



NIH LRP Trends Report

**Extramural Loan Repayment Programs
Fiscal Years 2003-2010**

September 27, 2011

NIH Loan Repayment Programs Facilitating the Path to a Biomedical Research Career

The National Institutes of Health (NIH) Extramural Loan Repayment Programs (LRP) help attract and retain career health professionals by helping them repay the high educational debt associated with medical education and training.

Since 1998, the U.S. Congress has created eight loan repayment programs administered by NIH -- three for individuals who conduct research as employees of the NIH (Intramural) and five for individuals who conduct research funded by domestic non-profit institutions or U.S. government organizations (Extramural). Extramural programs are available in five research areas: clinical, pediatric, health disparities, contraception and infertility and clinical research for individuals from disadvantaged backgrounds.

The LRPs repay up to \$35,000 of eligible educational debt per year, and to be considered for these programs, applicants must commit to performing qualified research for at least two years. They must also possess a doctoral degree; have educational loan debt equal to at least 20 percent of their annual salary; conduct research for an average of at least 20 hours per week; and be a U.S. citizen or permanent resident. Awardees may apply for additional one- or two-year renewal contracts as long as they continue to meet the eligibility requirements.

Legislative History

1988

Public Law (PL) 100-67:

PHS Act, Sec. 487A (42 USC 288-1) authorizes the AIDS Research LRP (Intramural) – (AIDS-LRP)

1993

PL 103-43 - NIH Revitalization Act:

PHS Act, Sec. 487B (42 USC 288-2) authorizes the Contraception & Infertility Research LRP (CIR-LRP)

PL 103-43 – NIH Revitalization Act:

PHS Act, Sec. 487C (42 USC 288-3) authorizes the General Research LRP (Intramural) – (GR-LRP)

PL 103-43 – NIH Revitalization Act

PHS Act, Sec. 487E (42 USC 288-5) authorizes the Clinical Research LRP for Individuals from Disadvantaged Backgrounds (Intramural) – (CR-LRP)

2000

PL 106-310 - Children's Health Act of 2000:

PHS Act, Sec. 487F (42 USC 288-6) authorizes the Pediatric Research LRP (PR-LRP).

2001

PL 106-505 - Public Health Improvement Act:

PHS Act, Sec 487F (42 USC 288-5a) authorizes the Loan Repayment Program Regarding Clinical Researchers (LRP-CR)

PL 106-525 - Minority Health and Health Disparities Research & Education Act:

PHS Act, Sec 485G (42 USC 287c-33) authorizes the Health Disparities LRP (HD-LRP)

PL 106-554 - Consolidated Appropriations Act of 2001:

PHS Act, Sec. 487E expanded to include non-NIH employees, authorizing the Extramural Clinical Research for Individuals from Disadvantaged Backgrounds (ECR-LRP)

Executive Summary

- NIH has made approximately 12,300 awards totaling more than \$567 million.
- 24 NIH Institutes and Centers have distributed awards. Since 2003, the National Cancer Institute (NCI), National Heart, Lung, and Blood Institute (NHLBI), and National Institute on Minority Health and Health Disparities (NIHMD) have each contributed more than \$50 million to the LRPs. *
- Applicants' overall success rate is 51 percent. 42 percent of new and 70 percent of renewal applicants have received contracts.
- Of the 5 programs, Clinical Research and Pediatric Research are the largest and account for nearly 75 percent of all awards.
- Applications grew by 74 percent from 2003 to 2005, but have been stable since 2005.
- Average debt is \$96,484. Thirty-six percent of new awardees have reported more than \$100,000 of eligible educational debt.
- Overall, men and women have been equally competitive. However, more women have received health disparities contracts.

** For a full list of NIH Institute and Centers, please see slide 35.*

The Five Extramural Loan Repayment Programs

Clinical Research

Clinical research is patient-oriented clinical research conducted with human subjects, or research on the causes and consequences of disease in human populations involving material of human origin (such as tissue specimens and cognitive phenomena) for which an investigator or colleague directly interacts with human subjects in an outpatient or inpatient setting to clarify a problem in human physiology, pathophysiology or disease, or epidemiologic or behavioral studies, outcomes research or health services research, or developing new technologies, therapeutic interventions, or clinical trials.

Pediatric Research

Qualified Pediatric Research is defined as research directly related to diseases, disorders, and other conditions in children.

Health Disparities Research

The scope of research qualified for this program includes basic research, clinical research or behavioral research directly related to health disparity populations and the medically underserved. Group is defined as a health disparity population: if there is a significant disparity in the overall rate of disease incidence, prevalence, morbidity, mortality, or survival rates in the population as compared to the health status of the general population.

Clinical Research for Individuals from Disadvantaged Backgrounds

For this program, an individual from a disadvantaged background is defined according to low family income levels set by the U.S. Bureau of the Census – as published in the Federal Register.

To meet this low-income requirement candidates must demonstrate their disadvantaged status by submitting (1) a written statement from former school(s) where he/she qualified for Federal disadvantaged assistance, (2) verification of receipt of loans from either the Health Professions Student Loans (HPSL) or Loans for Disadvantaged Student Program, or (3) verification of a scholarship from the U.S. Department of Health and Human Services under the Scholarship for Individuals with Exceptional Financial Need.

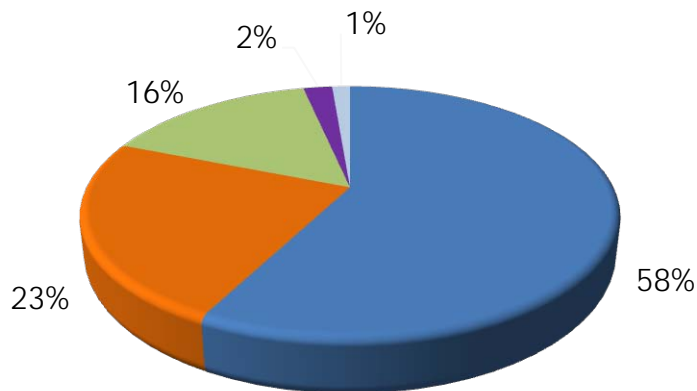
Contraception and Infertility Research

Contraception research is defined as research whose ultimate goal is to provide new or improved methods of preventing pregnancy. Infertility research is defined as research whose long-range objective is to evaluate, treat, or ameliorate conditions which result in the failure of couples to either conceive or bear young.

Applications and Awards (New & Renewal)

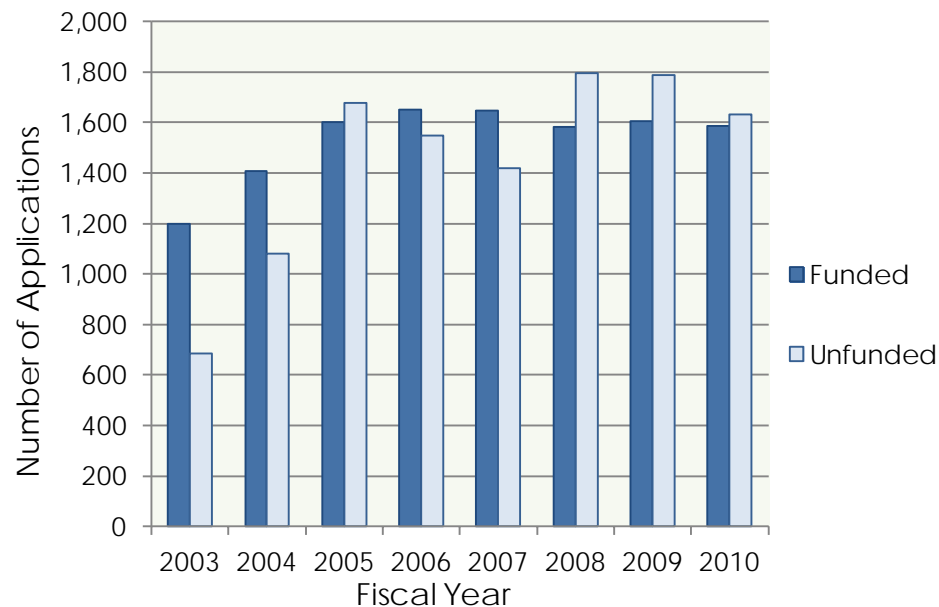
Awards by LRP

- Clinical Research
- Pediatric Research
- Health Disparities Research
- Clinical Research LRP for Individuals from Disadvantaged Backgrounds
- Contraception and Infertility Research



Applicant Success Rate

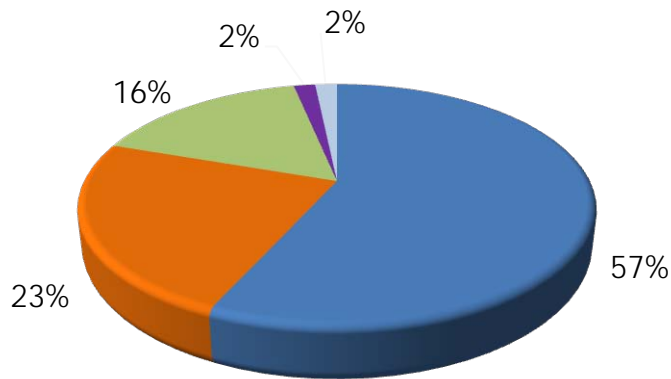
Total Applications:	23,898
Total Awards:	12,273
Success Rate:	51%



Applications and Awards (New)

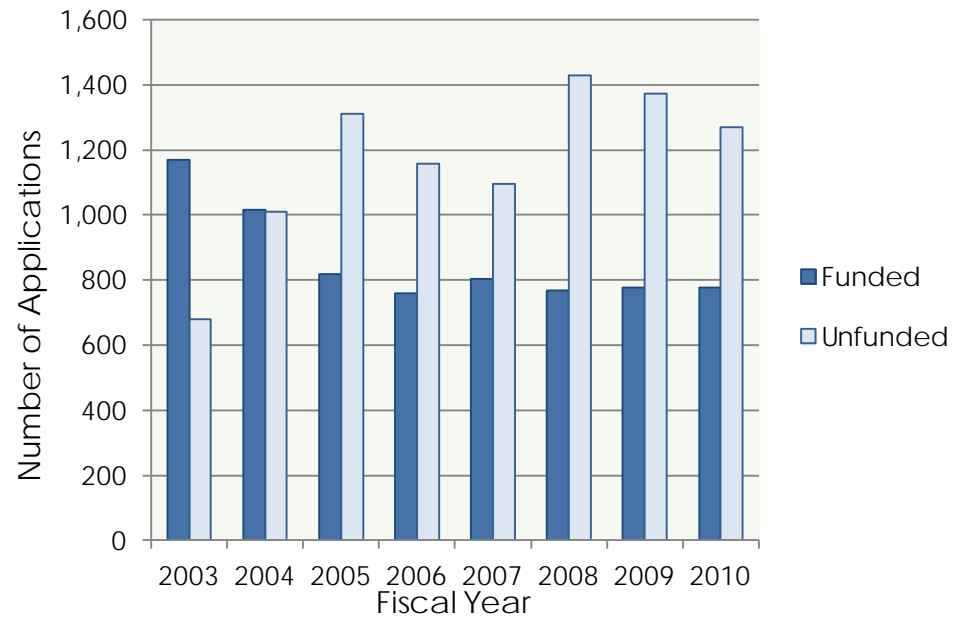
Awards by LRP

- Clinical Research
- Pediatric Research
- Health Disparities Research
- Clinical Research LRP for Individuals from Disadvantaged Backgrounds
- Contraception and Infertility Research



Applicant Success Rate

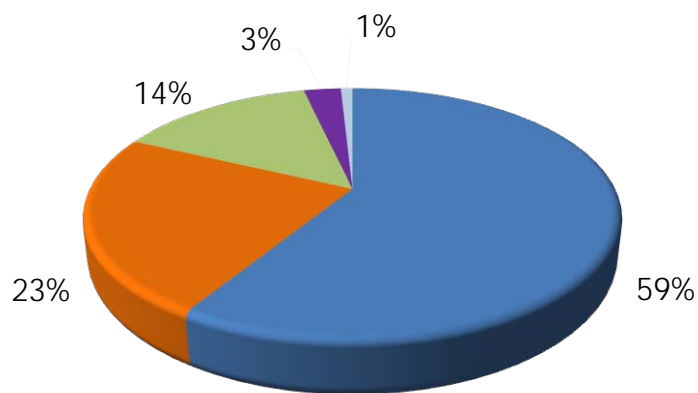
Total Applications: 16,215
 Total Awards: 6,886
 Success Rate: 42%



Applications and Awards (Renewal)

