DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Office of the Director

2019 TRIENNIAL ADVISORY COUNCIL REPORTS CERTIFYING COMPLIANCE WITH THE NIH POLICY ON INCLUSION GUIDELINES

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NIGMS COMPLIANCE WITH THE NIH POLICY ON THE INCLUSION OF WOMEN AND MINORITIES AS SUBJECTS IN CLINICAL RESEARCH AS REPORTED IN FY2016 – FY2018

2019 Triennial Report

I. Background and Overview

The NIH Revitalization Act of 1993 (PL 103-43) included a provision that women and minorities must be included in all NIH-funded clinical research, unless a clear and compelling rationale and justification that inclusion is inappropriate with respect to the health of the subjects or the purpose of the research is provided. Included in this Act was a statement indicating that "The advisory council of each national research institute shall prepare biennial reports describing the manner in which the Institute has complied with this section." The 21st Century Cures Act amended the frequency of the Report of the NIH Director on the inclusion of women and minorities from biennial to triennial. This first triennial report provides information on inclusion of participants in NIH clinical research from FY 2016 – 2018 and serves to document how NIGMS has continued to comply with this policy requirement.

NIGMS' research mission is aimed at understanding the principles, mechanisms, and processes that underlie living organisms, often using research models. NIGMS also supports the development of fundamental methods and new technologies to achieve its mission. NIGMS-supported research may utilize specific cells or organ systems if they serve as models for understanding general principles. Research with the overall goal to gain knowledge about a specific organ or organ system or the pathophysiology, treatment, or cure of a specific disease or condition will, in most cases, be supported by other Institutes or Centers. NIGMS does support research in specific clinical areas that affect multiple organ systems: anesthesiology and peri-operative pain; sepsis; clinical pharmacology that is common to multiple drugs and treatments; and trauma, burn injury, and wound healing. In addition, many NIGMS IDeA state capacity building programs contain clinical research components.

In FY2016 – FY2018, approximately 5% of the research project grants awarded by NIGMS reported involvement of human subjects in research activities and approximately 4% of the research project grants awarded by NIGMS contained clinical research that is subject to the NIH Policy on Inclusion of Women and Minorities as Subjects in Clinical Research.

Fiscal Year	Number of Research Awards	Number of Research Awards with Human Subjects	Number of Research Awards Subject to NIH Inclusion Policy
2016	4763	277	190
2017	4944	263	189
2018	5225	282	221

II. Strategies for Ensuring Compliance

A. Peer Review

The implementation of inclusion guidelines involves the participation of review, program, policy, and grants management staff. Inclusion is first addressed by peer review. Reviewers on NIH peer review panels are given specific guidance on reviewing inclusion on the basis of sex/gender, race, ethnicity, and age when considering clinical research applications. Reviewers evaluate applications for the appropriateness of the proposed plan for inclusion by sex/gender, race, and ethnicity. For NIH-defined Phase III clinical trials, enrollment goals are further assessed for plans to conduct analyses of intervention effects among sex/gender, racial, and ethnic groups. Unacceptable inclusion plans must be reflected in the priority score of the application and documented in the summary of the review session. Initial review groups make recommendations as to the acceptability of the proposed study population with respect to the inclusion policies. If issues are raised in review, program staff notify principal investigators, who are required to address these issues prior to funding. Applications with unacceptable inclusion plans receive a bar to funding; an award is not issued until an acceptable resolution is received.

In FY2016 and FY2018, no applications with inclusion plans found to be unacceptable by peer reviewers were funded by NIGMS. In FY2017, one application with an inclusion plan found to be unacceptable by peer reviewers was funded by NIGMS after program staff approved revised inclusion plans.

B. Program Monitoring and Grants Management Oversight

Prior to an award, program directors are responsible for reviewing the inclusion information in the application and indicating whether the plans are scientifically appropriate. Program staff monitor actual enrollment progress in annual progress reports and provide consultation when necessary. For NIH-defined Phase III clinical trials, program officials/program directors monitor the requirement for sex/gender and race/ethnicity analyses in applications and annual progress reports. Grants management staff ensure that appropriate terms and conditions of award are included in the Notice of Award, and that this information is appropriately documented in the official grant file.

C. NIGMS Approaches to Staff Training

NIGMS ensures personnel are appropriately trained to monitor and document compliance with the NIH Inclusion Policy by providing annual staff training on NIH and NIGMS policies and procedures. In addition, Dr. Sarah Dunsmore provides individualized training to program staff on an as-needed basis, particularly for newly-hired program directors, and Mr. Justin Rosenzweig provides similar instruction to grants management staff. The NIH Office of Extramural Research maintains internet (Inclusion of Women and Minorities as Participants in Research Involving Human Subjects – Policy Implementation Page) and intranet (Policy Topic: Inclusion of Women and Minorities in Clinical Research-Policy Implementation Page) sites with appropriate references and training materials such as the May 11, 2018 training, Ensuring Inclusion in NIH Clinical Research: Policies and Procedures for Grants and Contracts.

