DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

National Institute of Dental and Craniofacial Research (NIDCR)

FY 2014 Budget — Page No.

Organization Chart 2

Appropriation Language 3

Amounts Available for Obligation 4

Budget Mechanism Table 5

Major Changes in Budget Request 6

Summary of Changes 7

Budget Graphs 9

Budget Authority by Activity 10

Authorizing Legislation 11

Appropriations History 12

Justification of Budget Request 13

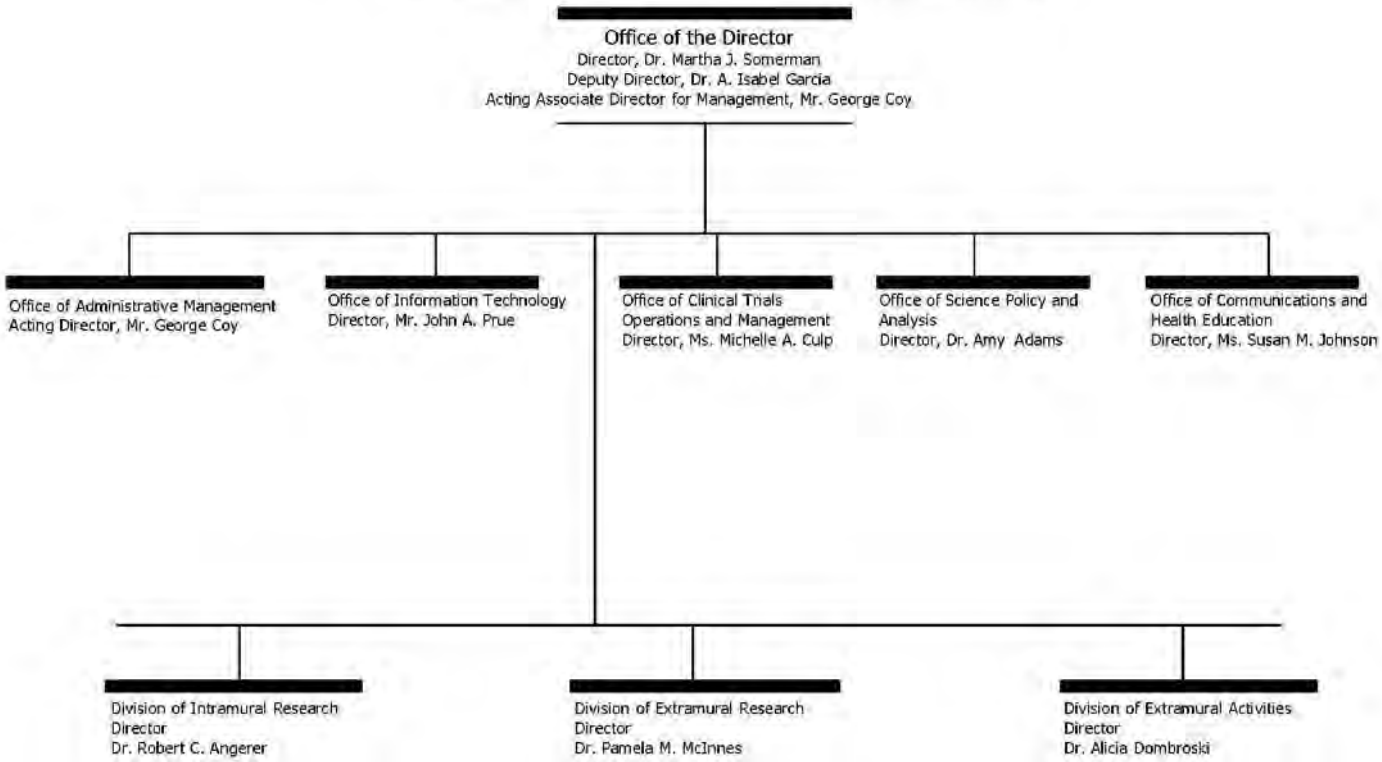
Budget Authority by Object Class 25

Salaries and Expenses 26

Detail of Full-Time Equivalent Employment (FTE) 27

Detail of Positions 28

National Institute of Dental and Craniofacial Research



NATIONAL INSTITUTES OF HEALTH

National Institute of Dental and Craniofacial Research

For carrying out section 301 and title IV of the PHS Act with respect to dental and craniofacial diseases, $411,515,000.

NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research

Amounts Available for Obligation [1]
(Dollars in Thousands)

Source of Funding	FY 2012 Actual	FY 2013 CR	FY 2014 PB
Appropriation	411,488	413,224	411,515
Rescission	(778)	0	0
Subtotal, adjusted appropriation	410,710	413,224	411,515
Secretary's Transfer for Alzheimer's disease (AD)	(271)	0	0
Secretary's Transfer for AIDS authorized by PL 112-74, Section 206	(117)	0	0
Comparative Transfers to NLM for NCBI and Public Access	(375)	(486)	0
Subtotal, adjusted budget authority	409,947	412,738	411,515
Unobligated balance, start of year	0	0	0
Unobligated balance, end of year	0	0	0
Subtotal, adjusted budget authority	409,947	412,738	411,515
Unobligated balance lapsing	(43)	0	0
Total obligations	409,904	412,738	411,515

[1] Excludes the following amounts for reimbursable activities carried out by this account:
FY 2012 - $2,723 FY 2013 - $2,597 FY 2014 - $2,597

NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research
Budget Mechanism - Total [1]
(Dollars in Thousands)

MECHANISM	FY 2012 Actual		FY 2013 CR		FY 2014 PB		Change vs. FY 2012	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Research Grants								
Research Projects								
Noncompeting	432	$175,066	398	$184,865	390	$175,215	-42	$149
Administrative Supplements	*(34)*	8,634	*(36)*	7,298	*(37)*	8,600	*(3)*	-34
Competing:								
Renewal	31	15,914	31	15,914	32	17,015	1	1,101
New	131	55,560	129	44,479	142	49,553	11	-6,007
Supplements	1	471	1	471	1	471	0	0
Subtotal, Competing	163	$71,945	161	$60,864	175	$67,039	12	-$4,906
Subtotal, RPGs	595	$255,645	559	$253,027	565	$250,854	-30	-$4,791
SBIR/STTR	24	9,337	25	9,766	26	10,234	2	897
Research Project Grants	619	$264,982	584	$262,793	591	$261,088	-28	-$3,894
Research Centers								
Specialized/Comprehensive	6	14,380	5	13,100	5	13,100	-1	-1,280
Clinical Research	0	0	0	0	0	0	0	0
Biotechnology	0	0	0	0	0	0	0	0
Comparative Medicine	0	10	0	10	0	10	0	0
Research Centers in Minority Institutions	0	0	0	0	0	0	0	0
Research Centers	6	$14,390	5	$13,110	5	$13,110	-1	-$1,280
Other Research								
Research Careers	55	6,683	57	6,899	57	6,899	2	216
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	16	1,791	18	1,950	20	2,172	4	381
Other Research	71	$8,474	75	$8,849	77	$9,071	6	$597
Total Research Grants	696	$287,846	664	$284,752	673	$283,269	-23	-$4,577
Ruth L. Kirschstein Training Awards	FTTPs		FTTPs		FTTPs		FTTPs	
Individual	89	3,501	89	3,501	97	3,904	8	403
Institutional	167	7,515	166	7,515	158	7,441	-9	-74
Total Research Training	256	$11,015	255	$11,016	255	$11,345	-1	$330
Research & Development Contracts	17	21,767	18	27,299	19	26,853	2	5,086
SBIR/STTR (non-add)	*(0)*	*(20)*	*(0)*	*(20)*	*(0)*	*(0)*	*(0)*	*-(20)*
	FTEs		FTEs		FTEs		FTEs	
Intramural Research	171	64,829	172	64,970	172	65,215	1	386
Research Management and Support	87	24,490	95	24,701	95	24,833	8	343
Construction		0		0		0		0
Buildings and Facilities		0		0		0		0
Total, NIDCR	258	$409,947	267	$412,738	267	$411,515	9	$1,568

1 All items in italics and brackets are "non-adds."

Major Changes in the Fiscal Year 2014 President's Budget Request

Major changes by budget mechanism and/or budget activity detail are briefly described below. The FY 2014 President's Budget for NIDCR is $1.6 million more than the FY 2012 level, for a total of $411.5 million.