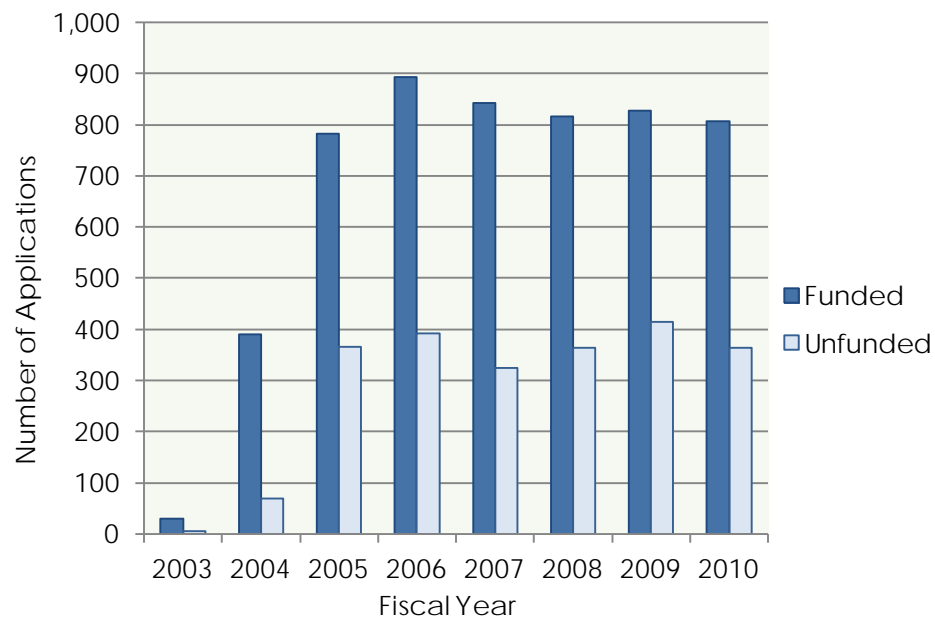
Awards by LRP

- Clinical Research
- Pediatric Research
- Health Disparities Research
- Clinical Research LRP for Individuals from Disadvantaged Backgrounds
- Contraception and Infertility Research



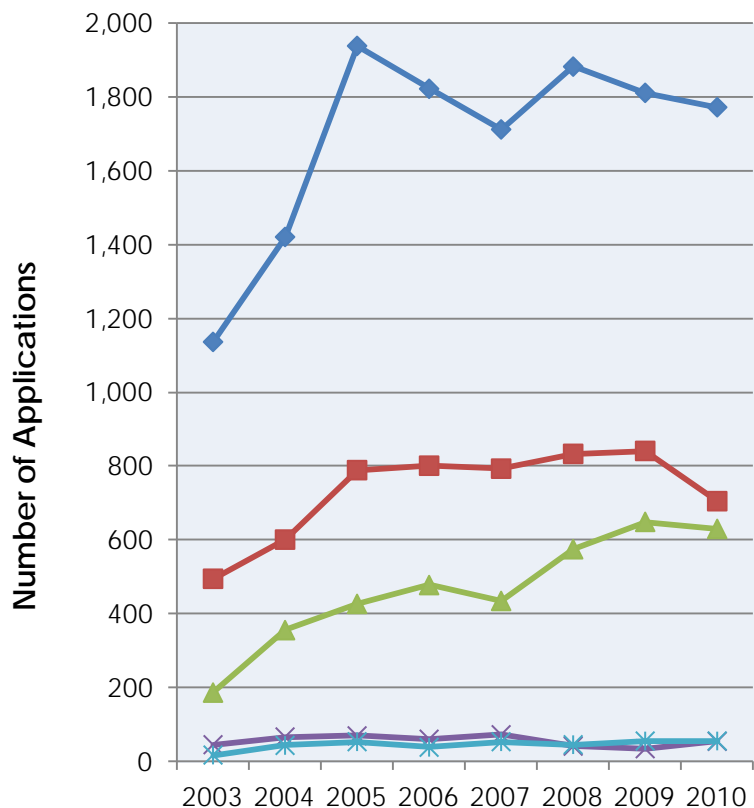
Applicant Success Rate

Total Applications:	7,683
Total Awards:	5,387
Success Rate:	70%



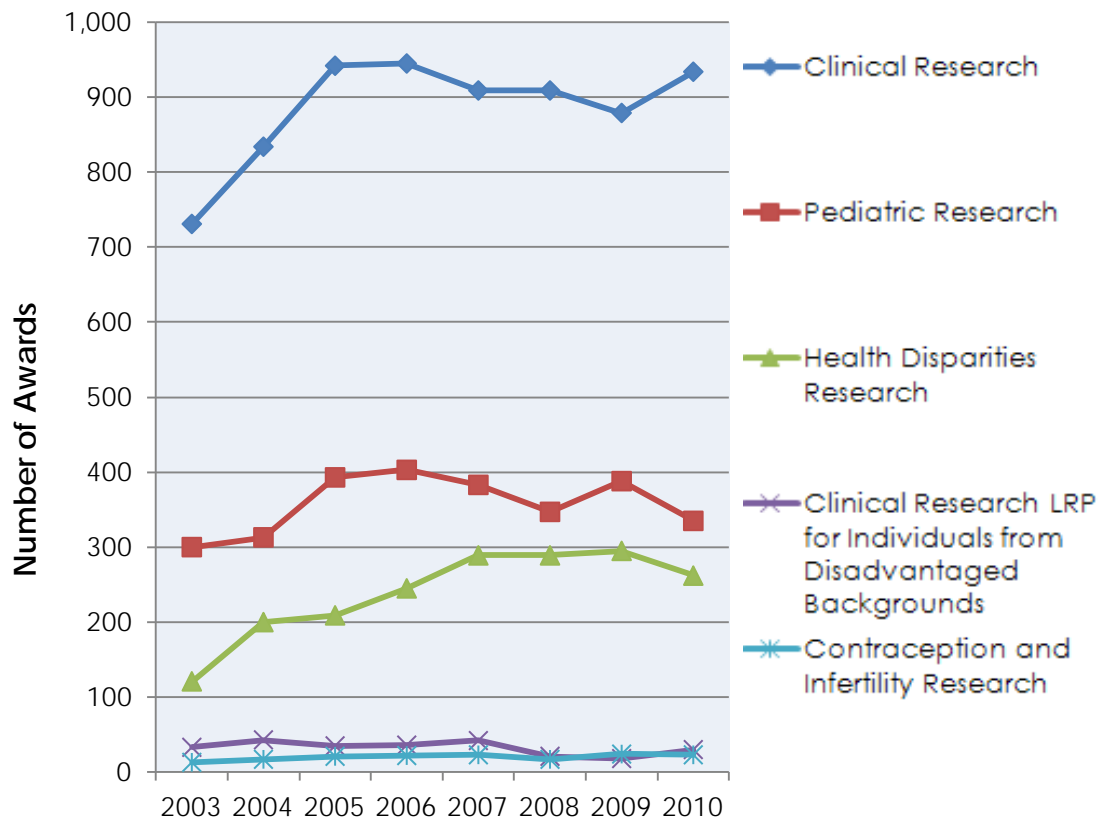
Applications and Awards by LRP (New & Renewal)

Applications



Fiscal Year

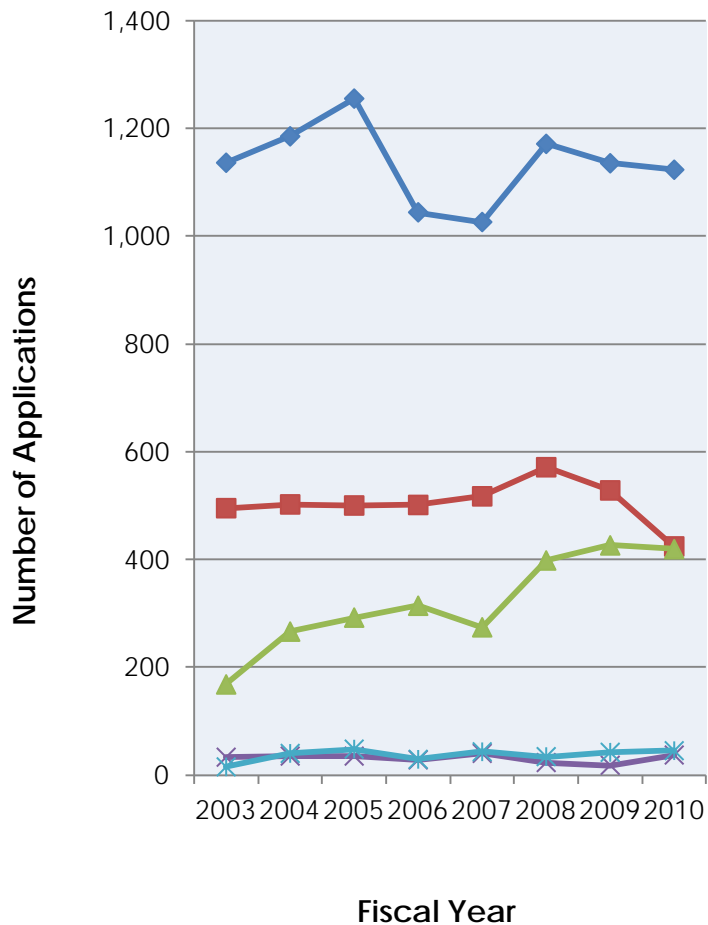
Awards



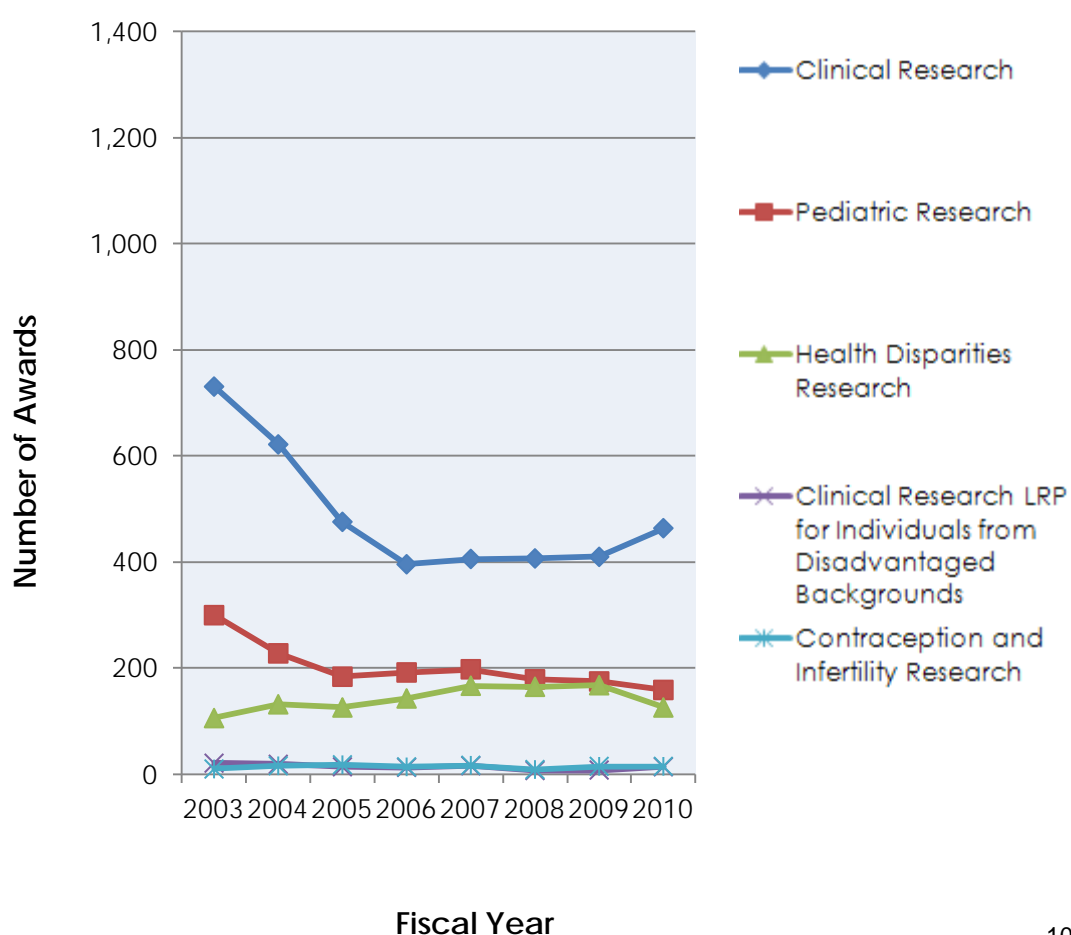
Fiscal Year

Applications and Awards by LRP (New)

