapsing | -55,000 | 0 | 0 |
| Total obligations | 393,485,000 | 394,138,000 | 395,047,000 |

1/ Excludes the following amounts for reimbursable activities carried out by this account:
FY 2007 - \$ 1,292,000 FY 2008 -\$1,500,000 FY 2009 - \$1,500,000
Excludes \$113,000 in FY 2008 and \$120,000 in FY 2009 for royalties.

NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders

(Dollars in Thousands)

Budget Mechanism - Total

| MECHANISM | FY 2007 Actual | | FY 2008 Enacted | | FY 2009 Estimate | | Change | |
|---|-------------------|----------------|--------------------|----------------|---------------------|----------------|------------|-------------|
| | No. | Amount | No. | Amount | No. | Amount | No. | Amount |
| Research Grants: | | | | | | | | |
| Research Projects: | | | | | | | | |
| Noncompeting | 628 | \$199,207 | 627 | \$202,995 | 634 | \$205,980 | 7 | \$2,985 |
| Administrative supplements | (18) | 1,150 | (18) | 1,150 | (18) | 1,150 | (0) | 0 |
| Competing: | | | | | | | | |
| Renewal | 86 | 29,521 | 79 | 27,385 | 75 | 25,910 | (4) | -1,475 |
| New | 147 | 38,354 | 135 | 35,579 | 127 | 33,662 | (8) | -1,917 |
| Supplements | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal, competing | 233 | 67,875 | 214 | 62,964 | 202 | 59,572 | (12) | -3,392 |
| Subtotal, RPGs | 861 | 268,232 | 841 | 267,109 | 836 | 266,702 | (5) | -407 |
| SBIR/STTR | 32 | 10,096 | 30 | 9,500 | 30 | 9,500 | 0 | 0 |
| Subtotal, RPGs | 893 | 278,328 | 871 | 276,609 | 866 | 276,202 | (5) | -407 |
| Research Centers: | | | | | | | | |
| Specialized/comprehensive | 19 | 15,829 | 20 | 16,985 | 20 | 16,985 | 0 | 0 |
| Clinical research | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Biotechnology | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Comparative medicine | 0 | 95 | 0 | 94 | 0 | 94 | 0 | 0 |
| Research Centers in Minority Institutions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal, Centers | 19 | 15,924 | 20 | 17,079 | 20 | 17,079 | 0 | 0 |
| Other Research: | | | | | | | | |
| Research careers | 44 | 7,232 | 46 | 7,645 | 45 | 7,645 | (1) | 0 |
| Cancer education | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cooperative clinical research | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Biomedical research support | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minority biomedical research support | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 25 | 2,704 | 25 | 2,673 | 25 | 2,673 | 0 | 0 |
| Subtotal, Other Research | 69 | 9,936 | 71 | 10,318 | 70 | 10,318 | (1) | 0 |
| Total Research Grants | 981 | 304,188 | 962 | 304,006 | 956 | 303,599 | (6) | -407 |
| Research Training: | | | | | | | | |
| Individual awards | 152 | 5,719 | 152 | 5,720 | 151 | 5,720 | (1) | 0 |
| Institutional awards | 201 | 7,982 | 201 | 7,980 | 200 | 7,980 | (1) | 0 |
| Total, Training | 353 | 13,701 | 353 | 13,700 | 351 | 13,700 | (2) | 0 |
| Research & development contracts (SBIR/STTR) | 52 (0) | 22,687 (0) | 52 (0) | 22,000 (0) | 52 (0) | 22,000 (0) | 0 (0) | 0 (0) |
| Intramural research | 66 | 34,638 | 66 | 35,831 | 67 | 36,868 | 1 | 1,037 |
| Research management and support | 68 | 18,326 | 68 | 18,601 | 68 | 18,880 | 0 | 279 |
| Construction | | 0 | | 0 | | 0 | | 0 |
| Buildings and Facilities | | 0 | | 0 | | 0 | | 0 |
| Total, NIDCD | 134 | 393,540 | 134 | 394,138 | 135 | 395,047 | 1 | 909 |

Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research

NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders

BA by Program
(Dollars in thousands)

| | FY 2005 | FY 2006 | FY 2007 | FY 2007 | FY 2007 | FY 2008 | FY 2009 | Change |
|--------------------------------------|----------------|----------------|----------------|----------------|-------------------|----------------|-----------------|---------------|
| Extramural Research | Actual | Actual | Actual | Actual | Comparable | Enacted | Estimate | Change |
| <u>Detail:</u> | FTEs | FTEs | FTEs | FTEs | FTEs | FTEs | FTEs | FTEs |
| | Amount | Amount | Amount | Amount | Amount | Amount | Amount | Amount |
| Hearing & Balance | \$201,072 | \$196,833 | \$195,408 | \$195,738 | \$195,235 | \$195,003 | | -\$232 |
| Smell & Taste | 62,480 | 63,273 | 62,232 | 62,337 | 62,178 | 62,104 | | -74 |
| Voice, Speech, & Language | 79,452 | 80,680 | 82,361 | 82,501 | 82,293 | 82,192 | | -101 |
| Subtotal, Extramural | 343,004 | 340,786 | 340,001 | 340,576 | 339,706 | 339,299 | | -407 |
| Intramural research | 72 | 65 | 66 | 66 | 66 | 67 | 67 | 1 |
| Res. management & support | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 0 |
| TOTAL | 140 | 133 | 134 | 134 | 134 | 135 | 135 | 1 |
| | 394,260 | 393,188 | 392,992 | 393,540 | 394,138 | 395,047 | | 909 |

Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research

Major Changes in the Fiscal Year 2009 Budget Request

Major changes by budget mechanism and/or budget activity detail are briefly described below. Note that there may be overlap between budget mechanism and activity detail and these highlights will not sum to the total change for the FY 2009 budget request for NIDCD, which is \$0.909 million more than the FY 2008 Estimate, for a total of \$395.047 million.