Research Project Grants (RPGs: -$3.894 million; total $261.088 million): NIDCR will fund a projected 175 competing awards in FY 2014, approximately 12 more than in FY 2012. About 390 noncompeting RPG awards totaling $175.215 million also will be made in FY 2014. Consistent with FY 2012, NIH budget policy for RPGs in FY 2014 does not allow any built-in inflation for noncompeting grants and assumes the average cost of competing grants to be at or lower than FY 2012 levels. NIH budget policy for RPGs in FY 2014, continues FY 2012 policy of eliminating inflationary increases for future year commitments. However adjustments for special needs (such as equipment and added personnel) will continue to be accommodated.

NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research
Summary of Changes
(Dollars in Thousands)

FY 2012 Actual				**$409,947**
FY 2014 President's Budget				**$411,515**
Net change				**$1,568**
	2014 President's Budget		**Change from FY 2012**	
CHANGES	**FTEs**	**Budget Authority**	**FTEs**	**Budget Authority**
A. Built-in:				
1. Intramural Research:				
a. Annualization of March 2013 pay increase & benefits		$25,080		$63
b. January FY 2014 pay increase & benefits		25,080		186
c. One more day of pay		25,080		95
d. Differences attributable to change in FTE		25,080		0
e. Payment for centrally furnished services		11,108		201
f. Increased cost of laboratory supplies, materials, other expenses, and non-recurring costs		29,027		99
Subtotal				$644
2. Research Management and Support:				
a. Annualization of March 2013 pay increase & benefits		$13,778		$36
b. January FY 2014 pay increase & benefits		13,778		102
c. One more day of pay		13,778		52
d. Differences attributable to change in FTE		13,778		0
e. Payment for centrally furnished services		2,769		55
f. Increased cost of laboratory supplies, materials, other expenses, and non-recurring costs		8,286		3
Subtotal				$248
Subtotal, Built-in				$892

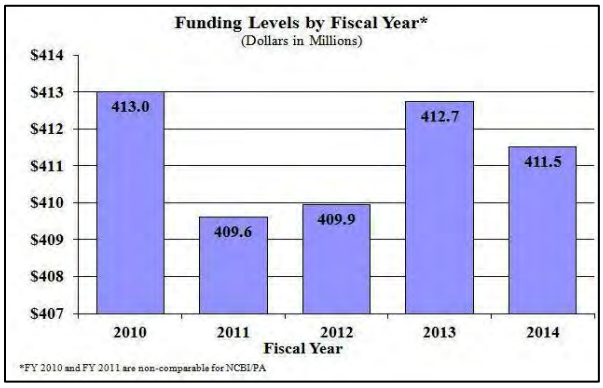
NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research

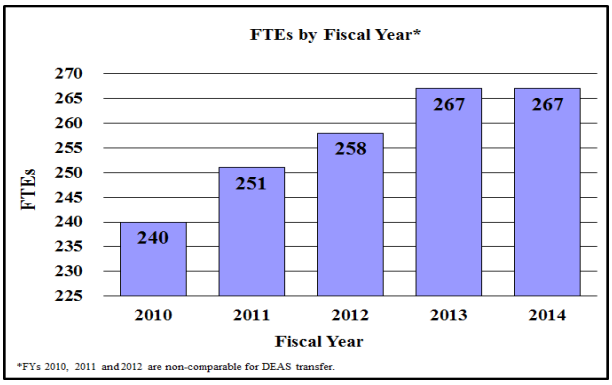
Summary of Changes--continued

CHANGES	2014 President's Budget No.	2014 President's Budget Amount	Change from FY 2012 No.	Change from FY 2012 Amount
B. Program:				
1. Research Project Grants:				
a. Noncompeting	390	$183,815	-42	$115
b. Competing	175	67,039	12	-4,906
c. SBIR/STTR	26	10,234	2	897
Total	591	$261,088	-28	-$3,894
2. Research Centers	5	$13,110	-1	-$1,280
3. Other Research	77	9,071	6	597
4. Research Training	255	11,345	-1	330
5. Research and development contracts	19	26,853	2	5,086
Subtotal, Extramural		$321,467		$839
	FTEs		FTEs	
6. Intramural Research	172	$65,215	1	-$258
7. Research Management and Support	95	24,833	8	95
8. Construction		0		0
9. Buildings and Facilities		0		0
Subtotal, program	267	$411,515	9	$676
Total changes				$1,568

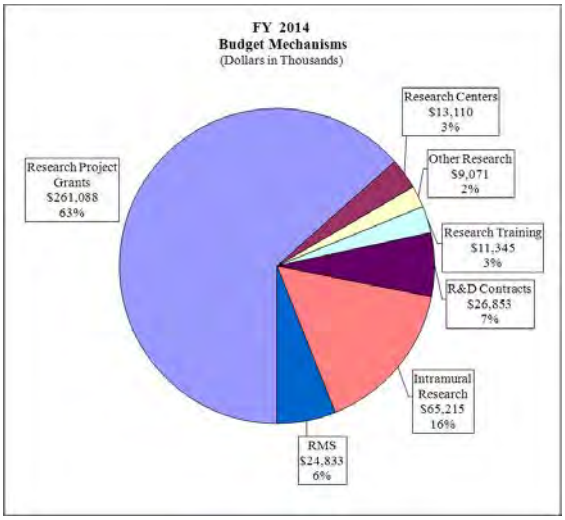
Fiscal Year 2014 Budget Graphs

History of Budget Authority and FTEs:

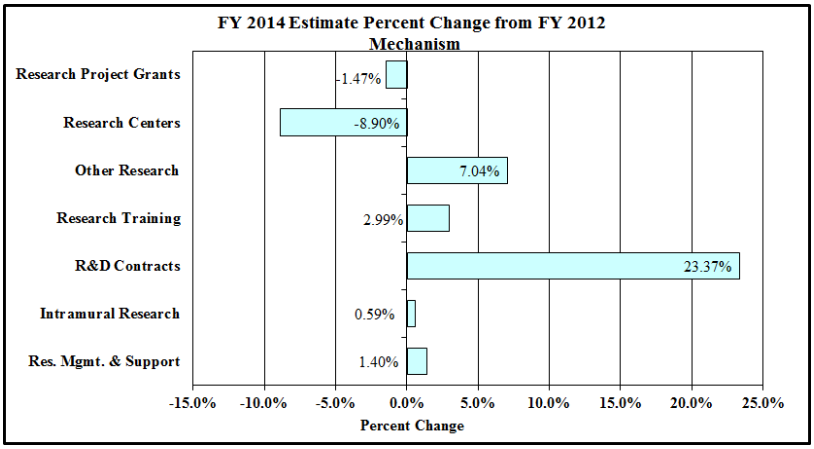




Distribution by Mechanism:



Percent Change by Mechanism:



NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research
Budget Authority by Activity [1,2]
(Dollars in Thousands)

	FY 2012 Actual		FY 2013 CR		FY 2014 PB		Change vs. FY 2012	
Extramural Research	**FTEs**	**Amount**	**FTEs**	**Amount**	**FTEs**	**Amount**	**FTEs**	**Amount**
Detail:								
Oral and Craniofacial Biology		**$199,225**		**$200,625**		**$199,631**		$406
Clinical Research		**53,301**		**53,629**		**53,364**		$63
Behavioral and Social Sciences		**15,359**		**15,507**		**15,430**		$71
Genetics and Genomics		**52,743**		**53,306**		**53,042**		$299
Subtotal, Extramural		$320,628		$323,067		$321,467		$839
Intramural Research	171	$64,829	172	$64,970	172	$65,215	1	$386
Research Management & Support	87	$24,490	95	$24,701	95	$24,833	8	$343
TOTAL	258	$409,947	267	$412,738	267	$411,515	9	$1,568

[1] Includes FTEs whose payroll obligations are supported by the NIH Common Fund.
[2] Includes Transfers and Comparable Adjustments as detailed in the "Amounts Available for Obligation" table.

NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2013 Amount Authorized	FY 2013 CR	2014 Amount Authorized	FY 2014 PB
Research and Investigation	Section 301	42§241	Indefinite	$412,738,000	Indefinite	$411,515,000
National Institute of Dental and Craniofacial Research	Section 401(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				$412,738,000		$411,515,000

NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2005	$394,080,000	$394,080,000	$399,200,000	$395,080,000
Rescission				($3,251,000)
2006	$393,269,000	$393,269,000	$405,269,000	$393,269,000
Rescission				($3,933,000)
2007	$386,095,000	$386,095,000	$389,699,000	$389,703,000
Rescission				-
2008	$389,722,000	$395,753,000	$398,602,000	$396,632,000
Rescission				($6,929,000)
Supplemental				$2,075,000
2009	$390,535,000	$403,958,000	$401,405,000	$402,652,000
Rescission				-
2010	$408,037,000	$417,032,000	$409,241,000	$413,236,000
Rescission				-
2011	$423,511,000	-	$422,845,000	$413,236,000
Rescission				($3,628,459)
2012	$420,369,000	$420,369,000	$404,997,000	$411,488,000
Rescission				($777,712)
2013	$408,212,000	-	$409,449,000	-
				-
2014	$411,514,000	-	-	-

Justification of Budget Request

National Institute of Dental and Craniofacial Research

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

Budget Authority (BA):

	FY 2012 Actual	FY 2013 CR	FY 2014 President's Budget	FY 2014 +/- FY 2012
BA	$409,947,000	$412,738,000	$411,515,000	+$1,568,000
FTE	258	267	267	+9

Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

Director's Overview

The National Institute of Dental and Craniofacial Research (NIDCR) is the largest institution in the world dedicated exclusively to the improvement of dental, oral, and craniofacial health. It pursues its mission through research, research training, and the dissemination of health information to the public and practitioners.

It is often said the mouth is the window to health of the entire body, and with its rich biology and easy accessibility, it has fast become a proving ground for current and next generation technologies. Research on the mouth has enabled new discoveries that are being extended into new clinical applications for improved oral, and increasingly, general health. A prime example is the ongoing progress in understanding the oral microbiome, the multifaceted microbial communities dispersed throughout our mouths. It is estimated that more microorganisms live inside the human mouth than people inhabit the world. NIDCR research continues to lead the way in determining how the members of these complex oral communities interact with each other and with the human body to influence health and disease. These detailed analyses are paying off in many ways. They are providing insight into why the immune system goes awry in periodontal disease to produce inflammation, understanding how aging affects inflammation, and identifying therapeutic targets for inflammatory and autoimmune diseases. These studies are revealing the periodontal disease-associated imbalances in the relative numbers of different oral bacteria, and why those imbalances lead to inflammation. They are also identifying microbes uniquely associated with severe early childhood caries (tooth decay), which disproportionately affects low-income and minority children.

Another example can be found in head and neck cancer, the sixth most common cancer worldwide, with about 40,000 new cases diagnosed in the U.S. each year.[1] NIDCR researchers are delineating the basic mechanisms of head and neck cancer development, dramatically expanding our understanding of its genetic and molecular underpinnings, and translating these

[1] *Siegel R*, *Naishadham D*, *Jemal A*. (*2012*) *Cancer statistics, 2012*. CA Cancer J Clin ***62***:*10–29*.

findings into clinical practice. An ongoing NIDCR clinical trial is testing whether blocking a key pathway that promotes initiation and growth of oral tumors will decrease tumor size for those with late-stage disease. Gene therapy is another approach used by NIDCR scientists; focusing on the restoration of salivary flow in patients whose salivary glands have been irreversibly damaged by radiation therapy for head and neck cancers. Institute scientists completed a Phase I clinical trial to test the safety of short-term delivery of the gene for the fluid-transporting protein aquaporin-1 (AQP1) into the salivary gland. No serious adverse events were reported, and data suggest approximately half of the patients experienced an increase in salivary flow. NIDCR scientists plan to follow up with a clinical trial to test the efficacy of longer-lasting AQP1 gene expression.

NIDCR also supports basic research into the molecular underpinnings of many diverse diseases, conditions, and syndromes that extend beyond the dental, oral, and craniofacial tissues. Recent results highlight the biological significance of channels (pore-forming proteins in the membranes surrounding all cells). For example, a recent NIDCR-funded study identified sensory nerve channel molecules known as Piezo proteins that are essential to perception of painful touch, an important discovery pointing to much-needed new therapeutic targets for the treatment of pain, an area of NIDCR focus.

Another result of NIDCR's increasing translational research focus is its investigations into how infectious diseases are transmitted through the oral mucosa. Such information is essential for preventing and treating viral diseases and their oral manifestations. For example, the severity of dual HIV-Tuberculosis (TB) infections in infants, coupled with the health complications of HIV-infected children receiving the TB vaccine, spurred NIDCR-supported researchers to develop a combination oral TB-HIV vaccine. The recent demonstration of safety in monkeys is a significant step in extending the procedure to the pediatric population. Additionally, NIDCR-supported researchers are establishing the groundwork to develop a probiotic (beneficial bacteria normally found in the oral microbiota) for use as a method of oral vaccine delivery, one that may prove more effective, less invasive, and less expensive than existing therapies.