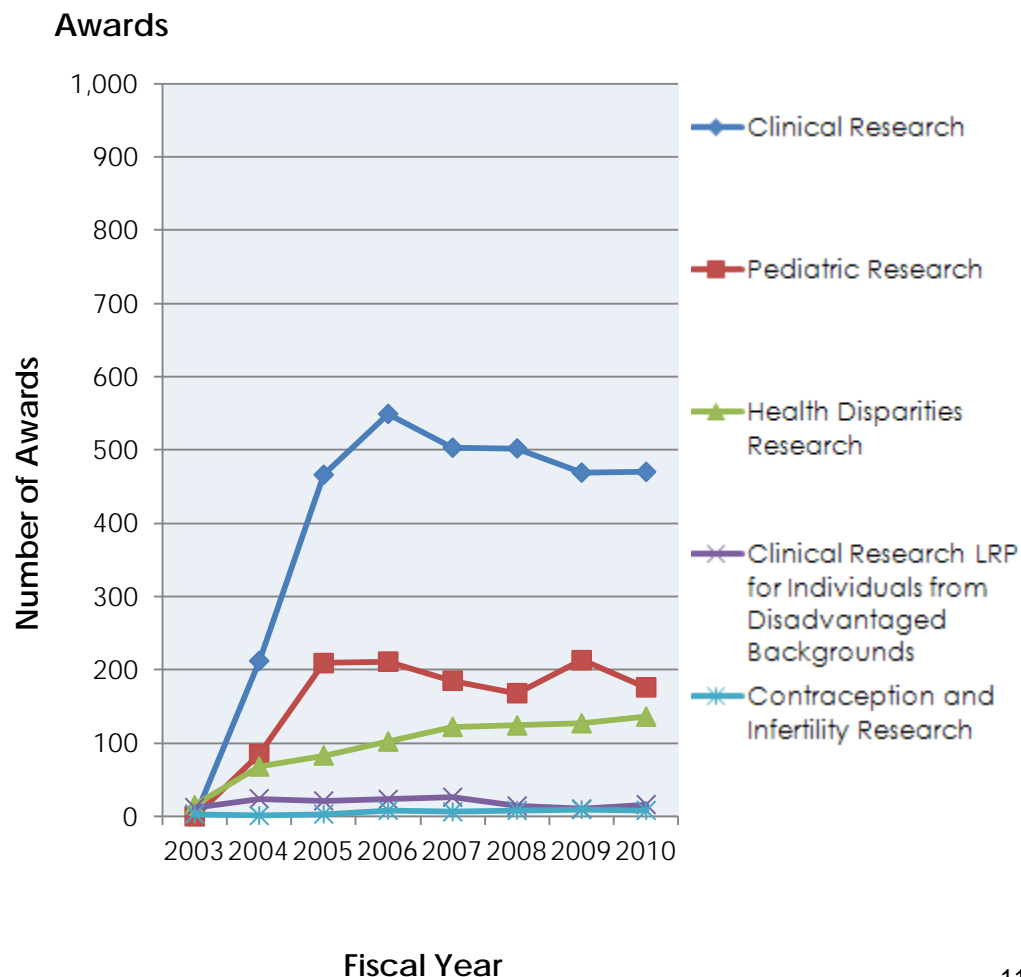
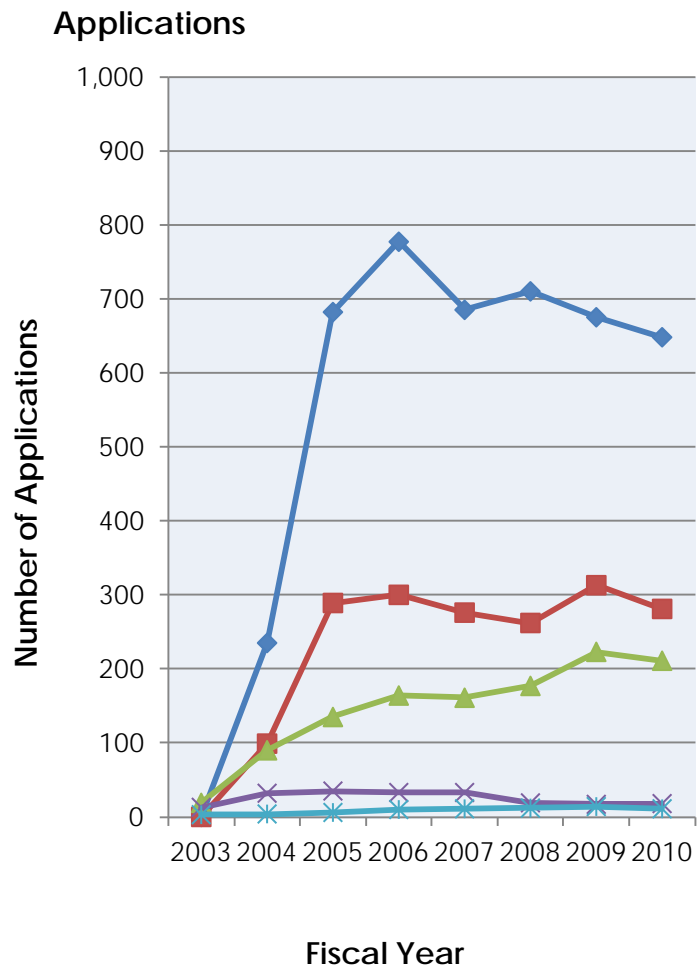
Applications



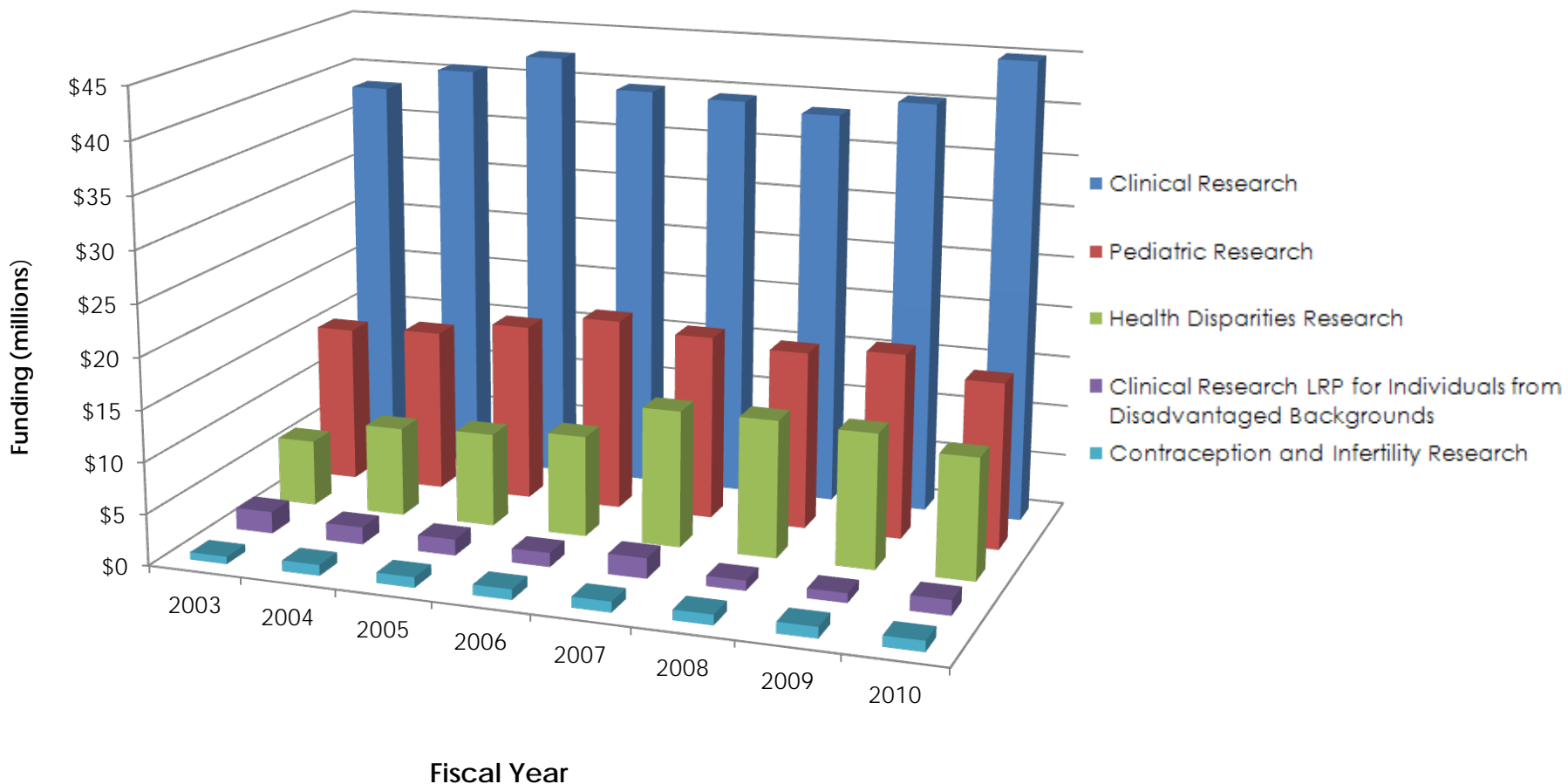
Awards



Applications and Awards by LRP (Renewal)



Funding by LRP (New & Renewal)

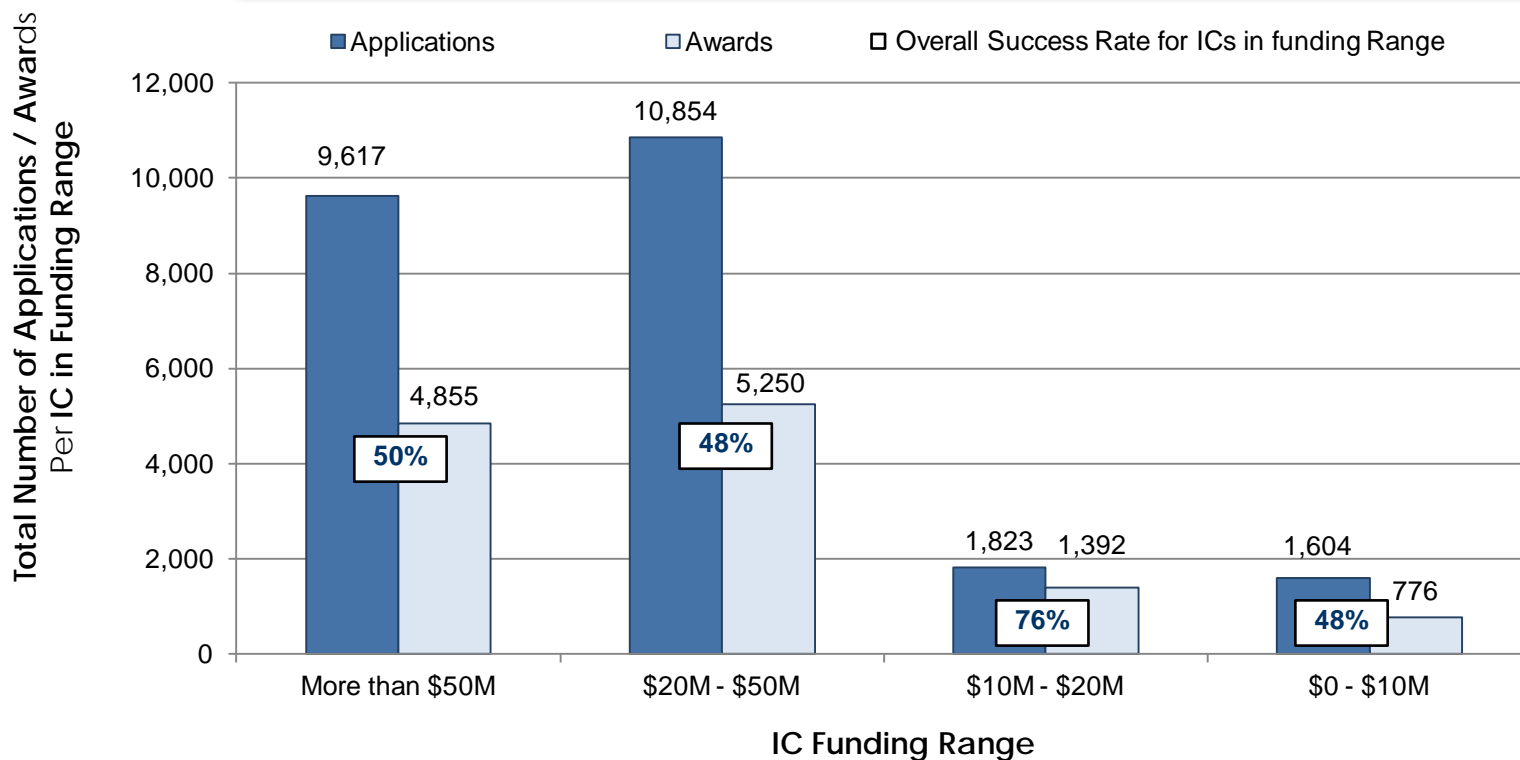


Funding by Institutes and Centers (New & Renewal)

IC	Funding	Awards	Percent
NIMHD	\$102,449,991	2,168	18%
NHLBI	\$76,455,664	1,365	13%
NCI	\$67,215,637	1,322	12%
NIAID	\$46,203,276	1,027	8%
NICHD	\$42,081,751	906	7%
NIMH	\$38,718,650	1,007	7%
NIDDK	\$34,001,616	595	6%
NIDA	\$27,881,846	758	5%
NINDS	\$21,273,369	452	4%
NIA	\$20,018,524	505	4%
NCRR	\$18,063,345	459	3%
NIAMS	\$14,133,945	295	2%
NEI	\$12,883,747	267	2%
NIAAA	\$12,486,815	371	2%
NIDCD	\$8,745,292	252	2%
NIDCR	\$5,650,877	115	1%
NIGMS	\$5,594,785	92	1%
NIEHS	\$3,729,931	115	1%
NCCAM	\$3,709,161	73	1%
NLM	\$2,257,953	39	<1%
NHGRI	\$1,977,103	43	<1%
NIBIB	\$1,042,710	18	<1%
FIC	\$636,099	7	<1%
NINR	\$361,637	22	<1%
Total	\$567,573,723	12,273	100%

Total Applications, Awards and Success Rate, by Funding (New & Renewal)

Success rates do not directly correlate with IC funding rates.