Research Project Grants (-\$0.4 million; total \$276.2 million). NIDCD will support a total of 866 Research Project Grant (RPG) awards in FY 2009. Noncompeting RPGs will increase by 7 awards and \$3.0 million. Competing RPGs will decrease by 12 awards and \$3.4 million. The NIH policy for FY 2009 RPG's is no inflationary increase for non-competing grants and no average cost increase for competing grants.

Intramural Research (+\$1.0 million; total \$36.9 million). The increase will be utilized to offset cost increases for pay, centrally furnished services, and laboratory supplies, materials, and other expenses.

Research Management and Support (+\$0.3 million; total \$18.9 million). The increase will be utilized to offset cost increases for pay, centrally furnished services, and other expenses.

NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders
Summary of Changes

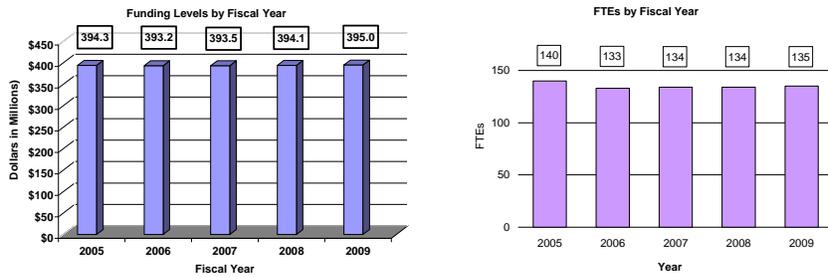
| | | | | |
|--|--------------|--------------|------------------|-----------|
| FY 2008 enacted | | | | \$0 |
| FY 2009 estimated budget authority | | | | 0 |
| Net change | | | | 0 |
| CHANGES | 2008 | | Change from Base | |
| | Enacted Base | Budget | FTEs | Budget |
| | FTEs | Authority | FTEs | Authority |
| A. Built-in: | | | | |
| 1. Intramural research: | | | | |
| a. Annualization of January | | | | |
| 2008 pay increase | | | | |
| | | \$10,940,000 | | \$217,000 |
| b. January FY 2009 pay increase | | | | |
| | | 10,940,000 | | 438,000 |
| c. One less day of pay | | | | |
| | | 10,940,000 | | (42,000) |
| d. Payment for centrally furnished services | | | | |
| | | 5,940,000 | | 89,000 |
| e. Increased cost of laboratory supplies, materials, and other expenses | | | | |
| | | 18,951,000 | | 377,000 |
| Subtotal | | | | 1,079,000 |
| 2. Research management and support: | | | | |
| a. Annualization of January | | | | |
| 2008 pay increase | | | | |
| | | \$9,304,000 | | \$104,000 |
| b. January FY 2009 pay increase | | | | |
| | | 9,304,000 | | 202,000 |
| c. One less day of pay | | | | |
| | | 9,304,000 | | (36,000) |
| d. Payment for centrally furnished services | | | | |
| | | 2,851,000 | | 43,000 |
| e. Increased cost of laboratory supplies, materials, and other expenses | | | | |
| | | 6,446,000 | | 128,000 |
| Subtotal | | | | 441,000 |
| Subtotal, Built-in | | | | 1,520,000 |

NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders
Summary of Changes--continued

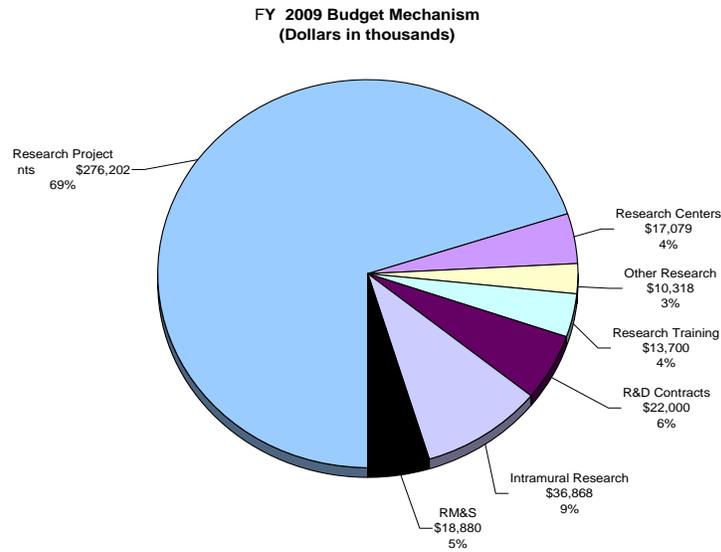
| CHANGES | 2008 | | | |
|---------------------------------------|-------------------|---------------|------------------|-------------|
| | Enacted Base | | Change from Base | |
| | No. | Amount | No. | Amount |
| B. Program: | | | | |
| 1. Research project grants: | | | | |
| a. Noncompeting | 627 | \$204,145,000 | 7 | \$2,985,000 |
| b. Competing | 214 | 62,964,000 | (12) | (3,392,000) |
| c. SBIR/STTR | 30 | 9,500,000 | 0 | 0 |
| Total | 871 | 276,609,000 | (5) | (407,000) |
| 2. Research centers | 20 | 17,079,000 | 0 | 0 |
| 3. Other research | 71 | 10,318,000 | (1) | 0 |
| 4. Research training | 353 | 13,700,000 | (2) | 0 |
| 5. Research and development contracts | 52 | 22,000,000 | 0 | 0 |
| Subtotal, extramural | | | | (407,000) |
| 6. Intramural research | <u>FTEs</u> 66 | 35,831,000 | <u>FTEs</u> 1 | (42,000) |
| 7. Research management and support | 68 | 18,601,000 | 0 | (162,000) |
| 8. Construction | | 0 | | 0 |
| 9. Buildings and Facilities | | 0 | | 0 |
| Subtotal, program | | 394,138,000 | | (611,000) |
| Total changes | 134 | | 1 | 909,000 |