NIDCR supports research defining the specific genes, proteins, and signaling pathways that control the development, maintenance, and repair of dental, oral, and craniofacial tissues. The goal of such research is to develop predictable materials, factors, and delivery systems to restore tissues and organs lost as a consequence of diseases, and disorders. This focus includes research on the underlying causes of these anomalies in the structure and function of a baby's head and face, as well as increasing technological and surgical sophistication in craniofacial reconstruction. Craniofacial defects are among the most common types of birth defects. NIDCR-supported scientsts are translating the knowledge of how the head and face develop into innovative technologies focused on regeneration and reconstruction of these structures. Recognizing that behavioral and social factors play a role in optimal recovery, NIDCR-supported researchers are also investigating how to support patients and their families to ensure good decision-making, coping, and adherence to long-term care regimens.

Over the past few years, NIDCR designed and implemented programs to attract and train scientists who can advance oral and craniofacial research and discovery. It expanded career development opportunities to strengthen the multidisciplinary expertise of junior and mid-career

investigators. NIDCR also launched a new career development award providing scholars with skills and expertise applicable to the most intractable topics in temporomandibular joint disorder and orofacial pain. A new career enhancement award also will enable mid-career investigators to augment their training in strategically targeted areas.

To ensure that basic oral and craniofacial research is effectively translated into the dental clinic, NIDCR is also committed to expanding the cadre of dentist-scientists. It successfully piloted and is now implementing a Pathway to Independence Award, offering flexible accommodation of clinical specialty training while supporting the transition to research independence. In addition, NIDCR developed a new career transition award for exceptional intramural dentist-scientists, providing them with mentored training and independent funding to facilitate their transition to tenure-track positions at extramural institutions.

Much has been accomplished over the past year. With the Institute's commitment to bring the best science to bear on dental, oral, and craniofacial issues, the research envelope will continue to be pushed and translated into the clinic, with exciting implications for improved health of the American public.

Overall Budget Policy**:** The FY 2014 President's Budget request is $411.515 million, an increase of $1.568 million, or 0.4 percent above the FY 2012 Actual level. Support for NRSA training mechanism will be increased by $330,000 to cover the cost of increased stipends. The Ruth L. Kirschstein NRSA budget reflects a stipend increase to $42,000 for entry level postdoctoral trainees and fellows along with 4 percent increases for each subsequent level of experience. These increases are consistent with stipend increases recommended by the Advisory Committee to the NIH Director and the National Research Council. In addition, this increase is consistent with 42 USC 288(b)(5), which anticipates periodic adjustments in stipends "to reflect increases in the cost of living." Funds are included in R&D contracts to support trans-NIH initiatives, such as the Basic Behavioral and Social Sciences Opportunity Network (OppNet).

Program Descriptions and Accomplishments

Oral and Craniofacial Biology: The Oral and Craniofacial Biology program supports robust basic and translational research in hard and soft tissue development and regeneration/repair; infections and immunity; oral complications from systemic diseases; salivary gland physiology in health and disease; head and neck cancers; and chronic orofacial pain. By unraveling the biological complexity of the oral, dental, and craniofacial structures, and the pathological mechanisms of their diseases and disorders, we continue to advance strategies to prevent, diagnose, and treat these ailments. The goal is to create and sustain a research pipeline and to facilitate translation of the most promising scientific discoveries from the laboratory bench to the clinic.

Chronic pain burdens at least 100 million adult Americans.[2] To address this staggering public health challenge, NIDCR recently supported an initiative promoting collaborative research on the transition from acute to chronic pain. One study funded through this initiative describes a

[2] *"Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research." Institute of Medicine, June 2011.*

molecule, TSP-4, that may play an important role in the development of chronic pain after nerve injury. The levels of TSP-4 protein are increased in an animal model of nerve injury, and blocking the activity of TSP-4 prevents the development of chronic pain. Current research efforts are exploring the mechanisms by which increased TSP-4 protein expression causes chronic neuropathic pain. Initial findings suggest that this molecule causes abnormal nerve connections in the spinal cord after injury, and targeting this rewiring process could provide a new approach to pain management.

Nearly half of U.S. adults have periodontal disease. This chronic oral infection is costly, persistent, and disproportionately affects seniors, minorities, and those who already suffer from other chronic health conditions such as diabetes. NIDCR scientists are making remarkable strides in understanding periodontal disease and improving its treatment. They are cataloguing the different populations of bacteria in the mouth and gaining knowledge as to how these variations affect patients with periodontal disease, HIV and diabetes. They are also demonstrating that oral bacteria associated with periodontal disease can alter the normal function of the immune system in the mouth, thus interfering with the maintenance of healthy jaw bones. They are translating these findings into the identification of oral biomarkers that can quickly and reliably diagnose periodontal disease severity. NIDCR research is also pointing to new treatment options. For example, NIDCR scientists have shown that a molecule present in our mouths called Del-1 (developmental endothelial locus 1) regulates immune cell activity in periodontal disease. In an animal model, deleting this protein causes periodontal disease and restoring it cures the disease, suggesting that Del-1 could be highly valuable as a treatment for periodontal disease in humans. Additionally, NIDCR scientists are developing artificial scaffolds to help regenerate oral tissues lost to disease, and have engineered these scaffolds to monitor whether therapies such as drugs or stem cells are successfully delivered.

NIDCR's effort to create better dental restorations is another example of supporting basic research that has the potential for tremendous impact on clinical practice. In 2006, approximately 70 percent of all restorations (123 million) performed by dentists in the U.S. to repair damaged teeth used dental composite material. However, the average lifespan of these restorations is only 5.7 years, mainly due to secondary decay and restoration fracture. NIDCR is investing in research to understand restoration failure, to develop additives to the restorative material that will prevent secondary decay, and to develop novel and critically needed, longer-lasting dental restorative materials, a technological leap forward that would reduce healthcare costs and improve clinical outcomes.

Budget Policy: The FY 2014 President's Budget estimate for this program is $199.631 million, an increase of $0.406 million or 0.2 percent above the FY 2012 Actual level. Greatest priority will be given to highly meritorious new research and ongoing initiatives.

NIDCR will continue to fund research related to head and neck cancers, the majority of which are oral squamous cell carcinomas. Thus, understanding the biology of CICs might illuminate a new approach to treating this disease and ultimately increase survival rates.

Two NIDCR funding initiatives underscore recent appreciation for the role of microorganisms in shaping human health and disease. One initiative relates to epigenomics, specifically virus-

induced epigenetic changes of the host genome and epigenetic changes that occur in the genomes of oral viruses, as these affect the onset and progression of oral diseases. These studies have the potential to advance understanding of oral manifestations of a number of viruses, including but not limited to: HIV, Herpes Simplex Virus, and Human Papillomavirus (HPV). The second initiative relates to the role of uncultivable bacteria in the oralmicrobiota. Over 80 percentof the bacterial species that inhabit the mouth cannot be grown in a lab for study, and this knowledge and technical gap must be filled if we are to conquer highly prevalent oral diseases. There are many tantalizing questions that could be pursued to explore the role of the oral microbiota in the host immune response, in long-term consequences of inflammation (e.g. susceptibility to autoimmune diseases and cancer), and in metabolic syndrome.

Clinical Research: NIDCR continues its efforts to catalyze dentistry's progression to evidence-based clinical practice. The Institute supports two important research initiatives that are strengthening dentistry's evidence base. They are the Dental Practice-Based Research Networks (PBRNs) and the Centers for Research to Reduce Disparities in Oral Health.