Total Funding FY 2003 - 2010

More than \$50M: NCI, NHLBI, NIMHD

\$20M - \$50M: NIA, NINDS, NIDA, NIDDK, NIMH, NICHD, NIAID

\$10M - \$20M: NIAAA, NEI, NIAMS, NCCR

\$0 - \$10M: NINR, FIC, NIBIB, NHGRI, NLM, NCCAM, NIEHS, NIGMS, NIDCR, NIDCD

Applications, Awards, and Success Rates by LRP (New & Renewal) FY 2003 – FY 2005

From FY 2003-2010, 51 percent of all applications have been awarded contracts. Applications increased by 74 percent from 2003 – 2005 and have been stable since 2005.

LRP	FY 2003			FY 2004			FY 2005		
	Applications	Awards	Success Rate	Applications	Awards	Success Rate	Applications	Awards	Success Rate
Clinical Research	1,136	731	64%	1,420	834	59%	1,937	942	49%
Clinical Research for Individuals from Disadvantaged Backgrounds	46	33	72%	67	43	64%	70	35	50%
Contraception and Infertility Research	18	13	72%	44	17	39%	54	21	39%
Health Disparities Research	187	121	65%	356	200	56%	427	209	49%
Pediatric Research	495	300	61%	601	313	52%	789	393	50%
Total:	1,882	1,198	64%	2,488	1,407	57%	3,277	1,600	49%

Applications, Awards, and Success Rates by LRP (Continued) (New & Renewal) FY 2006 – FY 2008

From FY 2003-2010, 51 percent of all applications have been awarded contracts.

LRP	FY 2006			FY 2007			FY 2008		
	Applications	Awards	Success Rate	Applications	Awards	Success Rate	Applications	Awards	Success Rate
Clinical Research	1,821	945	52%	1,711	909	53%	1,881	909	48%
Clinical Research for Individuals from Disadvantaged Backgrounds	61	36	59%	73	42	58%	42	21	50%
Contraception and Infertility Research	39	22	56%	54	23	43%	46	17	37%
Health Disparities Research	478	245	51%	435	289	66%	575	289	50%
Pediatric Research	801	403	50%	793	383	48%	833	347	42%
Total:	3,200	1,651	52%	3,066	1,646	54%	3,377	1,583	47%

Applications, Awards, and Success Rates by LRP (Continued) (New & Renewal) FY 2009 – FY 2010

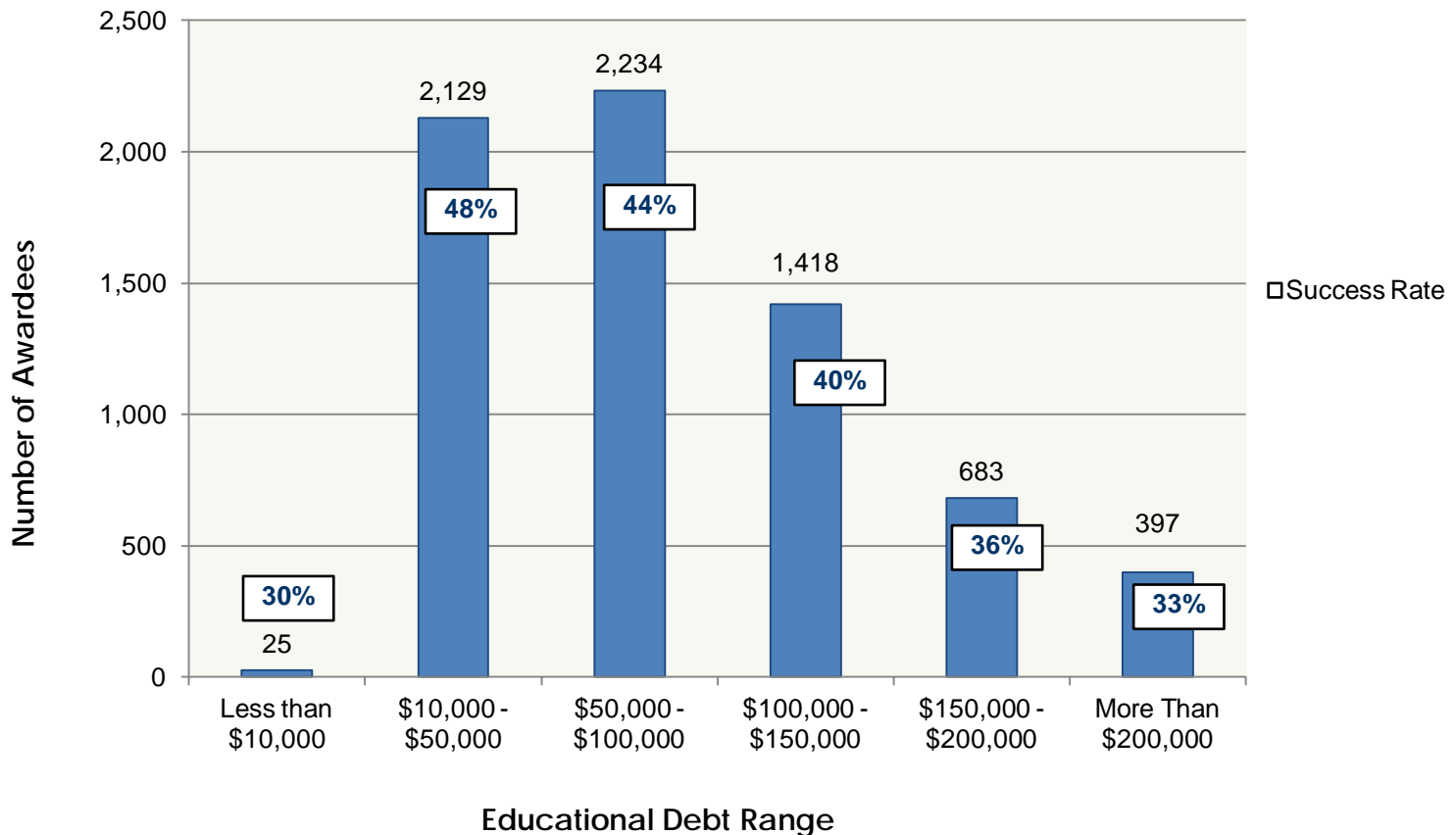
From FY 2003-2010, 51 percent of all applications have been awarded contracts.

LRP	FY 2009			FY 2010			FY 2003 - FY 2010		
	Applications	Awards	Success Rate	Applications	Awards	Success Rate	Applications	Awards	Success Rate
Clinical Research	1,810	879	49%	1,771	934	53%	13,487	7,084	53%
Clinical Research for Individuals from Disadvantaged Backgrounds	35	18	51%	55	30	55%	1,099	563	51%
Contraception and Infertility Research	56	24	43%	56	23	41%	941	399	42%
Health Disparities Research	649	295	45%	630	262	42%	3,162	1,677	53%
Pediatric Research	841	388	46%	705	335	48%	5,209	2,550	49%
Total:	3,391	1,604	47%	3,217	1,584	49%	23,898	12,273	51%

Distribution of Educational Debt for Awardees (New)

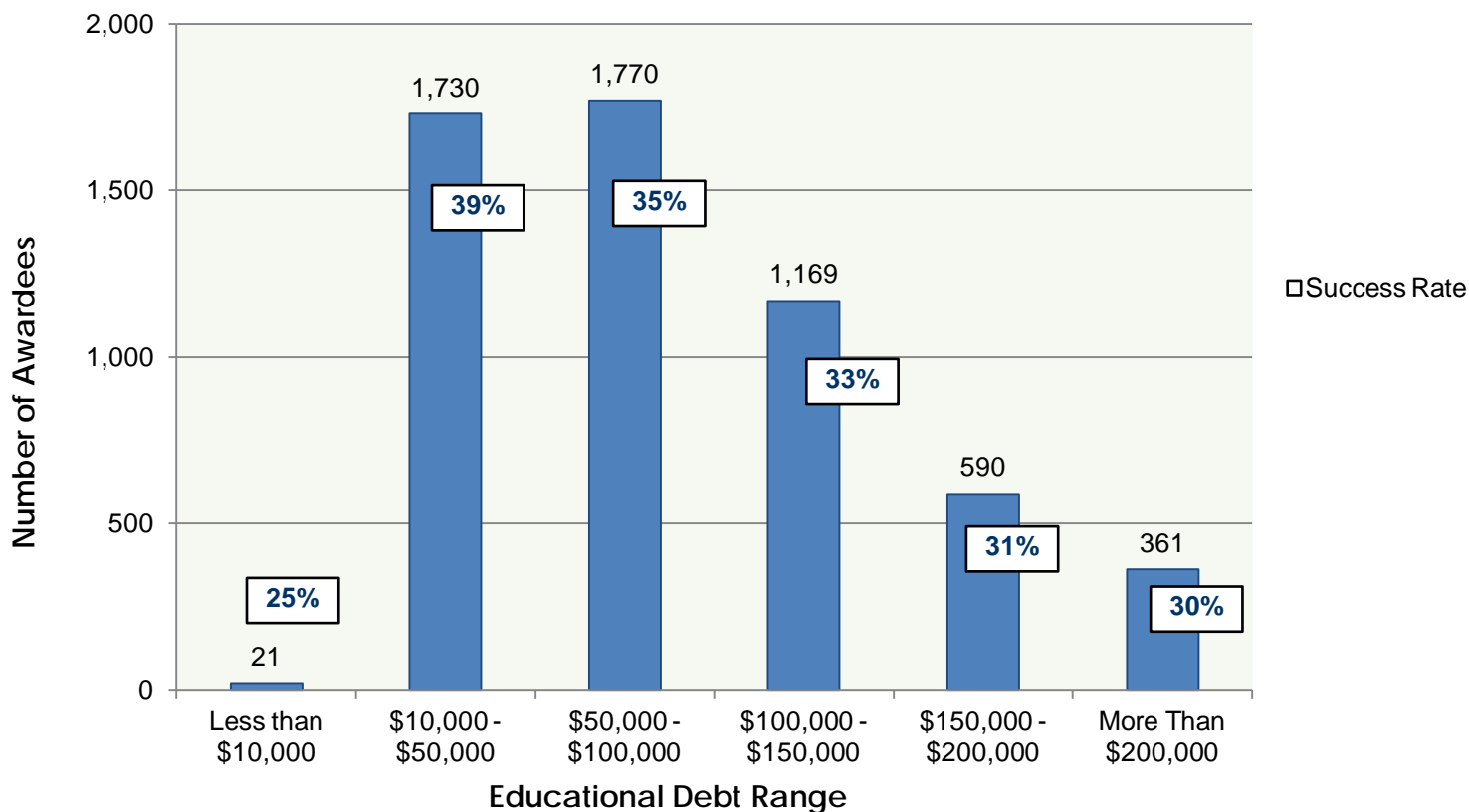
The Average Debt is \$96,484.

Over 36 percent of new awardees report more than \$100,000 of eligible educational debt.