Fiscal Year 2009 Budget Graphs

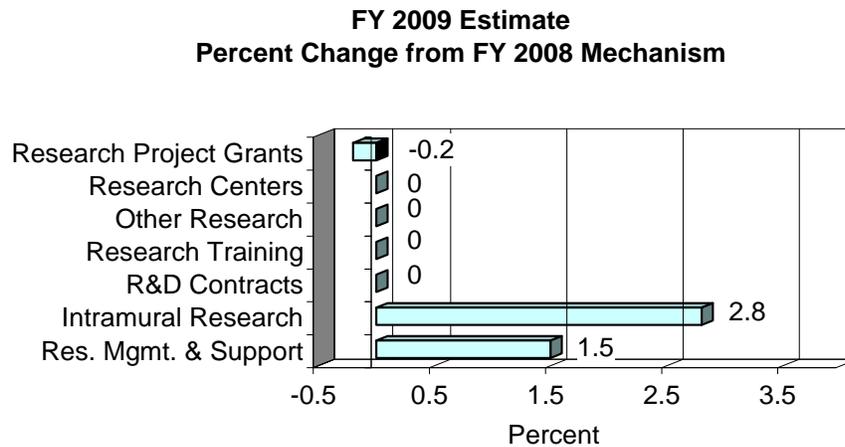
History of Budget Authority and FTEs:



Distribution by Mechanism:



Change by Selected Mechanism:



Authorizing Legislation: Section 301 and title IV of the Public Health Service Act, as amended.

Budget Authority:

| FY 2007 Actual | | FY 2008 Enacted | | FY 2009 Estimate | | Increase or Decrease | |
|-------------------|-------------|--------------------|-------------|---------------------|-------------|-------------------------|-----------|
| <u>FTE</u> | <u>BA</u> | <u>FTE</u> | <u>BA</u> | <u>FTE</u> | <u>BA</u> | <u>FTE</u> | <u>BA</u> |
| 134 | 393,540,000 | 134 | 394,138,000 | 135 | 395,047,000 | 1 | 909,000 |

This document provides justification for the Fiscal Year (FY) 2009 activities of the National Institute on Deafness and Other Communication Disorders (NIDCD), including NIH/AIDS activities. Details of the FY 2009 HIV/AIDS activities are in the “Office of AIDS Research (OAR)” Section of the Overview. Details on the Common Fund are located in the Overview, Volume One. Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

DIRECTOR’S OVERVIEW

Approximately one of every six Americans will experience varying degrees of some form of communication disorder in his or her lifetime. For these individuals, many aspects of contemporary life, including common acts such as speaking, listening, and conveying wants and needs are often challenging. The National Institute on Deafness and Other Communication Disorders (NIDCD) is committed to advancing human communication and its associated disorders by conducting and supporting research and research training in the normal and disordered processes of hearing, balance, smell, taste, voice, speech, and language. These processes are fundamental to the way we perceive and participate in the world around us.

In October 2008, the NIDCD will celebrate its 20th anniversary. Over the past two decades, extraordinary research opportunities have led to scientific breakthroughs in the study of genes, proteins, sensory and supporting cells, and molecular processes that directly affect our understanding of communication disorders. These advances have been accompanied by substantial progress in behavioral studies that increase our understanding of how communication processes contribute to a person’s health. To commemorate its anniversary, NIDCD will highlight several of these research accomplishments at a symposium planned for the Fall of 2008.

NIDCD Accomplishments. In the past year, NIDCD has supported important activities in the following key areas of communication research:

Genes and Proteins. The NIDCD supports research to investigate the genes and proteins necessary for human communication, including functional genomics (research that delves into the identity, structure, and function of genes) and proteomics (research

that explores how proteins interact within cells). Genes influence whether certain proteins are made as well as their structure and function. Mutations in one gene can have a dramatic effect on complex functions such as hearing, balance, smell, taste, voice, speech, and language. For example, NIDCD-supported scientists shed new light on the hearing process by identifying two key proteins that join together at the precise location where energy of sound or head motion is turned into electrical impulses. Understanding how genes and proteins may function differently in individuals with communication disorders is an essential first step in developing personalized and precise molecular diagnoses, pharmacological treatments, and behavioral interventions.