III. Analysis and Interpretation of Data

Table 2-1. Total Inclusion Enrollment Records for NIH-Defined Extramural and Intramural Clinical Research Reported Between FY2016 and FY2018

Fiscal Year	Total IERs	IERs Without Enrollment	IERs With Enrollment	US Site IERs	Non-US Site IERs	Female Only IERs	Male Only IERs	IERs Excluding Male-only and Female-only*
2016	327	33	294	289	5	34	18	242
2017	420	62	358	354	4	40	21	297
2018	453	80	373	366	7	45	17	311

*Inclusion Enrollment Records excluding male-only and female-only include unknown sex/gender, and combination of unknown and any sex/gender(s).

Table 2-1 summarizes data submitted to the NIH in fiscal years 2016-2018. The number of NIGMS inclusion enrollment records as a percentage of NIGMS awarded grants was relatively stable in this time period: FY2016 (7%), FY2017 (9%), FY2018 (9%). Beginning with FY2018 data, information on the typical representation of participants in human subject studies associated with NIH research, condition, or disease categories can be found at https://report.nih.gov/RISR/.

Total Enrollment: All NIH-Defined Clinical Research

Table 5-1-1-C. Enrollment for All NIH-Defined Clinical Research, Sex/Gender by Race and Ethnicity – Section I

Year	Sex Gender	Minority	% Minority	Total Enrollment	% Total	Not Hispanic	% Not Hispanic	Hispanic Latino	% Hispanic Latino	Unknown Not Reported	% Unknown Not Reported
2016	Female	67,038	34.1	196,337	67.8	185,766	94.6	6,298	3.2	4,273	2.2
2016	Male	36,217	40.4	89,610	31.0	80,759	90.1	4,668	5.2	4,183	4.7
2016	Unknown	997	28.1	3,553	1.2	2,620	73.7	231	6.5	702	19.8
2017	Female	58,669	51.0	115,071	58.9	103,939	90.3	5,862	5.1	5,270	4.6
2017	Male	34,848	45.7	76,184	39.0	68,826	90.3	4,260	5.6	3,098	4.1
2017	Unknown	1,042	25.9	4,027	2.1	2,804	69.6	236	5.9	987	24.5
2018	Female	54,646	51.1	106,866	58.9	100,864	94.4	3,079	2.9	2,923	2.7
2018	Male	31,769	45.4	70,041	38.6	65,787	93.9	2,065	2.9	2,189	3.1
2018	Unknown	578	12.9	4,472	2.5	2,674	59.8	91	2.0	1,707	38.2

Table 5-1-1-C. Enrollment for All NIH-Defined Clinical Research, Sex/Gender by Race and Ethnicity – Section II

Year	Sex Gender	American Indian Alaska Native	% American Indian Alaska Native	Asian	% Asian	Black African American	% Black African American	Native Hawaiian Pacific Islander	% Native Hawaiian Pacific Islander	White	% White
2016	Female	1,752	0.9	19,979	10.2	38,407	19.6	131	0.1	122,168	62.2
2016	Male	563	0.6	18,297	20.4	12,314	13.7	83	0.1	52,132	58.2
2016	Unknown	88	2.5	180	5.1	475	13.4	14	0.4	1,993	56.1
2017	Female	2,062	1.8	19,863	17.3	31,045	27.0	121	0.1	55,842	48.5
2017	Male	942	1.2	18,025	23.7	11,882	15.6	44	0.1	41,798	54.9
2017	Unknown	88	2.2	189	4.7	509	12.6	15	0.4	2,117	52.6
2018	Female	2,120	2.0	19,568	18.3	29,265	27.4	180	0.2	51,921	48.6
2018	Male	973	1.4	17,425	24.9	10,955	15.6	38	0.1	37,716	53.8
2018	Unknown	53	1.2	146	3.3	339	7.6	7	0.2	2,080	46.5

Table 5-1-1-C. Enrollment for All NIH-Defined Clinical Research, Sex/Gender by Race and Ethnicity – Section III