Distribution of Educational Debt for Awardees (excluding NIMHD) (New)

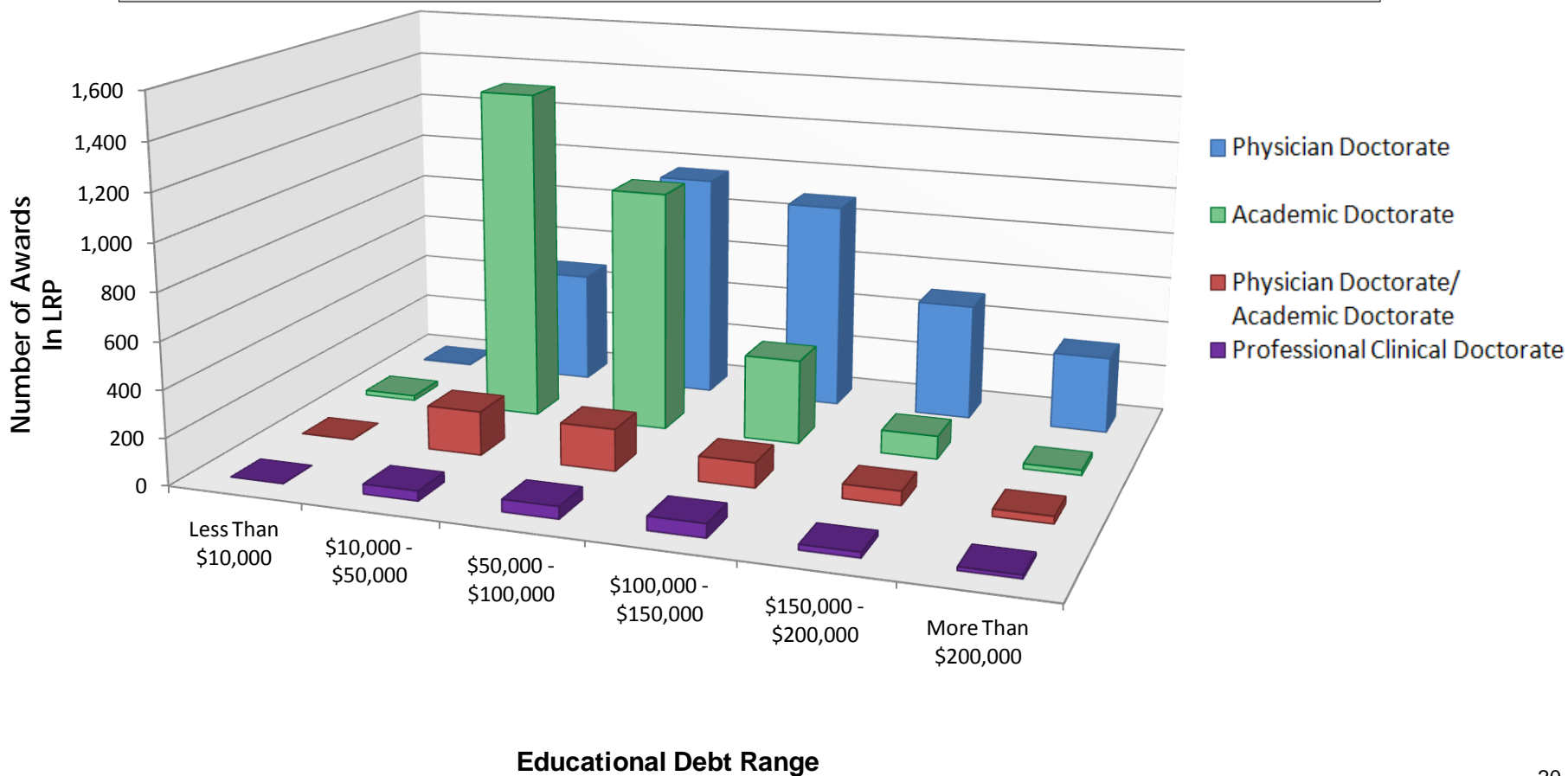
The Average Debt is \$98,411. Excluding NIMHD*, approximately 30 percent of new awardees report more than \$100,000 of eligible educational debt.



* NIMHD exclusively funds the Health Disparities and Clinical Research DB programs. The majority of the Health Disparities awardees have Academic Doctorates and significantly less debt than Physician Doctorates.

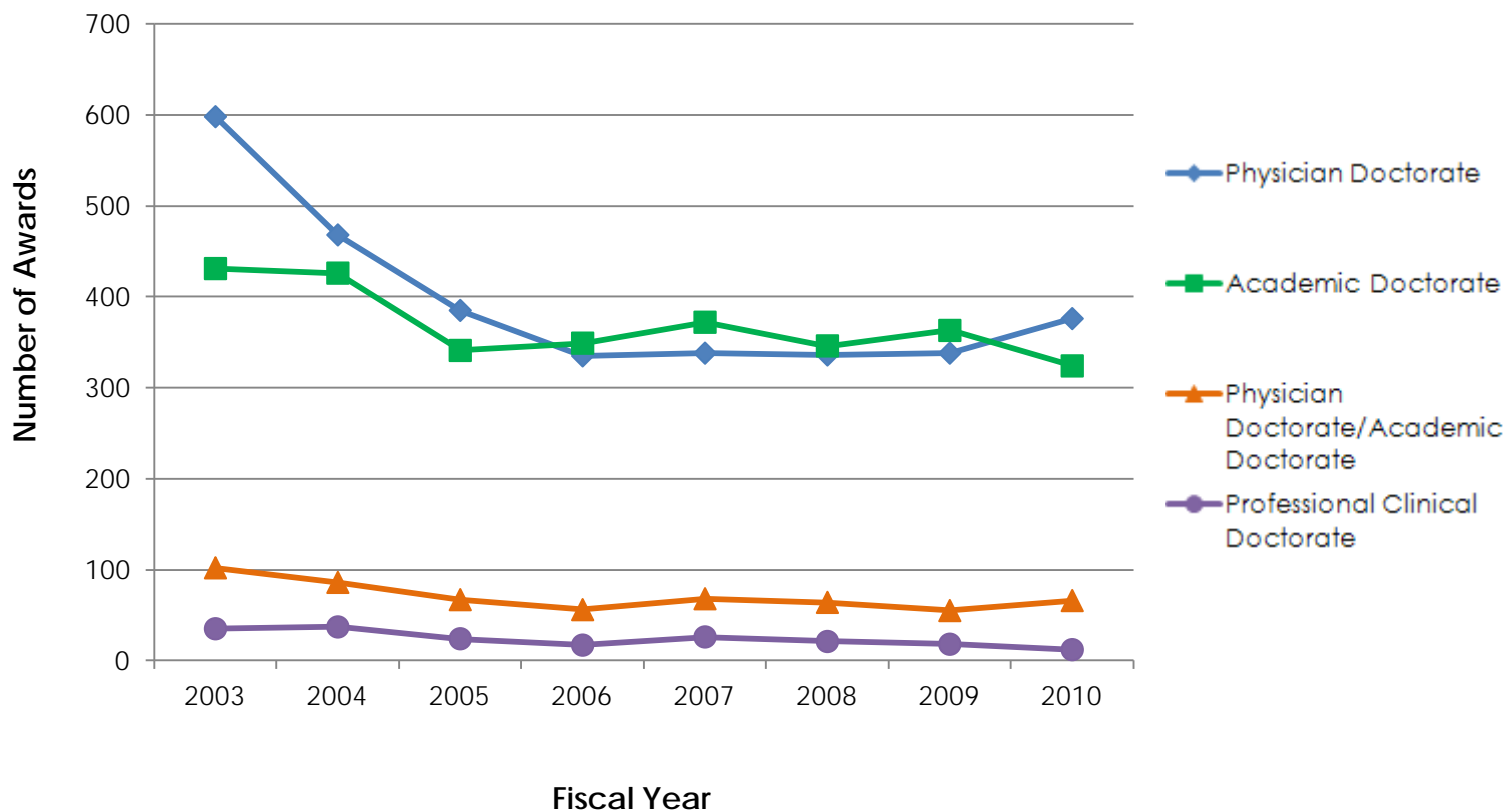
Distribution of Educational Debt for Awardees by Degree (New)

New awardees with Physician Doctorates report the highest overall educational debt.



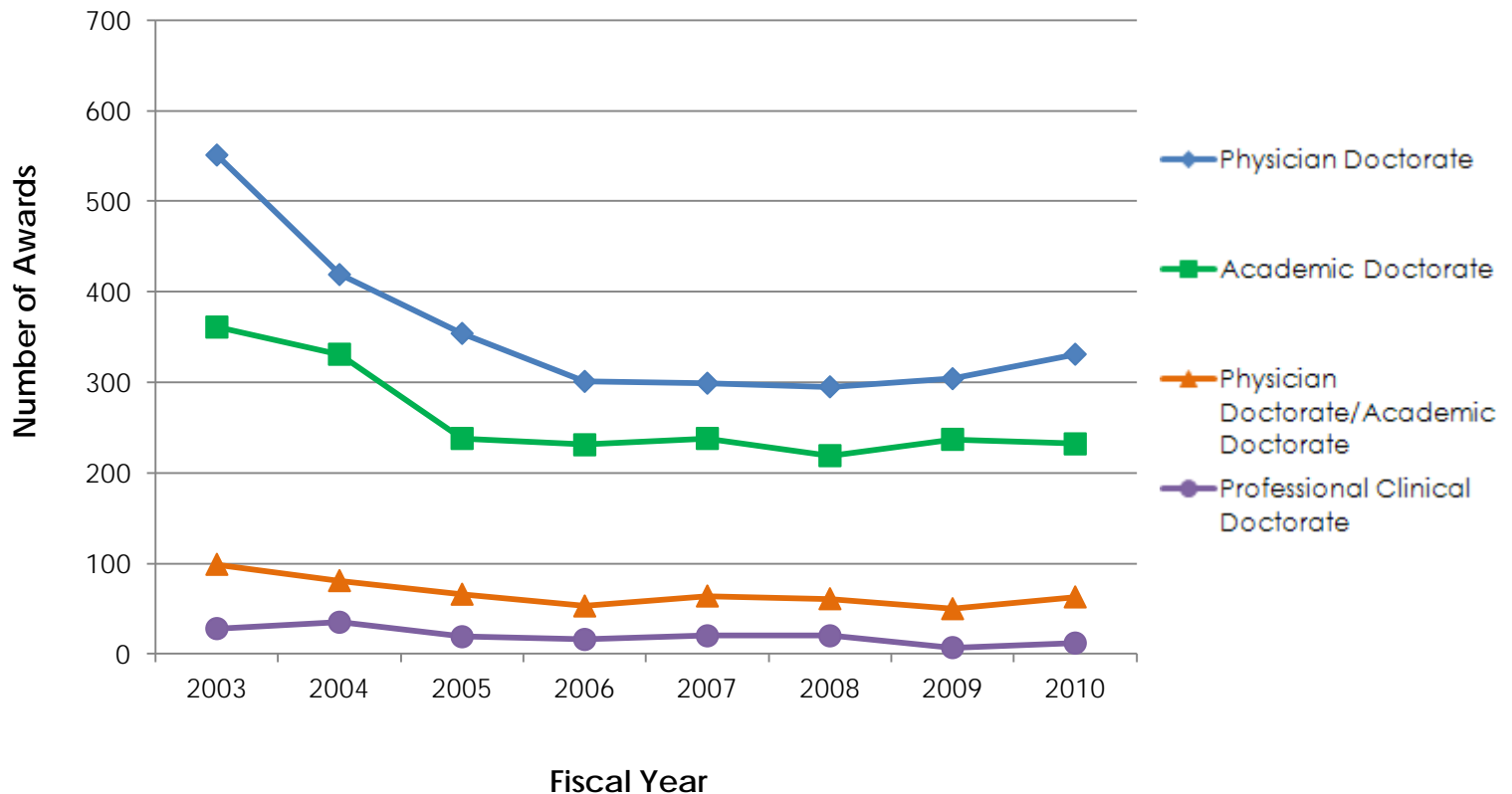
Distribution of Awards by Degree Type (New)

Since 2006, applicants with Physician and Academic Doctorates have received comparable numbers of awards.



Distribution of Awards by Degree Type (Excluding NIMHD) (New)

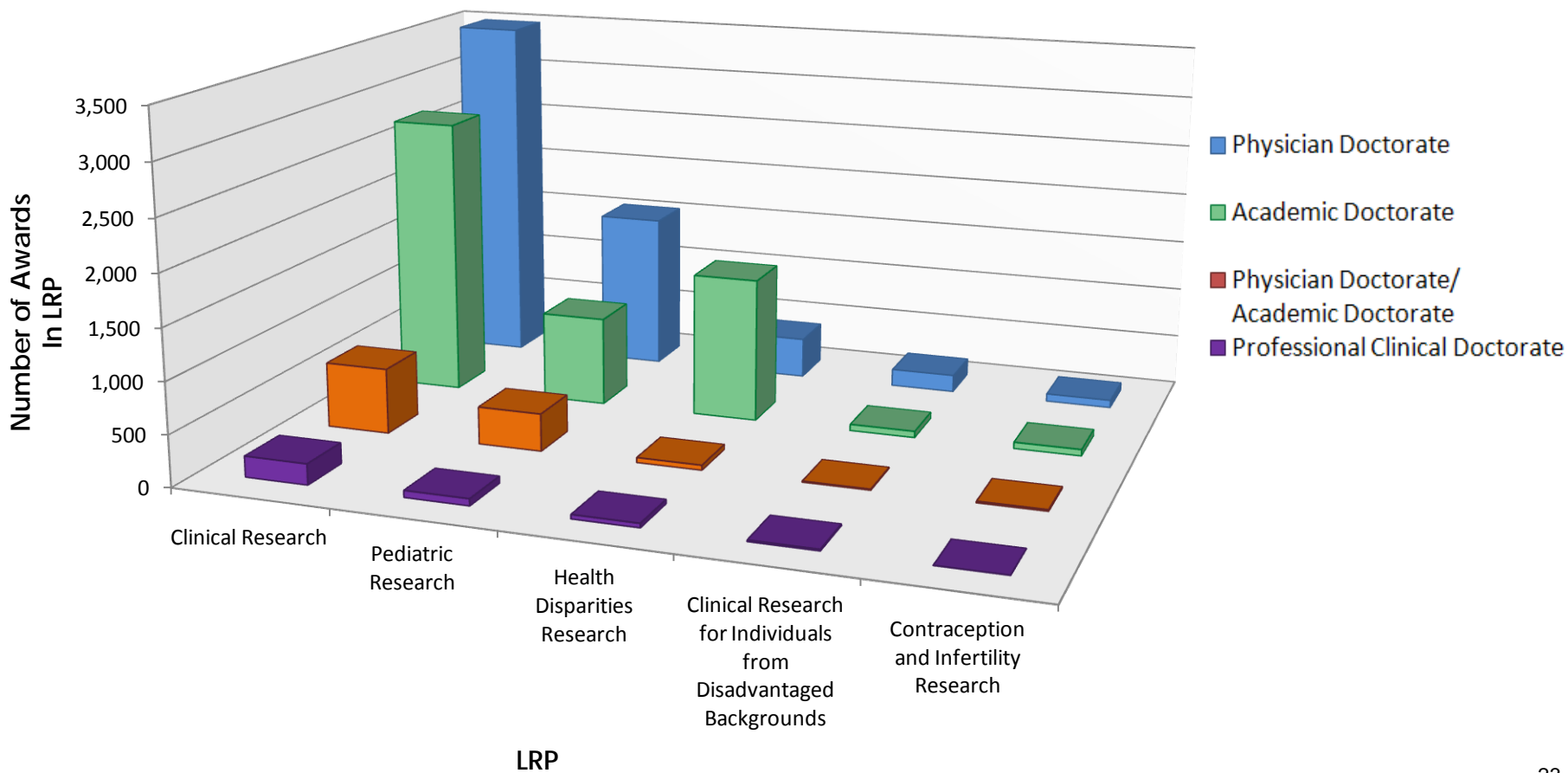
Excluding NIMHD, applicants with Physicians Doctorates have consistently accounted for the largest proportion of new awardees.