Program Portrait: The Nation's Network: National Dental Practice-Based Research Network

FY 2012 Level: $9.976 million
FY 2014 Level: $9.700 million
Change: -$0.276 million

Today the length of time for an evidence-based intervention to travel from "bench to bedside" averages nine years. One of the most efficient and effective ways to reduce this lag time on some types of clinical research is to use a practice-based research network (PBRN). Seven years ago, NIDCR established three regional dental PBRNs to provide scientific evidence to guide dentists in their everyday treatment choices. To date, nearly 1,500 practitioner-investigators have participated in network projects, and over 30,000 patients from their practices have been enrolled in more than 35 different PBRN studies. This enormously productive output generated a clinical evidence base that is now being adopted by dentists across the country to guide their patient care. Individual studies have addressed a wide range of topics, including when to place a filling (restoration) in teeth with early decay, long term complications of root canal therapy, and evaluating how practitioners prescribe pain medications after dental procedures. Together, the regional networks also conducted an important case-control study to determine risk factors for osteonecrosis of the jaw (ONJ), quickly involving over 100 dental practices, and confirming that bisphosphonates, a class of drugs used for treating osteoporosis and certain forms of bone cancer, were strongly associated with ONJ. This heightened awareness among clinicians of the potential for bisphosphonate treatment to adversely affect dental treatment outcomes.

NIDCR last year awarded a seven-year grant to continue its dental practice-based research initiative, further expanding the evidence base that underlies oral healthcare. This new award established one nationally coordinated structure to improve the network's financial, administrative and scientific efficiency. The new network, named the National Dental Practice-Based Research Network (NDPBRN), is headquartered at the University of Alabama at Birmingham. The NDPBRN aims to expand the number of participating practitioners to 5,000 for greater regional representation, and to increase the number and range of studies, yielding data that better reflect the U.S. population in all its diversity. Studies in the NDPBRN are expected to include comparisons of the benefits of a variety of dental procedures, dental materials, and diagnostic strategies for patients with diverse clinical issues and conditions. All of these studies are expected to help dental clinicians determine which treatments are most appropriate for their patients. The NDPBRN will also welcome greater participation from practitioners in the various dental specialties as well as the nation's community health centers, managed care organizations such as Kaiser-Permanente, and federal dental services. It is the Institute's goal that the NDPBRN truly will be, as its tagline reads, The Nation's Network.

The Health Disparities Research Program supports studies that seek practical approaches, acceptable within the community, to improve the oral health of diverse underserved populations. NIDCR created this program to support research on the determinants of oral health disparities and based on these findings, to conduct tailored interventions in community settings such as urban public housing, community health centers, rural Project Head Start centers, low-income senior housing facilities, and primary medical care offices. Central to the program are five NIDCR-funded Centers for Research to Reduce Oral Health Disparities that are conducting seven clinical trials involving disadvantaged populations and aimed at reducing early childhood caries, improving the oral health of pregnant women, and increasing the early detection of oral cancer. Attracting a cadre of researchers of diverse cultural and ethnic backgrounds to conduct multidisciplinary studies is an important element of the centers. To ensure that the benefits of evidence-based oral disease prevention and treatment approaches reach the most vulnerable U.S. populations, NIDCR also supports research that explores sustainable ways to disseminate and implement oral health research advances within these communities.

Three multi-center large longitudinal studies are under way to advance our understanding of oral diseases in specific populations that are disproportionately affected by such diseases. The progression of periodontal disease is still only vaguely understood and this lack of understanding is a significant barrier to developing effective treatments. To address this clinical need, a five-center study is following individuals with periodontal disease over five years, and mapping progression with biomarkers to define those markers that can predict disease course. A second multi-center study aims to develop a practical and easily scored questionnaire that primary medical care providers could use to identify and then refer for care the young children with high risk for developing dental caries. A third multi-center study is designed to identify risk factors associated with tooth loss and other serious oral health problems in individuals undergoing head and neck radiation treatment. After radiotherapy, these patients have much higher rates of dental decay and are at a greater risk for developing osteonecrosis of the jaw if teeth are extracted.

Budget Policy: The FY 2014 President's Budget estimate for this program is $53.364 million, a decrease of $0.063 million or -0.1 percent below the FY 2012 Actual level. Greatest priority will be given to highly meritorious new research and ongoing initiatives.

Practice-based research has the potential to accelerate the translation of research findings into clinical practice and thereby change the way dentistry is practiced in the U.S. In 2012, NIDCR successfully consolidated its regional dental practice-based research network (PBRN) initiative into a unified nationally coordinated effort, the National Dental PBRN. The new national network continues to build the evidence base for dentistry, with a streamlined network structure that will allow broader participation among diverse practice settings, facilitate greater financial and administrative efficiency, and encourage research questions that participating practitioners feel are directly relevant to daily practice. Recognizing that the benefits of oral health prevention and treatment have not reached all Americans, NIDCR continues to stimulate the conduct of interventional health disparities research targeting oral health issues in underserved communities through the Health Disparities Research Program. NIDCR also supports research by multidisciplinary teams working closely with communities on how to disseminate and implement effective oral health care into all communities, thereby generating practical, sustainable approaches to improve the oral health of diverse populations.

Behavioral and Social Sciences Research: NIDCR recognizes that many opportunities for improving oral health lie in achieving behavioral changes in oral health behaviors, especially in opportunities to prevent disease. This program supports basic research to understand both the mechanisms of behavior change and the influence of behavioral and social factors on oral health. Clinical behavioral research aims to develop interventions to overcome or reduce these change-inhibiting factors. Areas of particular interest for early intervention include childhood caries, where NIDCR supports a number of projects targeting at-risk children and their caregivers, and chronic pain. NIDCR-supported behavioral scientists found that providers' decisions on treating chronic pain tend to be influenced by factors related to individual characteristics, such as gender and race/ethnicity, that are not relevant to the underlying impact of the condition itself. These results are leading to new ways of training providers, helping to focus treatments on more clinically-relevant individual characteristics, rather than on the patient's demographic profile.

The major recommendations of a 2011 meeting of experts emphasized the need to better understand the mechanisms of behavior change, and to equip investigators with the necessary tools to gain this understanding. Enhancing this understanding will allow researchers to develop and implement even more effective behavioral interventions. In response, NIDCR has implemented a number of initiatives to support research and training in this area. NIDCR supported the publication of a special journal issue on mechanisms and research methods that could be applied to oral health. NIDCR also led the establishment of a mechanisms-focused funding opportunity announcement as part of the NIH Common Fund's Science of Behavior Change working group. NIDCR also partnered with other NIH Institutes and Centers in organizing an intensive workshop on engaging in mechanisms research, and took the lead in developing and administering a funding opportunity announcement focused on multi-disciplinary training, working within NIH's Opportunity Network for basic behavioral and social sciences research. NIDCR commissioned an online expert workshop series on the critically important role of measurement in behavioral research, and subsequently issued a funding opportunity announcement designed to improve the use of measurements for studying mechanisms of behavioral change in hopes that these mechanisms may be used in the prevention and care of dental, oral, and craniofacial diseases.

Budget Policy: The FY 2014 President's Budget estimate for this program is $15.430 million, an increase of $ 0.071 million or 0.5 percent above the FY 2012 Actual level. Greatest priority will be given to highly meritorious new research and ongoing initiatives.