Year	Sex Gender	More Than One Race	% More Than One Race	Unknown Not Reported	% Unknown Not Reported
2016	Female	1,578	0.8	12,322	6.3
2016	Male	1,105	1.2	5,116	5.7
2016	Unknown	13	0.4	790	22.2
2017	Female	835	0.7	5,303	4.6
2017	Male	463	0.6	3,030	4.0
2017	Unknown	6	0.1	1,103	27.4
2018	Female	995	0.9	2,817	2.6
2018	Male	591	0.8	2,343	3.3
2018	Unknown	5	0.1	1,842	41.2

Table 5-1-1-C summarizes total enrollment by sex/gender, race and ethnicity in all NIH-defined clinical research studies funded by NIGMS in fiscal years 2016, 2017 and 2018. In this time period, total enrollment in all NIH-defined clinical research studies funded by NIGMS declined by 30% between FY2016 (289,500) and FY2017 (195,282) and 7% between FY2017 and FY2018 (181,379). The minority percentage of total enrollment for males and females was similar in FY2017 (M – 45.7, F – 51.0) and FY2018 (M – 45.4; F – 51.1. In FY2016, minority percentages of total enrollment (M – 40.4, F – 34.1) were slightly decreased from FY2017 and FY2018 values. In the specific race and ethnicity categories, Black African American females had the highest percentage of inclusion in NIGMS funded clinical research studies, and Native Hawaiian Pacific Islander males and females the lowest percentage of inclusion in NIGMS funded clinical research studies.

Table 5-2-2-C. ALL Enrollment for NIH-Defined Extramural and Intramural Phase III Clinical Research, Sex/Gender by Race and Ethnicity – Section I

Year	Sex Gender	Minority	% Minority	Total Enrollment	% Total	Not Hispanic	% Not Hispanic	Hispanic Latino	% Hispanic Latino	Unknown Not Reported	% Unknown Not Reported
2016	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2016	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2016	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2017	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2017	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2017	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2018	Female	42	70.0	60	55.6	60	100.0	0	0.0	0	0.0
2018	Male	30	62.5	48	44.4	48	100.0	0	0.0	0	0.0
2018	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table 5-2-2-C. ALL Enrollment for NIH-Defined Extramural and Intramural Phase III Clinical Research, Sex/Gender by Race and Ethnicity – Section II

Year	Sex Gender	American Indian Alaska Native	% American Indian Alaska Native	Asian	% Asian	Black African American	% Black African American	Native Hawaiian Pacific Islander	% Native Hawaiian Pacific Islander	White	% White
2016	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2016	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2016	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2017	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2017	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2017	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2018	Female	0	0.0	0	0.0	40	66.7	0	0.0	18	30.0
2018	Male	0	0.0	0	0.0	30	62.5	0	0.0	18	37.5
2018	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table 5-2-2-C. ALL Enrollment for NIH-Defined Extramural and Intramural Phase III Clinical Research, Sex/Gender by Race and Ethnicity – Section III

Year	Sex Gender	More Than One Race	% More Than One Race	Unknown Not Reported	% Unknown Not Reported
2016	Female	0	0.0	0	0.0
2016	Male	0	0.0	0	0.0
2016	Unknown	0	0.0	0	0.0
2017	Female	0	0.0	0	0.0
2017	Male	0	0.0	0	0.0
2017	Unknown	0	0.0	0	0.0
2018	Female	2	3.3	0	0.0
2018	Male	0	0.0	0	0.0
2018	Unknown	0	0.0	0	0.0

Table 5-2-2-C summarizes total enrollment in NIH-Defined Phase III Clinical trials. In FY2018, NIGMS supported two Phase III clinical trials as part of a COBRE award to Tulane University. One trial is testing a dietary intervention in an adult prediabetic/early stage type 2 diabetes population. The other trial is testing a behavioral modification program designed to reduce sodium intake in chronic kidney disease patients.

Additional Information

A. Policy Changes Related to the 21st Century Cures Act

The 21st Century Cures Act, enacted December 13, 2016, included several new requirements related to inclusion of participants in clinical research. As a result, NIH updated its policy on the Inclusion of Women and Minorities as Subjects in Clinical Research on November 28, 2017, to require studies that are both NIH-defined Phase III clinical trials and applicable clinical trials to report the results of analyses by sex/gender and/or race/ethnicity to ClinicalTrials.gov. This requirement is effective for competing grant awards on or after December 13, 2017, as well as contract solicitations and intramural studies initiated after this date. Additionally, NIH revised its Inclusion of Children Policy on December 19, 2017. The revised policy, now called the NIH Policy and Guidelines on the Inclusion of Individuals Across the Lifespan as Participants in Research Involving Human Subjects, applies to individuals of all ages and requires reporting of participant age at enrollment in annual progress reports. The policy is effective for applications submitted on or after January 25, 2019, and contract solicitations and intramural studies initiated after this date.