Diagnostics for Treatment and Prevention. There is excellent potential for further development of diagnostics, assistive devices, drugs, and other therapeutic interventions for communication disorders. For example, NIDCD intramural scientists, in collaboration with intramural scientists from the National Cancer Institute, found that individuals with throat cancer who showed a decline in several cancer-related proteins following chemotherapy and radiation treatment were more likely to remain in remission, while those who experienced a large rise over time in those proteins frequently exhibited a return of throat cancer. This finding could help lead to the development of a preemptive blood test that enables doctors to detect the recurrence of throat cancer at an early stage and help to monitor the effectiveness of chemotherapy and radiation treatment in individuals with advanced throat cancer.

NIDCD Plans and Priorities. Intramural Research and Research Management and Support receive modest increases to help offset the cost of pay and other increases. NIDCD will continue to support new investigators and to maintain an adequate number of competing Research Project Grants. Driven by the compelling public health need and scientific opportunity identified in the NIDCD Strategic Plan, NIDCD prioritizes its research investments to identify the most promising scientific opportunities aimed at improving the quality of life for individuals who face the daily challenge of living with a communication disorder, including:

Genes and communication disorders. NIDCD supports research to understand the genetic basis of communication disorders and how these genes are altered in individuals with communication disorders (such as hearing loss, stuttering, speech-sound disorders, autism, and dyslexia). For instance, hereditary or genetic causes account for approximately 50-60 percent of the severe to profound cases of childhood hearing loss¹. In FY 2008, NIDCD is the lead NIH institute on a Government Performance and Results Act (GPRA) goal to “identify or study additional genes involved in communication disorders in human and animal models by 2011.” In fulfilling this goal, NIDCD-supported scientists can capitalize on the knowledge gained from the Human Genome Project to expand and enable research on genes whose mutations may cause communication disorders. The results of these studies will ultimately aid in predicting communication disorders through genetic testing.

¹ Morton CC and Nance WE. Newborn hearing screening--a silent revolution. *N Engl J Med* 354: 2151-2164, 2006.

Research Core Centers. Sustaining a productive, creative, and innovative pool of qualified scientists and research centers is a key factor for advancing the mission of the NIDCD. Accordingly, NIDCD continues to preserve its focus on training, supporting and encouraging new investigators, and building shared research resources. Starting in January 2008, the NIDCD will accept new applications once a year for its Research Core Center (P30) grant program, a program that had been dormant for two years, with the awarding of only renewal grants. NIDCD is now reopening the program to new applications as a result of research need. The overall goal of a Core Center is to serve as an intellectual hub to provide centralized research resources, promote cooperation between basic and clinical scientists, encourage multidisciplinary collaborations, and facilitate translational research.

Making the Transition to Clinical Research. NIDCD recognizes the importance of promoting translational research to ensure the timely and effective progression from basic research to clinical studies. In 2008 and 2009, NIDCD plans to support several ongoing and new initiatives to encourage research that translates basic findings into clinical tools to benefit people with communication disorders. Because of a critical need for physicians and clinicians to conduct research in the communication sciences, the NIDCD held a workshop and is also supporting several ongoing and new initiatives to facilitate and accelerate entry of physician scientists into research careers.

FY 2009 JUSTIFICATION BY ACTIVITY DETAIL

Program Descriptions and Accomplishments

Hearing and Balance Program

Hearing and balance disorders are prevalent, bear substantial costs to society, and cross all ethnic and socioeconomic lines. Approximately 32 million American adults report some degree of hearing loss and almost eight million adults report a chronic problem with balance. To study normal and disordered functions of the auditory and vestibular systems, NIDCD utilizes a wide range of research approaches, such as molecular genetics, the development of assistive and augmentative devices, biomedical imaging, nanotechnology, psychoacoustics, and structural biology.

The NIDCD has fostered the growth of research that will lead to the amelioration or prevention of hearing and balance disorders. For example, tinnitus is a disorder which affects people of all ages and is characterized by loud ringing in the ears. Military personnel that are exposed to loud noises, such as an explosion, may experience hearing loss and/or tinnitus. To help determine the cause and develop treatment for tinnitus, NIDCD issued several announcements to request additional research on this disorder. Also, NIDCD and representatives from the Department of Veterans Affairs and the Department of Defense have been in discussions about their tinnitus research portfolios with the hope of exploring possible research collaborations. In another accomplishment, NIDCD sponsored a short course to help build additional human infrastructure for auditory and vestibular sciences at the Marine Biological Laboratory (MBL) at Woods Hole, Massachusetts. This course brought together graduate students and faculty to receive training on the biology of the inner ear to increase their knowledge on disorders of hearing and balance.

Budget Policy: The 2009 budget estimate for the Hearing and Balance program is \$195.003 million, a decrease of \$0.232 million or -0.1 percent from the FY 2008 estimate. In FY 2009, the program will continue emphasizing faculty, postdoctoral and student training on hearing and balance sciences. Capitalizing on the success of the short courses offered at the MBL in Woods Hole, Massachusetts, NIDCD is planning to issue a Funding Opportunity Announcement to support additional educational courses in the auditory and vestibular biological sciences.