* NIMHD exclusively funds the Health Disparities and Clinical Research DB programs. The majority of the Health Disparities awardees have Academic Doctorates.

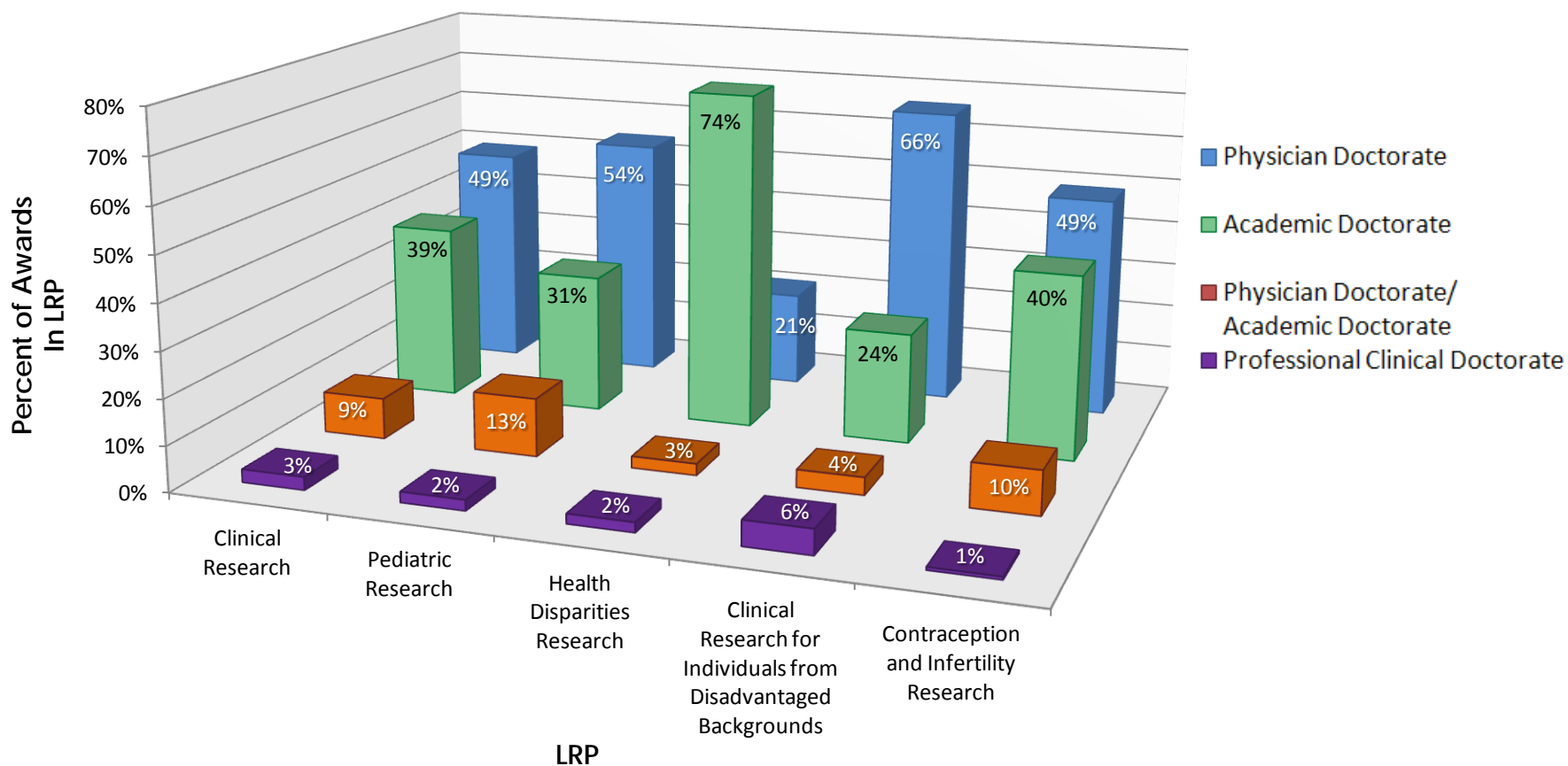
Distribution of Awards by Degree Type and LRP (New & Renewal)

The majority of awards are granted to applicants with Physician Doctorates and Academic Doctorates through the Clinical, Pediatric and Health Disparities Research programs.



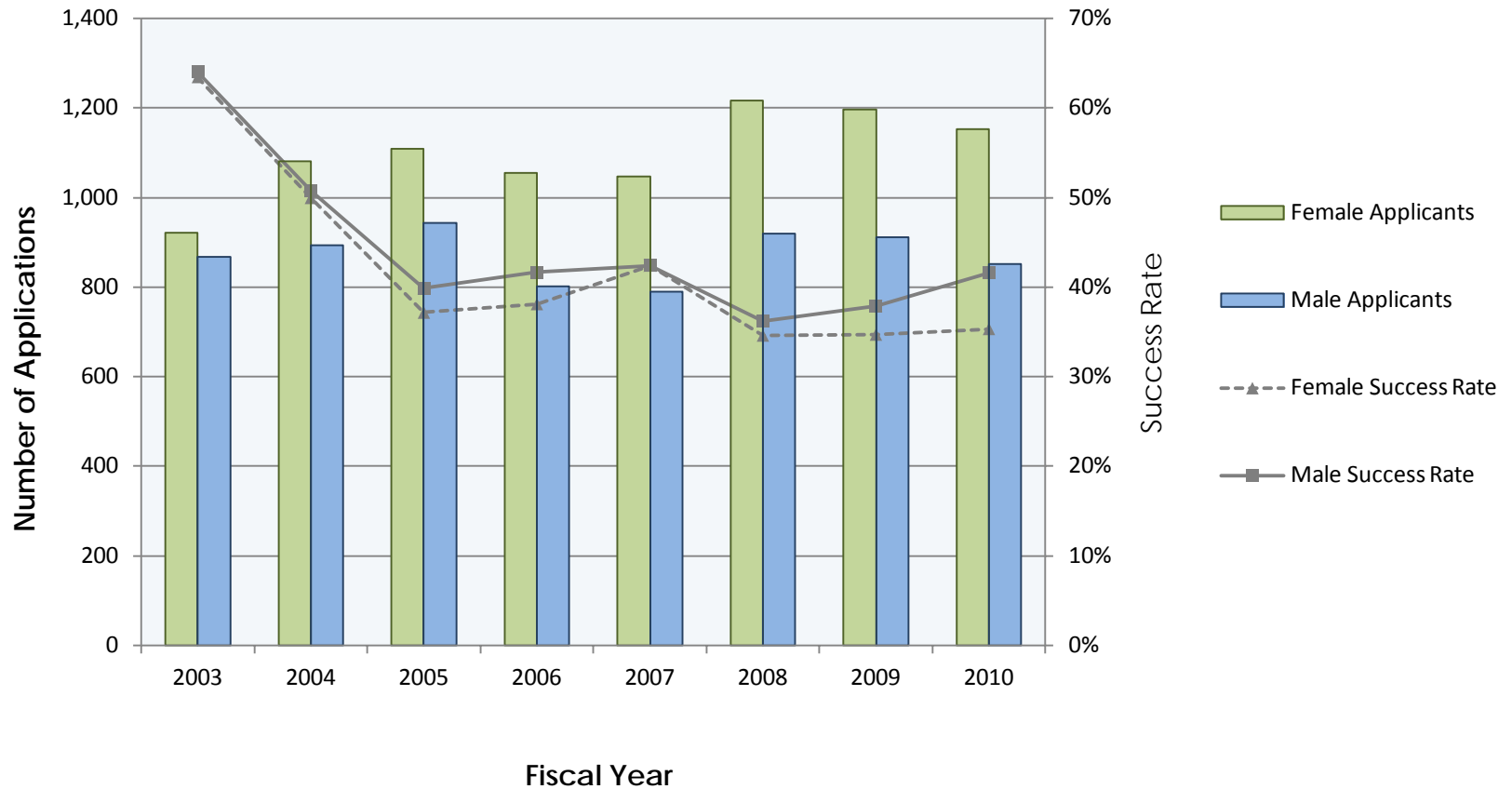
Distribution of Awards by Degree Type and LRP (by Percentage) (New & Renewal)

Awardees with Physician Doctorates are the largest proportion of all LRPs excluding Health Disparities. Awardees with Academic Doctorates account for the largest proportion of the Health Disparities program.



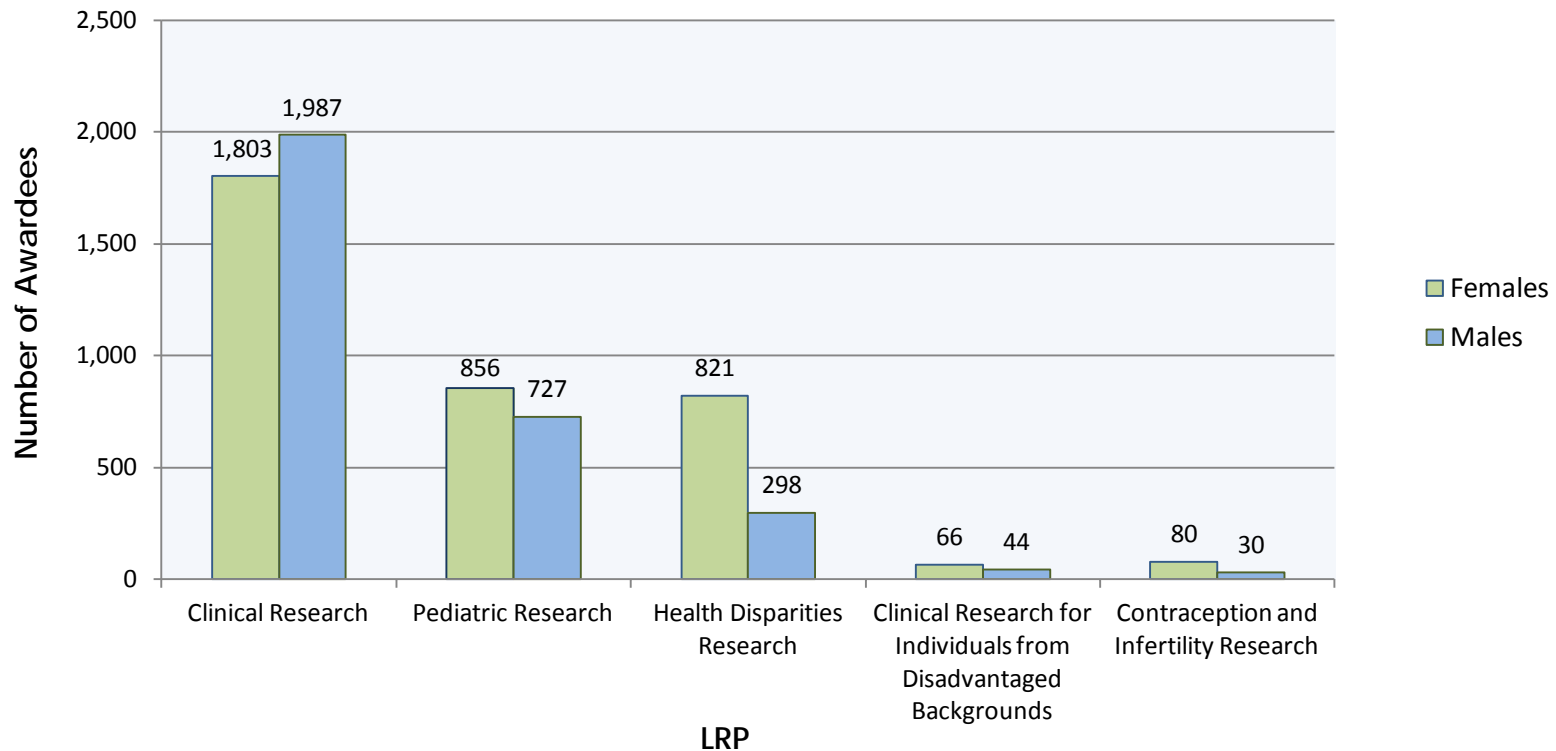
Gender Distribution Among New LRP Applicants

Generally, females apply at a higher rate than males.