In 2014, NIDCR is committing to support the training of mid- and senior-level investigators to build new oral health and craniofacial research skills and knowledge. This initiative is particularly focused on equipping researchers to function in multi-disciplinary teams, via intensive, short-term mentoring that effectively equips them with expertise in a new field, methodology, or health condition. Specifically, we are piloting a Career Enhancement Award that will target mid- and senior-level investigators who wish to expand their knowledge of genetic or behavioral/social sciences research, attracting new researchers to these important research areas.

Translational Genetics and Genomics: This program places a strong emphasis on integrative research encompassing comparative studies across species and comprehensive analytic studies of genomics, gene activity, and protein profiles to provide insights into the mechanisms of craniofacial development, craniofacial and dental disorders, and oral health in children and adults. The program's ultimate goal is to translate the most promising genomic and developmental findings into clinical studies that will yield improved preventive measures, diagnostic tests, prenatal care, and treatments to minimize the damage from dental and craniofacial disorders.

An important element in this initiative is the FaceBase Consortium funded in 2009. It continues to make significant progress toward its goal of creating a freely available database to house information to help decipher the complex web of environmental and genetic instructions for constructing the middle region of the human face. The consortium's purpose is to support the creation of large datasets and enable investigators to use this information to accelerate translational and clinical research into the prevention, treatment, and management of craniofacial birth defects. For example, a researcher could use FaceBase to study a particular gene's role in a clinical event, retrieving data on the gene's expression pattern during development, on the diverse anatomical structures it affects, and what is known about the gene's effect on human disease. The website continues to grow steadily, gaining new users from the scientific community (currently, visitors to the site are from over 170 academic institutions in more than 90 countries).

Genome-wide association studies (GWAS) are used to identify common genetic factors that influence health and disease. NIDCR GWAS of cleft lip and/or palate and dental caries continue to provide important new leads about the role of genetic factors and gene-environment interactions in the development of these conditions. One example is an analysis of the GWAS data to assess the importance of specific biologic pathways in development of cleft lip and/or palate. Another example is the use of GWAS data to establish the association of specific genetic variants in cleft lip and/or palate among different ethnic groups. In addition, DNA sequencing studies are under way to identify less common genetic variants that influence the risk of developing cleft lip and/or palate. The dental caries GWAS identified likely areas of the genome for susceptibility to dental caries in permanent teeth, and showed that genetic factors may differ in importance depending on location of the caries within the mouth.

Program Portrait: Re-shaping Understanding and Treatment for Cleft Lip and Palate

FY 2012 Level: $23.017 million
FY 2014 Level: $23.079 million
Change: +$0.062 million

This year in the U.S., thousands of parents will bring home babies born with a disfiguring cleft lip and/or palate (roof of the mouth). Few families will be prepared to navigate the myriad choices of care, high costs, and years of uncertainty about the final outcome of their child's condition. Among the very first decisions parents and doctors must make is to identify the type of surgical repair procedure that will best improve the lives of their children. NIDCR is supporting comparative effectiveness research to examine how the timing of surgery affects the ultimate functional and aesthetic outcome of cleft repair.

A recently identified pre-surgical technique can reduce the size of the cleft before the still-developing primary palate fuses, typically at five months of age. The technique is called nasoalveolar molding, or NAM. NAM requires that the newborn wear a custom-made molding plate over the cleft full-time for a few months, or until the malformation narrows to five millimeters or less. A nasal stent is added at that point to improve lip and nose alignment. According to its proponents, NAM requires a great deal of vigilance from caregivers, but can reduce the subsequent surgeries to correct the defect, a strong selling point for parents. Children with clefts typically undergo from two to 20 corrective surgeries throughout childhood, at a cost of about $15,000 per procedure. As appealing as this technique is, NAM lacks high-quality research data to support its suggested efficacy This shortcoming has made NAM controversial, even polarizing, among practitioners since its introduction in 1993. An NIDCR grantee has begun to provide needed data about how commonly NAM is performed in the U.S., who seeks it, and the myriad factors that play into a family's decision-making process in selecting initial cleft care. She also continues to ask a larger and mostly overlooked two-part question: How do children with clefts benefit from the particular type of care they receive, and what is the evidence-based quality of care available to low-income children with clefts? This will help all affected families make more informed decisions and will allow policymakers to consider potential health disparities and their implications for low-income children, an issue that has largely been overlooked.

As this work proceeds, an intensive search continues to define the underlying genetic and environmental causes of clefting, a research area actively supported by NIDCR. Through genome-wide and candidate gene studies, scientists have discovered nearly 20 genes or chromosomal regions that can contribute to the malformation. With the advent of high-throughput, lower-cost DNA sequencing technologies, it may be possible to identify the contributing DNA variants suggested by genome-wide studies along with rarer associated sequence variants. Such information could facilitate the development of new preventative and therapeutic approaches, as well as allow development of risk models that could be used for risk assessment and population screening.

The program also supports research in areas critical to a variety of patient groups, such as those with temporomandibular joint disorder, Sjögren's Syndrome, and periodontal diseases. To expand discoveries in projects using GWAS data, small grants to improve the statistical method and secondary analysis interfaces are supported under a Program Announcement released in FY 2010 and reissued in FY 2013.

The NIDCR investments are catalyzing exceptional progress in understanding the role of genetic variation in a wide range of conditions through the use of more targeted genotyping, DNA sequencing, and gene expression studies. For example, in craniosynostosis (premature closing of joints between bones in the skull), results from gene expression studies suggest that both common and distinct genetic pathways play important roles in the development of different clinical types of craniosynostosis. Further understanding of molecular signaling pathway

influences on the process of craniosynostosis will provide important leads towards an eventual robust, individually tailored care regimen.

As a complement to the human genetic studies, NIDCR supports the Human Oral Microbiome Database (HOMD), the first comprehensive database of the oral microbiome. Integrating information about human (or host) genetic variation with the oral microbiome will spur major advances in addressing the persistent public health issues of dental caries and periodontal disease. With NIDCR support, research on the various metabolic, genetic, and structural interactions between oral microbes and the host defense systems within the complex biofilm environment (dental plaque) in both healthy and disease states, will provide many new therapeutic targets and enhance prevention and treatment strategies.

Budget Policy: The FY 2014 President's Budget estimate for this program is $53.042 million, an increase of $0.299 million or 0.6 percent above the FY 2012 Actual level. Greatest priority will be given to highly meritorious new research and ongoing initiatives.

NIDCR is committed to enriching its investment in the FaceBase consortium, expanding the scope by generating and disseminating datasets not covered by the original consortium such as additional areas of the developing face or skull, disorders of these developmental processes, along with additional data related to midface development and orofacial clefts, and novel ways of displaying, integrating and searching current and new FaceBase datasets. A range of genetic and environmental factors are thought to contribute to orofacial clefting and other craniofacial anomalies, and FaceBase is designed to enhance investigations into these causes and their outcomes. FaceBase comprises work ranging from microRNA expression maps to the creation of novel genetically engineered mouse strains. Continued focus in this area will maximize the return on NIDCR's investment in FaceBase, and promises to accelerate progress in critical areas of craniofacial research. In addition, NIDCR will also continue to leverage existing resources and prioritize support for genetics and genomics research. An ongoing Program Announcement will continue to promote research in these key areas for dental, oral, and craniofacial diseases and disorders that have evidence of heritability but for which we do not have a strong understanding of the genetics/genomics of the disease or disorder. NIDCR is preparing a re-competition of FaceBase awards aiming for the next iteration of the consortium to be in place by May 2014.