PROGRAM PORTRAITS: Hearing Loss in Children

FY 2008 Level: \$29.550 million

FY 2009 Level: \$29.518 million

Change -\$0.032 million

Each year, approximately two to three out of 1,000 babies born in the United States have a detectable hearing loss, which can affect their speech, language, social, and cognitive development. Universal hearing screening of newborn infants before they are discharged from the hospital has demonstrated great success in identifying moderate to profound degrees of hearing loss in children. However, children

with mild and unilateral (one ear) hearing loss are not easily identified. These children score lower on tests of speech, language, school achievement, and behavior than do children without hearing loss.

NIDCD is supporting research on hearing impairment in children and is committed to reducing the possible under-identification and impact of mild and unilateral hearing loss by stimulating research in this area. The NIDCD participated in the National Workshop on Mild and Unilateral Hearing Loss, which was convened by the Centers for Disease Control and Prevention's (CDC) Early Hearing Detection and Intervention (EHDI) program in collaboration with the Marion Downs Hearing Center. The workshop served as a springboard and forum to discuss issues related to the identification, assessment, and intervention appropriate for infants and children with mild and unilateral hearing loss. As a result of the workshop, the NIDCD and CDC developed several grant initiatives on "Research on Mild and/or Unilateral Hearing Loss," which will be directed to foster research to prevent, identify, and treat these children.

In addition, the NIDCD and CDC plan to fund additional grants for "New Technology to Screen for Mild Hearing Loss in Children." These Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants are designed to encourage small businesses to develop better screening tools for mild and unilateral hearing loss. These screening tools will help children with lesser degrees of hearing loss receive intervention (such as a hearing aid) as early as possible, which is crucial for language development when used early in a child identified with a hearing loss.

Smell and Taste and Program

The study of the chemical senses of olfaction (smell) and gustation (taste) enhance our understanding of how individuals communicate with their environment. Smell and taste play important roles in preferences and aversions for aromas, specific foods, and flavors. In addition, research on smell and taste will provide knowledge on food preferences which may increase our understanding of obesity and diabetes. The NIDCD supports research to determine the molecular biological studies of smell and taste receptor cells that has provided essential information about the sensitivities of the chemical senses.

NIDCD-supported research on molecular and cellular biology, biophysics, and biochemistry of the olfactory and gustatory systems pave the way for improved diagnosis, prevention, and treatment of chemosensory disorders. Humans can sense five main groups of tastes, which are sweet, bitter, sour, salty, and umami (the taste of monosodium glutamate). Scientists have already identified the cells on the tongue that detect sweet, bitter, and umami. Recently, NIDCD-supported researchers identified the final set of taste cells that is responsible for detecting sour taste. NIDCD continues to capitalize on this finding by publishing an initiative to request research that will study the brain's role in processing taste information and the perception of taste quality.

Budget Policy: The 2009 budget estimate for the Smell and Taste program is \$62.104 million, a decrease of \$0.074 million or -0.1 percent from the FY 2008 estimate.

Disorders in smell and taste may sometimes be a signal to serious health problems, such as obesity, diabetes, hypertension, malnutrition, Parkinson's disease, Alzheimer's disease, and multiple sclerosis. Research is needed to translate the knowledge gained from our understanding of the molecular basis of smell and taste into treatment for individuals with chemosensory disorders. In FY 2009, NIDCD plans to continue supporting an initiative for research on translating basic research into clinical tools for

human health. The scope of this Funding Opportunity Announcement includes a range of activities to encourage translation of basic research findings which will impact the diagnosis, treatment and prevention of communication disorders.

Voice, Speech, and Language Program

We depend on our ability to communicate effectively to function in our modern society. Disorders involving voice, speech, or language can have an overwhelming effect on the individual's health and the quality of life. The NIDCD supports research in the communication sciences, including voice, speech, and language, to examine how individuals comprehend and generate speech or language. Because voice, speech, and language disorders affect individuals across the age spectrum and in persons with and without hearing impairment, the NIDCD continues its commitment to determine the nature, causes, treatment, and prevention of communication disorders.

The NIDCD has expanded its research commitment in autism research. Autism affects three crucial areas of language development for verbal and nonverbal communication skills. The NIDCD has been participating in a trans-NIH effort to fund research centers, such as the STAART (Studies to Advance Autism Research and Treatment) and CPEA (Collaborative Programs of Excellence in Autism) programs. These centers investigate the possible causes of autism, including genetic, immunological, and environmental factors. NIH determined that consolidation of research efforts from the CPEA and STAART programs was needed to maximize coordination and cohesion of NIH-sponsored efforts in autism research. In response, NIDCD is participating in this new trans-NIH effort to support new autism centers and networks called the Autism Centers of Excellence and will co-fund two centers to study genes and other potential factors that may predispose an individual toward autism and to understand how this disorder affects an individual's ability to communicate.

Budget Policy: The 2009 budget estimate for the Voice, Speech, and Language program is \$82.192 million, a decrease of \$0.101 million or -0.1 percent from the FY 2008 estimate. It is estimated that Autism Spectrum Disorders (ASD) affects approximately three out of every 1,000 American children ages 3-10 years old. Recently NIDCD and another non-federal organization with interest in ASD research held a workshop to establish criteria for determining acquisition of verbal speech in children with ASD and to develop a set of recommended measures that can be used for evaluating interventions for these children. After the workshop recommendations are published in 2009, NIDCD plans to implement some of these recommendations into Funding Opportunity Announcements to increase research on ASD and communication.