B. Bibliography of projects or publications with analysis(es) on sex/gender, race, and ethnicity

1. Sex Differences in the Use of Complementary and Alternative Medicine among Adults with Multiple Chronic Conditions. Evid Based Complement Alternat Med. 2016:2067095, 2016. Supported by U54 GM104942.
2. Racial Disparities in the Prevalence of Arthritis among Native Hawaiians and Pacific Islanders, Whites, and Asians. Hawaii J Med Public Health. Jun;75(6):155-61, 2016. Supported by P20 GM103466 and U54 GM104944.

3. Effects of Sex, Drinking History, and Omega-3 and Omega-6 Fatty Acids Dysregulation on the Onset of Liver Injury in Very Heavy Drinking Alcohol-Dependent Patients. Alcohol Clin Exp Res. Oct;40(10):2085-2093, 2016. Supported by P20 GM113226.
4. Racial-ethnic Disparities in Postpartum Hemorrhage in Native Hawaiians, Pacific Islanders, and Asians. Hawaii J Med Public Health. May;76(5):128-132, 2017. Supported by P20 GM103466.
5. Race and Sex Differences of Long-Term Blood Pressure Profiles From Childhood and Adult Hypertension: The Bogalusa Heart Study. Hypertension. Jul;70(1):66-74, 2017. Supported by P20 GM109036.
6. PCSK9 Loss-of-Function Variants, Low-Density Lipoprotein Cholesterol, and Risk of Coronary Heart Disease and Stroke: Data From 9 Studies of Blacks and Whites. Circ Cardiovasc Genet. Aug; 10(4): e001632, 2017. Supported by U54 GM115428.
7. Racial/Ethnic Differences in Left Ventricular Structure and Function in Chronic Kidney Disease: The Chronic Renal Insufficiency Cohort. Am J Hypertens. Aug 1;30(8):822-829, 2017. Supported by P20 GM109036.
8. Sex Differences in Contraception Non-Use Among Urban Adolescents: Risk Factors for Unintended Pregnancy. J Sch Health. Sep;87(9):641-649, 2017. Supported by P20 GM113125.
9. Associations of Nocturnal Blood Pressure With Cognition by Self-Identified Race in Middle-Aged and Older Adults: The GENOA (Genetic Epidemiology Network of Arteriopathy) Study. Am Heart Assoc. Nov; 6(11): e0070, 2017. Supported by U54 GM115428.
10. Racial-ethnic disparities in self-reported health status among US adults adjusted for sociodemographics and multimorbidities, National Health and Nutrition Examination Survey 2011-2014. Ethn Health. Nov 2:1-14, 2017. Supported by P20 GM103466 and U54 GM104944.
11. Sex-based differences in veterans with pulmonary hypertension: Results from the veterans affairs-clinical assessment reporting and tracking database. PLoS One. Nov 9;12(11):e0187734, 2017. Supported by P20 GM103652.
12. LXR/RXR signaling and neutrophil phenotype following myocardial infarction classify sex differences in remodeling. Basic Res Cardiol. 113(5): 40, 2018. Supported by U54 GM115428.
13. Energy expenditure and substrate oxidation in White and African American young adults without obesity. Eur J Clin Nutr. Jun;72(6):920-922, 2018. Supported by U54 GM104940.
14. Sex Differences in Sleep Duration among Older Adults with Self-Reported Diagnosis of Arthritis: National Health and Nutrition Examination Survey, 2009-2012. Sleep Disord. Aug 1:5863546, 2018. Supported by U54 GM104942.
15. Sex-specific associations of infants' gut microbiome with arsenic exposure in a US population. Sci Rep. Aug 22;8(1):12627, 2018. Supported by R01 GM123014 and P20 GM104416.
16. Racial differences in in vivo adipose lipid kinetics in humans. J Lipid Res. Sep;59(9):1738-1744, 2018. Supported by U54 GM104940.
17. Race and sex differences in rates of diabetic complications. J Diabetes. Oct 13, 2018. Supported by U54 GM104940.
18. Black-White Difference in the Impact of Long-Term Blood Pressure From Childhood on Adult Renal Function: The Bogalusa Heart Study. Am J Hypertens. Nov 13;31(12):1300-1306, 2018. Supported by P20 GM109036.
19. Sex-Related Disparities in CKD Progression. J Am Soc Nephrol. 2019 Jan;30(1):137-146, 2019. Supported by P20 GM109036.
20. Gender Differences in the Rate of 30-Day Readmissions after Percutaneous Coronary Intervention for Acute Coronary Syndrome. Womens Health Issues. Jan - Feb;29(1):17-22, 2019. Supported by P20GM113134 and P30 GM103341.