Intramural Research: The NIDCR Intramural Research Program (IRP) conducts innovative research on many aspects of dental, oral and craniofacial health. Areas of strong research focus include a systems approach to unfolding the biochemistry, development, and function of tissues/organs of the dental oral craniofacial region and associated tissues/organs; immunology of the mucosal system; genetic disorders and tumors of the oral cavity; the cellular and molecular basis of pain and taste; and the development of improved methods to diagnose and treat disease. The IRP pays special attention to the recruitment and training of highly talented students from diverse groups, drawn from the diverse student population that participate in NIDCR's annual summer and research training programs. This has been an exceptionally successful program. Over the last five years, approximately half of this group has entered professional or graduate school.

Basic research by NIDCR scientists on the mechanisms of oral cancer are leading to new potential therapies. The inhibition of one cancer signature molecule, mTOR, prevents both the development of pre-malignancies and the conversion into malignant cancers in a mouse model. Intramural investigators will continue collaborative clinical studies on inhibitors of the mTOR pathway in treatment of oral cancer and will extend these studies to the prevention of tumor onset or relapse in high-risk individuals. The NIDCR scientists are also building on the completion of the first use of gene therapy in salivary glands to treat dry mouth caused by radiation treatment by extending those studies using improved vectors expected to have prolonged therapeutic effects.

Surprisingly, the mTOR molecular pathway also plays a critical role in repairing salivary gland damage that occurs with radiation treatments to the head and neck region. Such treatment often destroys fluid-secreting cells of the salivary gland, causing inadequate salivary flow, discomfort, oral infections, and impaired speaking ability. NIDCR researchers have found that using the diabetes drug metformin, which inhibits the mTOR pathway, protects against radiation-induced death of normal salivary gland cells taken from healthy individuals as well as in mice receiving radiation.

Program Portrait: Organogenesis and the salivary gland

FY 2012 Level: $52.395 million
FY 2014 Level: $52.605 million
Change: +$0.210 million

Within weeks of fertilization, one of life's great mysteries occurs: the heart, lungs, kidneys, and other organs begin to form and self-assemble in the developing fetus. Many start out as tube-shaped sheets of cells, which then bud and branch anew hundreds of times, a process called branching morphogenesis, before reaching their final three-dimensional shape. Although scientists have identified many of the essential proteins involved in forming many organs, they still know little about their functions and interactions, vital information needed to regenerate or engineer replacement organs. But these developmental mysteries are beginning to be unraveled. An excellent example is research under way in the NIDCR intramural program on salivary gland development.

NIDCR scientists have made progress in understanding a basic motif of branching morphogenesis called clefting (not to be confused with lip or palate clefting). Think of clefting as the letter "O" morphing into the letter "V." The clefts generate spatially distinct populations of cells that branch tree-like in divergent directions. In salivary glands, this continuous cleft-branch-cleft growth is necessary to generate the large surface area required for fluid secretion and the branched ducts that drain it to the oral cavity. Other NIDCR investigators have added to this work by showing that growth of nerve fibers into the gland along the ducts is essential for a gland's continued development and ultimately its ability to secrete fluid. They found that cells expressing the protein keratin 5 become targets of nerve signaling, forming a pool of early progenitor, or stem, cells. Nerve innervation keeps the cells dividing and prevents their premature differentiation into specialized salivary cells. Other researchers have discovered that O-glycosylation, a mechanism by which sugars are coupled to proteins, influences extracellular matrix composition and is essential for branching morphogenesis during salivary gland development. This marks the first demonstration that O-glycosylation can influence the composition of the extracellular matrix during mammalian organ development. This work provides much-needed information to inform strategies for regeneration of salivary gland tissue for thousands of Americans with chronic dry mouth due to salivary tumors, treatment for head and neck cancer, autoimmune disease, and other conditions.

In another major initiative, intramural investigators have collaborated on basic, translational, and clinical studies to understand the development, function, and dysfunction of oral soft tissues, including the tongue, mucosa, and salivary glands.

Budget Policy: The FY 2014 President's Budget estimate for this program is $65.215 million, an increase of $0.386 million or 0.6 percent compared to the FY 2012 Actual level. Funds will allow continued support for ongoing research.

Notably, intramural clinical investigators will continue studies on the treatment of hypoparathyroidism and its effect on bone, and also test the utility of low-level laser therapy in treating painful lesions in the mouth after radiation treatment for oral cancer. Also, major efforts will be directed at continuing to define the basic biology of salivary gland development and secretory physiology. Specific focus is on the role of salivary stem cells in development and possible application to remediation of damaged glands; as well as on understanding the pathology of Sjögren's Syndrome at a genetic and molecular level, in order to develop mechanic-based therapeutic approaches. Intramural scientists will translate preclinical studies showing the ability of bone marrow stromal cells to recreate bone, by directly transplanting them into patients with large defects in the skull. Furthermore, these same cells make large quantities of factors that regulate the activity of blood cells, and will be investigated for their ability to modulate abnormal immune activity that occurs in certain diseases (e.g., graft versus host disease, inflammatory bowel disease) when they are injected into the blood stream.

Research Management and Support (RMS): The RMS mechanism supports the scientific and administrative management structures needed to lead and manage the world's largest oral health research enterprise effectively. The Institute's extramural staff scientists and grant specialists maintain liaison with nearly 800 grantees, and provide stewardship for the Institute's investment in research and research training grants. Additionally, NIDCR conducts formal evaluations of its intramural and extramural research programs to inform leadership and advisory bodies on scientific progress and new research directions. This budget category also supports the Institute's Office of Communications and Health Education, which produces and disseminates informational materials on a wide variety of topics, ranging from children's oral health, oral cancer, and periodontal disease, to oral health care for people with disabilities. Some materials are geared toward patients or the general public; others are targeted to health care professionals, teachers, or caregivers for special needs patients. The Office also disseminates information about significant research advances to the media, patient support organizations, professional organizations, and the research community.

Budget Policy: The FY 2014 President's Budget estimate for this program is $24.833 million, an increase of $0.343 million or 1.4 percent above the FY 2012 Actual level. NIDCR will use these resources to fund the scientific and administrative management and oversight activities of the Institute. The apparent increase in estimated FY 2014 FTE compared to the FY 2012 actual FTE usage level is due to the effect of transferring positions previously funded from a centralized support operation (Division of Extramural Activities Support) to individual ICs as of year-end 2012. As a result of the DEAS transfer, estimated salaries and benefits for FY 2014 are proportionately higher than those identified for FY 2012 and previous years.

NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research

Budget Authority by Object Class
(Dollars in Thousands)

	FY 2012 Actual	FY 2014 PB	Increase or Decrease
Total compensable workyears:			
Full-time employment	258	267	9
Full-time equivalent of overtime and holiday hours	0	0	0
Average ES salary (in whole dollars)	$159,069	$159,069	$0
Average GM/GS grade	11.4	11.4	0.0
Average GM/GS salary (in whole dollars)	$92,136	$93,290	$1,154
Average salary, grade established by act of July 1, 1944 (42 U.S.C. 207) (in whole dollars)	$92,136	$93,290	$1,154
Average salary of ungraded positions (in whole dollars)	$118,308	$119,790	$1,482

OBJECT CLASSES	FY 2012 Actual	FY 2014 PB	Increase or Decrease
Personnel Compensation:			
11.1 Full-time permanent	$13,983	$15,002	$1,019
11.3 Other than full-time permanent	11,134	11,605	471
11.5 Other personnel compensation	445	470	25
11.7 Military personnel	302	336	34
11.8 Special personnel services payments	3,050	3,119	69
Total, Personnel Compensation	**$28,915**	**$30,532**	**$1,617**
12.0 Personnel benefits	$7,744	$8,201	$457
12.2 Military personnel benefits	114	125	11
13.0 Benefits for former personnel	0	0	0
Subtotal, Pay Costs	**$36,773**	**$38,858**	**$2,085**
21.0 Travel and transportation of persons	$707	$708	$1
22.0 Transportation of things	$55	55	0
23.1 Rental payments to GSA	$0	0	0
23.2 Rental payments to others	$0	0	0
23.3 Communications, utilities and miscellaneous charges	$471	358	(113)
24.0 Printing and reproduction	$7	7	(0)
25.1 Consulting services	$2,151	1,778	(373)
25.2 Other services	$4,431	4,392	(39)
25.3 Purchase of goods and services from government accounts	$48,369	50,627	2,258
25.4 Operation and maintenance of facilities	$95	95	(0)
25.5 Research and development contracts	$8,103	8,389	286
25.6 Medical care	$124	124	0
25.7 Operation and maintenance of equipment	$1,510	1,509	(1)
25.8 Subsistence and support of persons	$0	0	0
25.0 Subtotal, Other Contractual Services	**$64,783**	**$66,914**	**$2,131**
26.0 Supplies and materials	$5,248	$5,373	$125
31.0 Equipment	3,041	3,032	(9)
32.0 Land and structures	0	0	0
33.0 Investments and loans	0	0	0
41.0 Grants, subsidies and contributions	298,861	296,210	(2,651)
42.0 Insurance claims and indemnities	0	0	0
43.0 Interest and dividends	0	0	(0)
44.0 Refunds	0	0	0
Subtotal, Non-Pay Costs	**$373,174**	**$372,657**	**($517)**
Total Budget Authority by Object Class	**$409,947**	**$411,515**	**$1,568**

Includes FTEs whose payroll obligations are supported by the NIH Common Fund.

NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research

Salaries and Expenses
(Dollars in Thousands)

OBJECT CLASSES	FY 2012 Actual	FY 2014 PB	Increase or Decrease
Personnel Compensation:			
Full-time permanent (11.1)	$13,983	$15,002	$1,019
Other than full-time permanent (11.3)	11,134	11,605	471
Other personnel compensation (11.5)	445	470	25
Military personnel (11.7)	302	336	34
Special personnel services payments (11.8)	3,050	3,119	69
Total Personnel Compensation (11.9)	**$28,914**	**$30,532**	**$1,618**
Civilian personnel benefits (12.1)	$7,744	$8,201	$457
Military personnel benefits (12.2)	114	125	11
Benefits to former personnel (13.0)	0	0	0
Subtotal, Pay Costs	**$36,772**	**$38,858**	**$2,086**
Travel (21.0)	$707	$708	$1
Transportation of things (22.0)	55	55	0
Rental payments to others (23.2)	0	0	0
Communications, utilities and miscellaneous charges (23.3)	471	358	(113)
Printing and reproduction (24.0)	7	7	0
Other Contractual Services:			
Advisory and assistance services (25.1)	2,151	1,778	(373)
Other services (25.2)	4,431	4,392	(39)
Purchases from government accounts (25.3)	36,371	36,163	(208)
Operation and maintenance of facilities (25.4)	95	95	0
Operation and maintenance of equipment (25.7)	1,510	1,509	(1)
Subsistence and support of persons (25.8)	0	0	0
Subtotal Other Contractual Services	**$44,558**	**$43,937**	**($621)**
Supplies and materials (26.0)	$5,214	$5,339	$125
Subtotal, Non-Pay Costs	$51,012	$50,404	($608)
Total, Administrative Costs	**$87,784**	**$89,262**	**$1,478**

NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research

Details of Full-Time Equivalent Employment (FTEs)

OFFICE/DIVISION	FY 2012 Actual			FY 2013 CR			FY 2014 PB		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Office of the Director									
Direct:	5	1	6	5	1	6	5	1	6
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	5	1	6	5	1	6	5	1	6
Office of Administrative Management									
Direct:	14	-	14	15	-	15	15	-	15
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	14	-	14	15	-	15	15	-	15
Office of Information Technology									
Direct:	7	-	7	7	-	7	7	-	7
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	7	-	7	7	-	7	7	-	7
Office of Science Policy and Analysis									
Direct:	9	-	9	9	-	9	9	-	9
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	9	-	9	9	-	9	9	-	9
Office of Communications and Health Education									
Direct:	7	-	7	8	-	8	8	-	8
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	7	-	7	8	-	8	8	-	8
Division of Intramural Research									
Direct:	163	1	164	165	1	166	165	1	166
Reimbursable:	6	-	6	6	-	6	6	-	6
Total:	169	1	170	171	1	172	171	1	172
Division of Extramural Activities									
Direct:	19	-	19	22	-	22	22	-	22
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	19	-	19	22	-	22	22	-	22
Division of Extramural Research									
Direct:	22	-	22	26	-	26	26	-	26
Reimbursable:	4	-	4	2	-	2	2	-	2
Total:	26	-	26	28	-	28	28	-	28
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Total	256	2	258	265	2	267	265	2	267

Includes FTEs whose payroll obligations are supported by the NIH Common Fund.
FTEs supported by funds from Cooperative Research and Development Agreements.

FISCAL YEAR	Average GS Grade
2010	11.3
2011	11.3
2012	11.4
2013	11.4
2014	11.4

NATIONAL INSTITUTES OF HEALTH
National Institute of Dental and Craniofacial Research

Detail of Positions

GRADE	FY 2012 Actual	FY 2013 CR	FY 2014 PB
Total, ES Positions	1	1	1
Total, ES Salary	159,069	159,069	159,069
GM/GS-15	18	18	18
GM/GS-14	30	30	30
GM/GS-13	20	20	20
GS-12	37	39	39
GS-11	17	17	17
GS-10	1	1	1
GS-9	13	14	14
GS-8	11	13	13
GS-7	9	11	11
GS-6	7	8	8
GS-5	3	4	4
GS-4	0	0	0
GS-3	0	0	0
GS-2	2	2	2
GS-1	0	0	0
Subtotal	168	177	177
Grades established by Act of July 1, 1944 (42 U.S.C. 207):			
Assistant Surgeon General	1	1	1
Director Grade	0	0	0
Senior Grade	1	1	1
Full Grade	0	0	0
Senior Assistant Grade	0	0	0
Assistant Grade	0	0	0
Subtotal	2	2	2
Ungraded	91	91	91
Total permanent positions	166	166	166
Total positions, end of year	262	266	266
Total full-time equiv (FTE) at YE	258	267	267
Average ES salary	159,069	159,069	159,069
Average GM/GS grade	11.4	11.4	11.4
Average GM/GS salary	92,136	92,366	93,290

Includes FTEs whose payroll obligations are supported by the NIH Common Fund.