Intramural Research Program

NIDCD's Division of Intramural Research (DIR) conducts basic and clinical research in the areas of human communication with the dominant subject of interest being hearing. Research projects address the genetics of communication disorders in human and mouse models; developmental properties of the inner ear; neuroimaging and computer

modeling of brain function; characterization of neurotransmission and signal transduction; and development of vaccines against otitis media. This intense concentration on hearing research and its genetic underpinnings has allowed NIDCD intramural scientists to make significant research progress on this priority for NIDCD.

NIDCD recently recruited a new tenure track investigator who has established a new research program in the functional properties of synapses (the connections between nerve cells). This area of research will study the properties of those connections within pathways of the brain related to hearing. This is a subject area not currently covered within DIR and one that will complement and collaborate with several existing DIR programs. In another area of accomplishment, NIDCD intramural scientists, in collaboration with intramural scientists from the National Cancer Institute, found that throat cancer patients who showed a decline in several cancer-related proteins following chemotherapy and radiation treatment were more likely to remain in remission, while those who experienced a large rise over time in those proteins frequently exhibited a return of throat cancer. These findings could help lead to the development of a blood test that enables doctors to detect the recurrence of throat cancer at an early stage, when there is still time to pursue a second line of treatment, such as surgery or drug therapy.

Budget Policy: The 2009 budget estimate for the Intramural research program is \$36.868 million, an increase of \$1.037 million or 2.8 percent from the FY 2008 estimate. The NIDCD intramural research program has been a leader in research on hereditary hearing impairment and has identified many genes whose mutation causes hearing loss. In FY 2009, NIDCD intramural scientist will continue their efforts in identifying mutation in genes which impacts hearing. This will contribute to NIDCD's Government Performance and Results Act (GPRA) goal on identifying or studying additional genes involved in communication disorders in humans and animal models.

Research Management and Support (RMS) Program

NIDCD RMS activities provide administrative, budgetary, logistical, and scientific support in the review, award, and monitoring of research grants, training awards and research and development contracts. RMS functions also include strategic planning, coordination, and evaluation of the Institute's programs, regulatory compliance, international coordination, and liaison with other Federal agencies, Congress, and the public. The Institute currently oversees over 1,000 research grants, training awards, and R&D contracts.

A unique and notable aspect of NIDCD's RMS is the coordination of trans-NIH administrative activities for the NIH Stem Cell Task Force. The NIDCD Science Policy and Planning Branch manages and coordinates the activities and meetings of these trans-NIH stem cell committees and provides support to the directors of NINDS and NIDCD, who serve as the chair and vice-chair of the NIH Stem Cell Task Force. For example, NIDCD is providing lead support in implementing President Bush's Executive Order on expanding human pluripotent stem cell research that does not involve human

embryos. Another area where NIDCD has taken the lead is preventing noise-induced hearing loss in youth. The NIDCD Office of Communications and Public Liaison, together with the National Institute for Occupational Safety and Health (NIOSH), has recently re-focused and expanded the efforts of the successful WISE EARS![®] Public information campaign on children of eight to twelve years—the “tweens”—to forge mutually beneficial partnerships between all stakeholders (tweens, parents, health professionals, etc.), and to make use of delivery channels with the highest potential to engage this target audience.

Budget Policy: The 2009 budget estimate for the RMS program is \$18.880 million, an increase of \$0.279 million or 1.5 percent from the FY 2008 estimate. Consistent with President Bush’s Executive Order to expand pluripotent stem cell research that does not involve human embryos, NIDCD will continue to manage activities of the NIH Stem Cell Task Force.

NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders

Budget Authority by Object

| | FY 2008 Enacted | FY 2009 Estimate | Increase or Decrease |
|---|--------------------|---------------------|-------------------------|
| Total compensable workyears: | | | |
| Full-time employment | 134 | 135 | 1 |
| Full-time equivalent of overtime and holiday hours | 0 | 0 | 0 |
| Average ES salary | \$167,783 | \$172,816 | \$5,033 |
| Average GM/GS grade | 12.3 | 12.3 | 0.0 |
| Average GM/GS salary | \$96,467 | \$99,265 | \$2,798 |
| Average salary, grade established by act of July 1, 1944 (42 U.S.C. 207) | \$0 | \$0 | \$0 |
| Average salary of ungraded positions | 128,550 | 132,278 | 3,728 |
| OBJECT CLASSES | FY 2008 Enacted | FY 2009 Estimate | Increase or Decrease |
| Personnel Compensation: | | | |
| 11.1 Full-time permanent | \$9,828,000 | \$10,115,000 | \$287,000 |
| 11.3 Other than full-time permanent | 3,694,000 | 3,875,000 | 181,000 |
| 11.5 Other personnel compensation | 420,000 | 437,000 | 17,000 |
| 11.7 Military personnel | 153,000 | 157,000 | 4,000 |
| 11.8 Special personnel services payments | 2,298,000 | 2,527,000 | 229,000 |
| Total, Personnel Compensation | 16,393,000 | 17,111,000 | 718,000 |
| 12.0 Personnel benefits | 3,805,000 | 3,969,000 | 164,000 |
| 12.2 Military personnel benefits | 46,000 | 47,000 | 1,000 |
| 13.0 Benefits for former personnel | 0 | 0 | 0 |
| Subtotal, Pay Costs | 20,244,000 | 21,127,000 | 883,000 |
| 21.0 Travel and transportation of persons | 513,000 | 523,000 | 10,000 |
| 22.0 Transportation of things | 62,000 | 64,000 | 2,000 |
| 23.1 Rental payments to GSA | 0 | 0 | 0 |
| 23.2 Rental payments to others | 3,000 | 3,000 | 0 |
| 23.3 Communications, utilities and miscellaneous charges | 248,000 | 252,000 | 4,000 |
| 24.0 Printing and reproduction | 55,000 | 56,000 | 1,000 |
| 25.1 Consulting services | 223,000 | 227,000 | 4,000 |
| 25.2 Other services | 2,267,000 | 2,308,000 | 41,000 |
| 25.3 Purchase of goods and services from government accounts | 36,665,000 | 36,925,000 | 260,000 |
| 25.4 Operation and maintenance of facilities | 150,000 | 153,000 | 3,000 |
| 25.5 Research and development contracts | 9,162,000 | 9,147,000 | (15,000) |
| 25.6 Medical care | 141,000 | 143,000 | 2,000 |
| 25.7 Operation and maintenance of equipment | 1,931,000 | 1,967,000 | 36,000 |
| 25.8 Subsistence and support of persons | 0 | 0 | 0 |
| 25.0 Subtotal, Other Contractual Services | 50,539,000 | 50,870,000 | 331,000 |
| 26.0 Supplies and materials | 4,767,000 | 4,852,000 | 85,000 |
| 31.0 Equipment | 0 | 0 | 0 |
| 32.0 Land and structures | 0 | 0 | 0 |
| 33.0 Investments and loans | 0 | 0 | 0 |
| 41.0 Grants, subsidies and contributions | 317,706,000 | 317,299,000 | (407,000) |
| 42.0 Insurance claims and indemnities | 0 | 0 | 0 |
| 43.0 Interest and dividends | 1,000 | 1,000 | 0 |
| 44.0 Refunds | 0 | 0 | 0 |
| Subtotal, Non-Pay Costs | 373,894,000 | 373,920,000 | 26,000 |
| Total Budget Authority by Object | 394,138,000 | 395,047,000 | 909,000 |

Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research

NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders

Salaries and Expenses

| OBJECT CLASSES | FY 2008 Enacted | FY 2009 Estimate | Increase or Decrease |
|---|--------------------|---------------------|-------------------------|
| Personnel Compensation: | | | |
| Full-time permanent (11.1) | \$9,828,000 | \$10,115,000 | \$287,000 |
| Other than full-time permanent (11.3) | 3,694,000 | 3,875,000 | 181,000 |
| Other personnel compensation (11.5) | 420,000 | 437,000 | 17,000 |
| Military personnel (11.7) | 153,000 | 157,000 | 4,000 |
| Special personnel services payments (11.8) | 2,298,000 | 2,527,000 | 229,000 |
| Total Personnel Compensation (11.9) | 16,393,000 | 17,111,000 | 718,000 |
| Civilian personnel benefits (12.1) | 3,805,000 | 3,969,000 | 164,000 |
| Military personnel benefits (12.2) | 46,000 | 47,000 | 1,000 |
| Benefits to former personnel (13.0) | 0 | 0 | 0 |
| Subtotal, Pay Costs | 20,244,000 | 21,127,000 | 883,000 |
| Travel (21.0) | 513,000 | 523,000 | 10,000 |
| Transportation of things (22.0) | 62,000 | 64,000 | 2,000 |
| Rental payments to others (23.2) | 3,000 | 3,000 | 0 |
| Communications, utilities and miscellaneous charges (23.3) | 248,000 | 252,000 | 4,000 |
| Printing and reproduction (24.0) | 55,000 | 56,000 | 1,000 |
| Other Contractual Services: | | | |
| Advisory and assistance services (25.1) | 223,000 | 227,000 | 4,000 |
| Other services (25.2) | 2,267,000 | 2,308,000 | 41,000 |
| Purchases from government accounts (25.3) | 18,605,000 | 18,700,000 | 95,000 |
| Operation and maintenance of facilities (25.4) | 150,000 | 153,000 | 3,000 |
| Operation and maintenance of equipment (25.7) | 1,931,000 | 1,967,000 | 36,000 |
| Subsistence and support of persons (25.8) | 0 | 0 | 0 |
| Subtotal Other Contractual Services | 23,176,000 | 23,355,000 | 179,000 |
| Supplies and materials (26.0) | 2,239,000 | 2,279,000 | 40,000 |
| Subtotal, Non-Pay Costs | 26,296,000 | 26,532,000 | 236,000 |
| Total, Administrative Costs | 46,540,000 | 47,659,000 | 1,119,000 |

NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders

Authorizing Legislation

| | PHS Act/ Other Citation | U.S. Code Citation | 2007 Amount Authorized | FY 2008 Enacted | 2008 Amount Authorized | FY 2009 Budget Estimate |
|--|----------------------------|-----------------------|---------------------------|--------------------|---------------------------|----------------------------|
| Research and Investigation | Section 301 | 42§241 | Indefinite | | Indefinite | |
| National Institute on Deafness and Other Communication Disorders | Section 402(a) | 42§281 | Indefinite | \$394,138,000 | Indefinite | \$395,047,000 |
| | | | | | | |
| Total, Budget Authority | | | | 394,138,000 | | 395,047,000 |

NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders

Appropriations History

| Fiscal Year | Budget Estimate to Congress | House Allowance | Senate Allowance | Appropriation <u>1/</u> |
|-------------|-----------------------------|-----------------|------------------|-------------------------|
| 2000 | 235,297,000 <u>2/</u> | 251,218,000 | 261,962,000 | 265,185,000 |
| Rescission | 0 | 0 | 0 | (1,414,000) |
| 2001 | 276,418,000 <u>2/</u> | 301,787,000 | 303,541,000 | 300,581,000 |
| Rescission | | | | (100,000) |
| 2002 | 336,757,000 <u>2/</u> | 334,161,000 | 349,983,000 | 342,072,000 |
| Rescission | | | | (397,000) |
| 2003 | 365,929,000 | 351,376,000 | 372,805,000 | 372,805,000 |
| Rescission | | | | (2,423,000) |
| 2004 | 380,377,000 | 380,377,000 | 384,577,000 | 384,477,000 |
| Rescission | | | | (2,424,000) |
| 2005 | 393,507,000 | 393,507,000 | 399,000,000 | 397,507,000 |
| Rescission | | | | (3,247,000) |
| 2006 | 397,432,000 | 397,432,000 | 418,357,000 | 397,432,000 |
| Rescission | | | | (3,974,320) |
| 2007 | 391,556,000 | 391,556,000 | 395,188,000 | 393,458,000 |
| 2008 | 393,682,000 | 400,305,000 | 402,680,000 | 394,138,000 |
| Rescission | | | | (7,008,000) |
| 2009 | 395,047,000 | | | |

1/ Reflects enacted supplementals, rescissions, and reappropriations.

2/ Excludes funds for HIV/AIDS research activities consolidated in the NIH Office of AIDS Research.

NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders

Details of Full-Time Equivalent Employment (FTEs)

| OFFICE/DIVISION | FY 2007 Actual | FY 2008 Enacted | FY 2009 Estimate |
|--|---------------------|--------------------|---------------------|
| Office of the Director | 3 | 3 | 3 |
| Office of Administration | 38 | 38 | 38 |
| Division of Extramural Activities | 14 | 14 | 14 |
| Division of Scientific Programs | 13 | 13 | 13 |
| Division of Intramural Research | 66 | 66 | 67 |
| Total | 134 | 134 | 135 |
| Includes FTEs that are reimbursed from the NIH Roadmap for Medical Research FTEs supported by funds from Cooperative Research and Development Agreements | | | |
| | (0) | (0) | (0) |
| FISCAL YEAR | Average GM/GS Grade | | |
| 2005 | 12.4 | | |
| 2006 | 12.2 | | |
| 2007 | 12.3 | | |
| 2008 | 12.3 | | |
| 2009 | 12.3 | | |

NATIONAL INSTITUTES OF HEALTH
National Institute on Deafness and Other Communication Disorders

Detail of Positions

| GRADE | FY 2007 Actual | FY 2008 Enacted | FY 2009 Estimate |
|--|-------------------|--------------------|---------------------|
| Total, ES Positions | 1 | 1 | 1 |
| Total, ES Salary | \$159,793 | \$167,783 | \$172,816 |
| GM/GS-15 | 23 | 23 | 23 |
| GM/GS-14 | 14 | 14 | 14 |
| GM/GS-13 | 17 | 17 | 17 |
| GS-12 | 16 | 16 | 16 |
| GS-11 | 8 | 8 | 8 |
| GS-10 | 0 | 0 | 0 |
| GS-9 | 13 | 13 | 13 |
| GS-8 | 3 | 3 | 3 |
| GS-7 | 2 | 2 | 2 |
| GS-6 | 1 | 1 | 1 |
| GS-5 | 0 | 0 | 0 |
| GS-4 | 1 | 1 | 1 |
| GS-3 | 0 | 0 | 0 |
| GS-2 | 0 | 0 | 0 |
| GS-1 | 0 | 0 | 0 |
| Subtotal | 98 | 98 | 98 |
| Grades established by Act of July 1, 1944 (42 U.S.C. 207): | | | |
| Assistant Surgeon General | 1 | 0 | 0 |
| Director Grade | 0 | 0 | 0 |
| Senior Grade | 0 | 0 | 0 |
| Full Grade | 0 | 0 | 0 |
| Senior Assistant Grade | 0 | 0 | 0 |
| Assistant Grade | 0 | 0 | 0 |
| Subtotal | 1 | 0 | 0 |
| Ungraded | 52 | 53 | 53 |
| Total permanent positions | 108 | 108 | 108 |
| Total positions, end of year | 152 | 152 | 152 |
| Total full-time equivalent (FTE) employment, end of year | 134 | 134 | 135 |
| Average ES salary | 159,793 | 167,783 | 172,816 |
| Average GM/GS grade | 12 | 12 | 12 |
| Average GM/GS salary | 92,322 | 96,467 | 99,265 |

Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research.