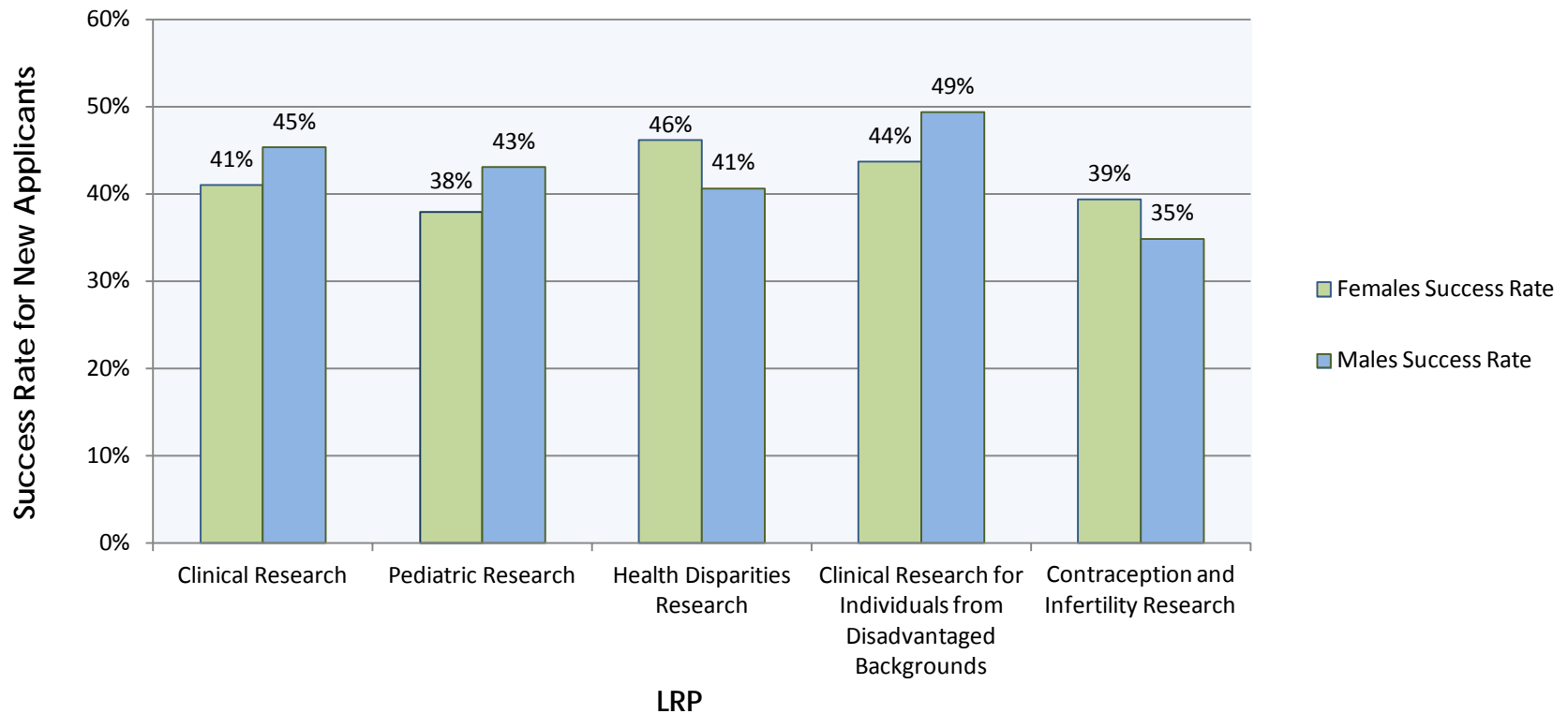
Gender Distribution Among New Awardees by LRP

In most programs, females and males have about the same number of awards. However, females have received 73 percent of the Health Disparities LRP and Contraception and Infertility LRP awards.



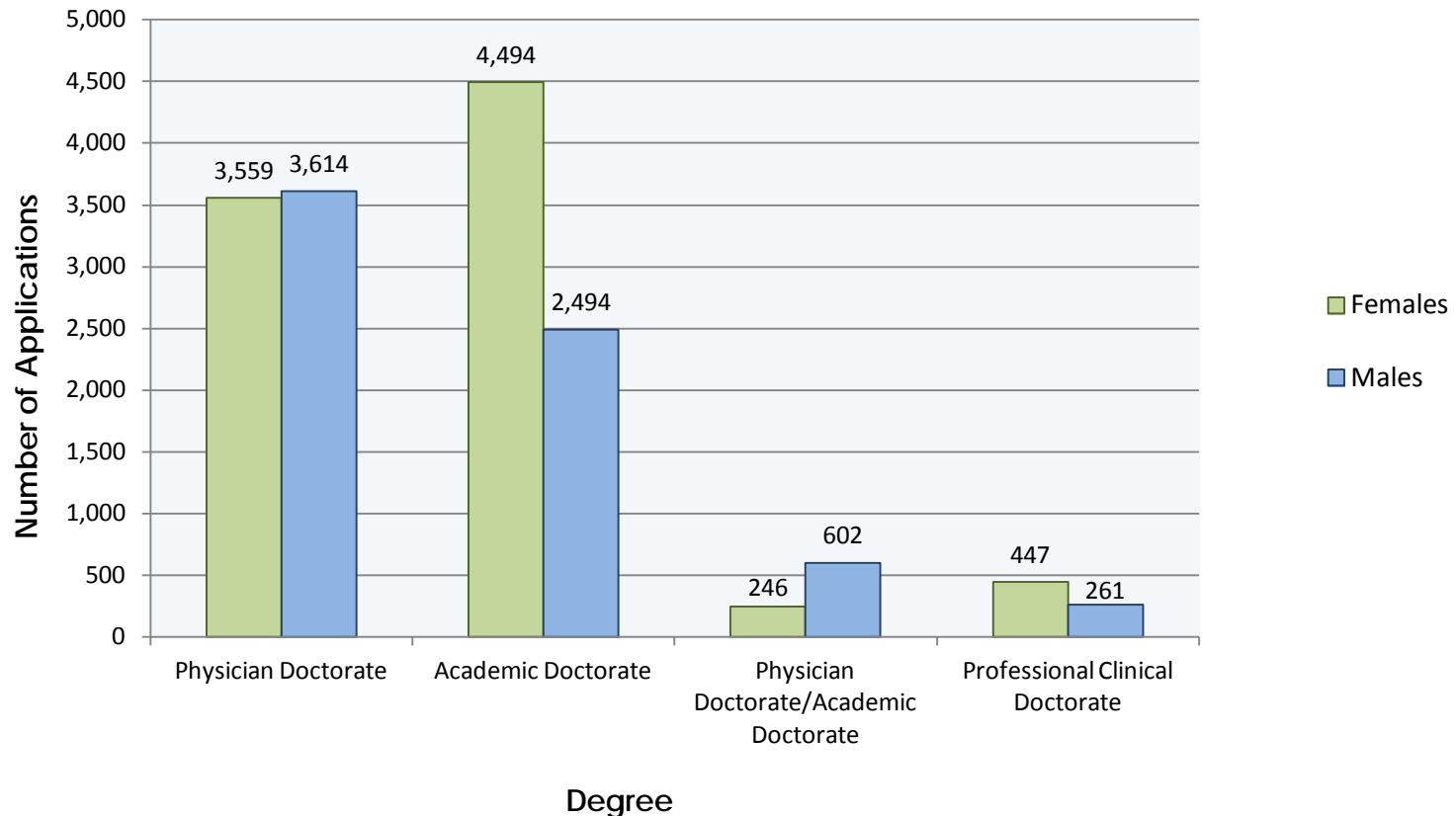
Success Rates by Gender Among New Awardees by LRP

Female applicants had a higher success rate in the Health Disparities and CIR LRPs. Male applicants had a higher success rate in Clinical, Pediatric and Clinical DB LRPs.



Distribution of Degrees by Gender Among New LRP Applicants

Over 60 percent of new applicants with Academic Doctorates or Professional Clinical Doctorates are female. 71 percent of applicants with Physician Doctorate/Academic Doctorate are male.



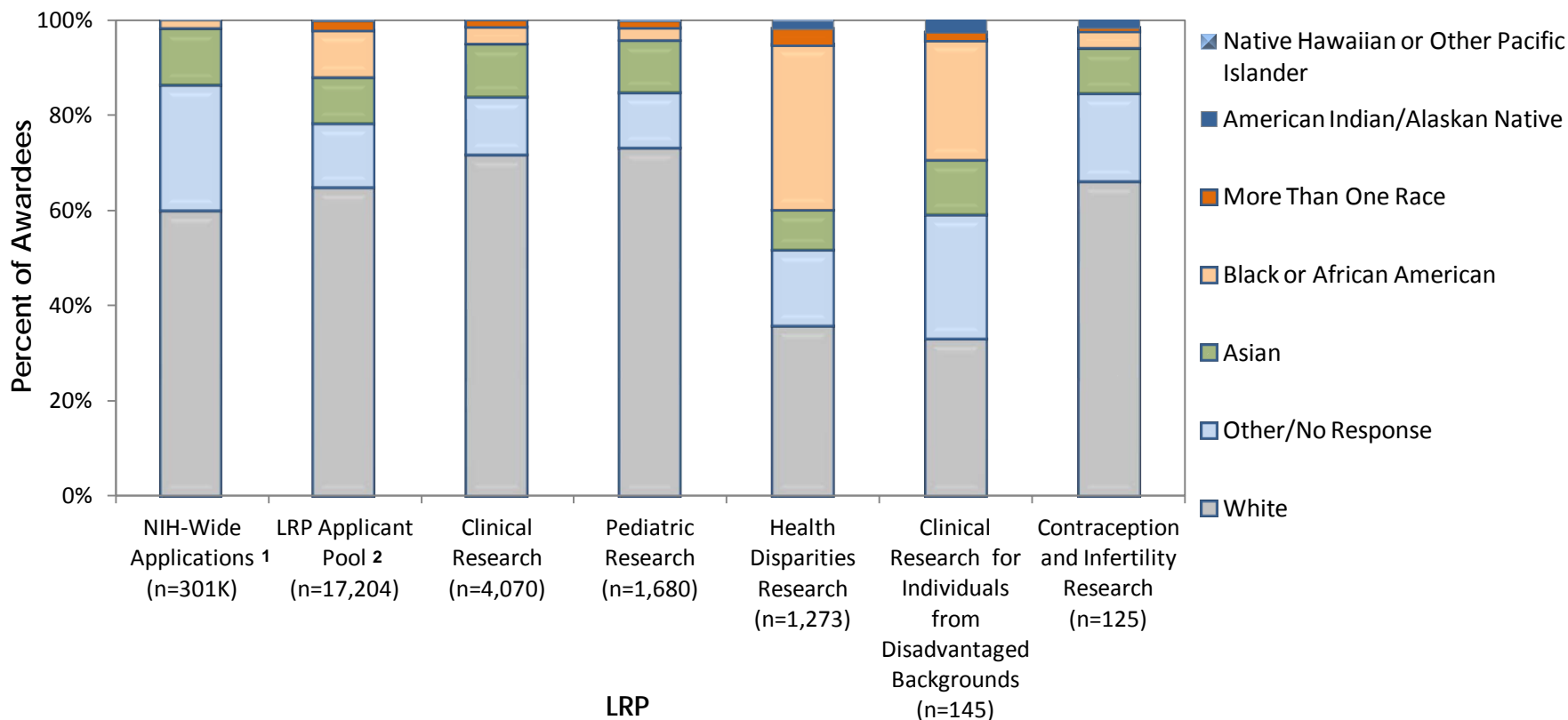
Distribution of New Awards by Ethnicity and Race (by Percentage) (All Races and Ethnicities)

Fiscal Year	White	Other/No Response	Asian	Black or African American	Hispanic	More Than One Race	American Indian/Alaskan Native	Native Hawaiian or Other Pacific Islander
2003	66%	11%	9%	8%	5%	2%	*	*
2004	64%	13%	11%	6%	6%	1%	1%	*
2005	59%	14%	9%	9%	7%	2%	*	*
2006	60%	14%	10%	10%	5%	*	1%	*
2007	57%	14%	10%	11%	5%	2%	1%	*
2008	60%	13%	11%	9%	6%	1%	*	*
2009	64%	10%	9%	8%	5%	3%	1%	*
2010	61%	11%	11%	6%	7%	2%	1%	*
Total	62%	12%	10%	8%	6%	2%	0.4%	0.1%

**Excluded from the graph are cases in which fewer than 5 awardees were counted in a given year. The category Native Hawaiian or Other Pacific Islander had no year with 5 or more awardees.*

Distribution of Awards by LRP, Ethnicity and Race (by Percentage) (New)

Two programs, Health Disparities and Clinical DB, show particularly high proportions of minority awardees compared to the LRP applicant pool and applicants NIH wide.

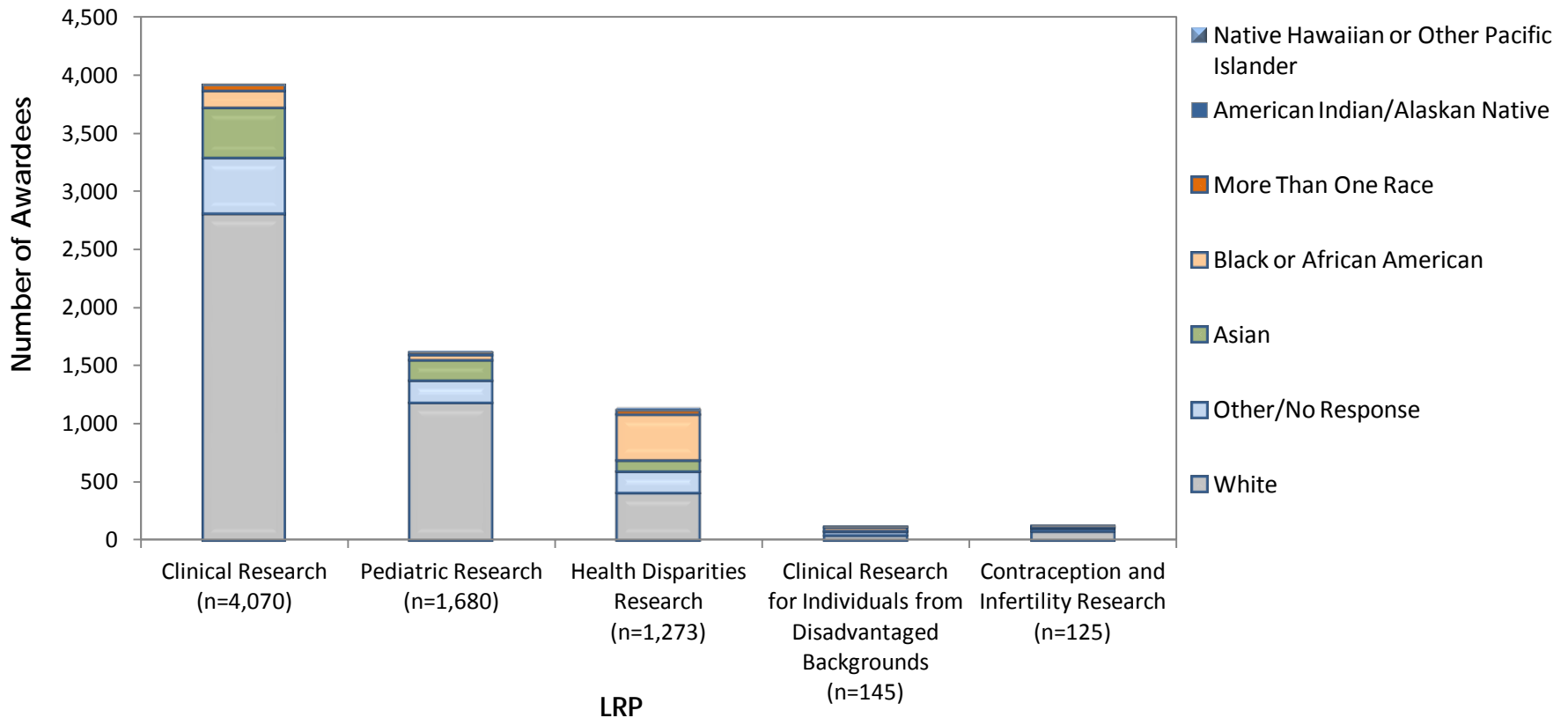


¹Includes all Type 1 applications with available Race and Ethnicity data, for all activities FY 2003 – 2010

²Includes all new applications with available Race and Ethnicity data, not restricted to awards

Distribution of Awards by LRP, Ethnicity and Race (New)

The Health Disparities Research Program accounts for 64 percent of Black or African American awardees (392 of the 608 across all LRPs).



Awardee Demographics (by Ethnicity)

Two programs, Health Disparities and Clinical DB, show particularly high proportions of Hispanic or Latino awardees compared to the LRP applicant pool and applicants NIH wide.

LRP	Awards	Hispanic or Latino	Not Hispanic or Latino
NIH-Wide Applications ¹	301,404	6,020 (2%)	295,384 (98%)
LRP Applicant Pool ²	17,204	988 (6%)	16,216 (94%)
Clinical Research	4,070	158 (4%)	3,912 (96%)
Pediatric Research	1,680	65 (4%)	1,615 (96%)
Health Disparities Research	1,273	140 (11%)	1,133 (89%)
Clinical Research for Individuals from Disadvantaged Backgrounds	145	33 (23%)	112 (77%)
Contraception and Infertility Research	125	11 (9%)	114 (91%)
Total	325,901	7,415 (2%)	318,486 (98%)

¹Includes all Type 1 applications with available Race and Ethnicity data, for all activities FY 2003 – 2010

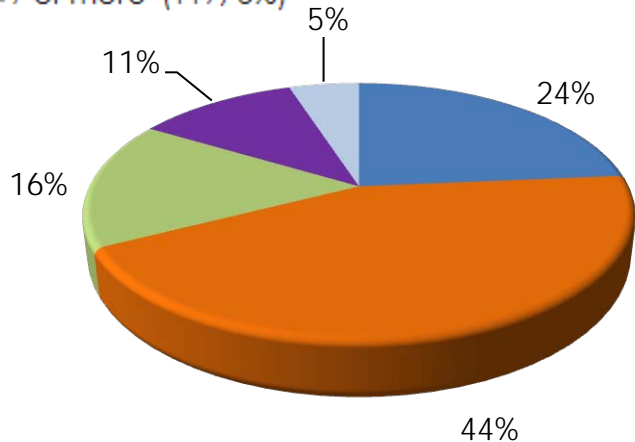
²Includes all new applications with available Race and Ethnicity data, not restricted to awards

Number of Years in LRP and Timing (Awardees whose 1st contract began FY03-FY08)

Of awardees who secure renewals, 88 percent obtain their first renewal immediately after their first contract period.

Total Years in LRP Programs*

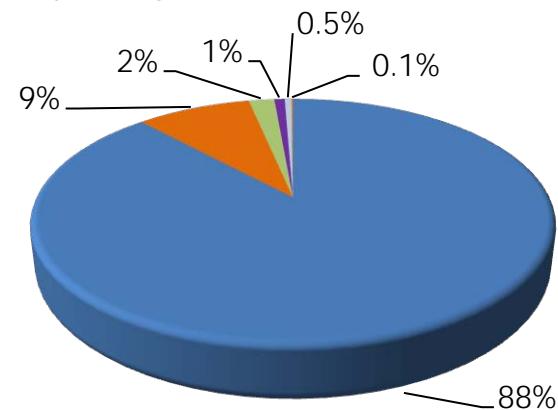
- 3 years (563, 24%)
- 4 years (1,045, 44%)
- 5 years (385, 16%)
- 6 years (272, 11%)
- 7 or more (119, 5%)



*Number of years from the beginning of the original contract to the end of the most recent renewal. (maximum time = 9 years)

Years Between Original Contract and 1st Renewal*

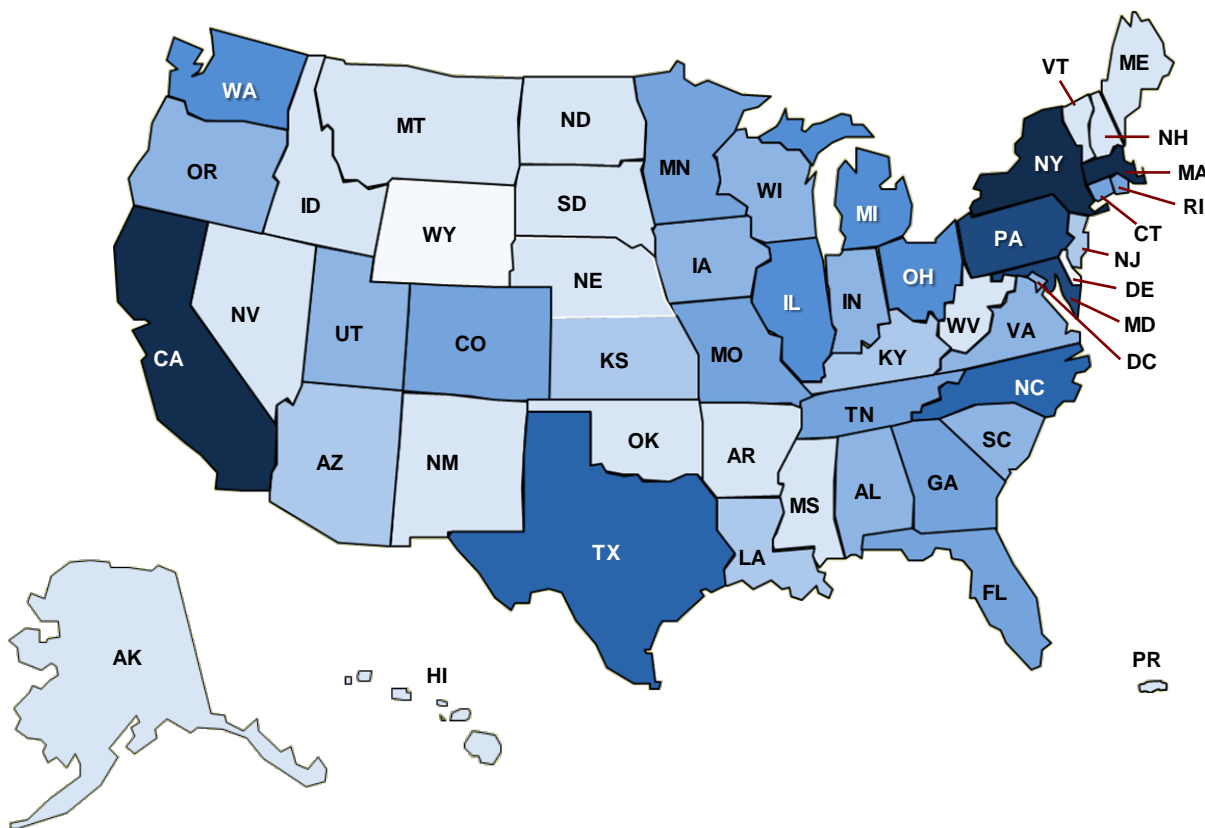
- 0 Years (2,843, 88%)
- 1 Year (277, 9%)
- 2 Years (62, 2%)
- 3 Years (25, 1%)
- 4 Years (16, 0.5%)
- 5 Years (4, 0.1%)



*Number of years from the end of the original contract to the start of the 1st renewal.

Distribution of New Awardees by State

California, Massachusetts and New York account for 33 percent of new awardees.



Number of Participants	States*
0	DE, WY
1-25	AK, AR, HI, ID, ME, MS, MT, ND, NE, NH, NM, NV, OK, PR, SD, VT, WV
26-50	AZ, KS, KY, LA, NJ
51-100	AL, DC, IA, IN, OR, SC, UT, VA, WI
101-200	CO, CT, FL, GA, MN, MO, RI, TN
201-300	IL, MI, OH, WA
301-400	NC, TX
401-500	MD, PA
501-1000	CA, MA, NY

* Includes DC and PR;
One participant is working outside of the US.

NIH Institutes and Centers

Institutes

National Cancer Institute (NCI)
National Eye Institute (NEI)
National Heart, Lung, and Blood Institute (NHLBI)
National Human Genome Research Institute (NHGRI)
National Institute on Aging (NIA)
National Institute on Alcohol Abuse and Alcoholism (NIAAA)
National Institute of Allergy and Infectious Diseases (NIAID)
National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
National Institute of Biomedical Imaging and Bioengineering (NIBIB)
National Institute of Child Health and Human Development (NICHD)
National Institute on Deafness and Other Communication Disorders (NIDCD)
National Institute of Dental and Craniofacial Research (NIDCR)
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
National Institute on Drug Abuse (NIDA)
National Institute of Environmental Health Sciences (NIEHS)
National Institute of General Medical Sciences (NIGMS)
National Institute of Mental Health (NIMH)
National Institute of Neurological Disorders and Stroke (NINDS)
National Institute of Nursing Research (NINR)
National Institute of Biomedical Imaging and Bioengineering (NIBIB)
National Library of Medicine (NLM)
National Institute on Minority Health and Health Disparities (NIMHD)

Centers

John E. Fogarty International Center (FIC)
National Center for Complementary and Alternative Medicine (NCCAM)
National Center for Research Resources (NCRR)
Clinical Center (CC)
Center for Information Technology (CIT)

**Division of Loan Repayment
Office of Extramural Programs
Office of Extramural Research
Office of the Director
National Institutes of Health
Department of Health and Human Services**

**Web site:
NIH Loan Repayment Programs (LRP)
<http://www.lrp.nih.gov>**