NIH Intramural Report on Monitoring Adherence to the NIH Policy on the Inclusion of Women and Minorities in Clinical Research as Reported in FY2022 – FY2024

I. Background/Overview

The mission of the NIH Intramural Research Program (IRP) is to conduct distinctive, laboratory, clinical, behavioral, translational and population-based research that breaks new ground and defines scientific excellence; facilitate new approaches to improve the public health through prevention, early detection, diagnosis, and treatment by developing and/or using innovative technologies, approaches or devices; respond rapidly to critical public health needs; train the next generation of biomedical and behavioral researchers; and foster sharing of information and dissemination of the IRP's major discoveries to the public through partnerships with academic institutions and industry. The mission of the NIH Clinical Center is to provide hope through pioneering clinical research that enhances health, lengthens life, and reduces illness and disability.

The Intramural Program is embedded within 23 of the 27 NIH Institutes conducting research. The IRP has approximately 1,800 active protocols during a fiscal year, with approximately 600 unique principal investigators conducting the research. The vast majority of intramural research protocols, approximately 1,500 with approximately 500 unique principal investors, are conducted at the main NIH Clinical Center located at the Bethesda campus. The other 500 protocols are at offsite locations such as Research Triangle Park, N.C. (NIEHS), Baltimore, MD (NIDA and NIA), Frederick, MD (NCI), Detroit, Michigan (NICHD) and Phoenix, AZ (NIDDK), as well as at other domestic and foreign locations.

The Intramural Program uses a centralized system to capture data on active intramural clinical research protocols that falls under the auspices of the NIH Clinical Center. This system, Protrak, maintained by the Protocol Services Section, includes protocol-related data for all protocols, and is the central system to capture data on IRP protocols. A new interface system was launched in January of 2023, Protrak Query System (PQS), that enables electronic update and submission of protocol information by the Principal Investigator and/or study team, including projected planned enrollment, cumulative enrollment data, and participant-age data. A second complementary system, the Clinical Research Information System (CRIS), captures actual accrual data relative to the ethnicity, sex, race, and age as reported by each participant at the time of registration at the NIHCC. CRIS, along with the Biomedical Translational Research Information System (BTRIS), make up the Electronic Health Record and provides a resource for investigators and clinicians to generate protocol-specific attribution. BTRIS provides an automated method of generating cumulative enrollment data and participant-age data from the demographic data received from

the NIH Clinical Center CRIS system. The principal investigator or designee are required to validate the data.

II. Strategies for Ensuring Compliance

A. Intramural Oversight

NIH policy outlines the scientific compliance requirements that include a plan for the appropriate inclusion of male and female subjects, and other groups when considering research proposals. Protocol review starts at the lab/branch level with concept review conducted by the lab/branch chief to determine feasibility, fit within the mission, and needed resources. Concept review also considers the design, eligibility, statistical analysis, and compliance with inclusion guidelines. Once approved, the Institute's Scientific Review Committee conducts a review, with final submission to the Chief Scientific Officer to ensure compliance.

Quadrennial review is required for protocols recruiting/following participants and considers the scientific justification for continuing the protocol. This parallels the process for a new protocol in which the first level is the concept review conducted by the Lab/Branch Chief, then the Institute Scientific Review Committee, and finally the NIH Clinical Center Chief Scientific Officer. The investigator documents the aggregate number of participants accrued by demographics along with participant-age when required; and identifies any issues related to recruitment with plan for resolution. In addition, annually, the protocol undergoes a review at the branch level by the lab/branch chief. The review evaluates the progress of the protocol, identifies problems, and assures that the protocol is progressing accordingly. All new protocols must receive approval by the Institute Scientific Review Committee and the NIH CC Chief Scientific Officer before it can receive IRB approval. Once approved by the IRB, PSS receives the information for collation and reporting. The NIH Clinical Centers PSS collects the demographic data from the investigators yearly and coordinates the annual reporting to the Office of Extramural Research and the Office of Research on Women's Health.

B. Training

The Office of Human Subjects Research Protection (OHSRP) continuously revises the training requirements in the NIH Human Research Protection Program Policy, SOP 103 Policy- Education Program. The policy outlines the training required for NIH Investigators conducting human subject's research and those non-NIH Investigators conducting human subject research on a protocol under the oversight of the NIH IRB. The degree of training required is commensurate with their roles, responsibilities, and type of research. It is the responsibility of each investigator to complete the required initial human subjects training, including

refresher training as required, as well as maintain documentation of training certification and complying with any additional training requirement set forth. The policy further outlines the required training for investigators conducting research exempt from IRB review as well as IRB Members. Training offered by OHSRP program include Collaborative Institutional Training Initiative (CITI) courses in addition to other programs:

- CITI Biomedical Basic
- CITI Social-Behavioral-Educational Basic
- CITI GCP
- CITI – Just In Time (ad-hoc training courses)
- Elements of a Successful Informed Consent
- Objective Structured Clinical Examination (OSCE) for the Informed Consent Process offered by NIMH

OHSRP also holds monthly"OHSRP Education Series Session"and"NIH Investigator Seminar Series" which focus on a specific topic related to the conduct of human subjects research led by guest speakers.

The Office of Clinical Research (OCR) was established in 2016 and now called the Office of Clinical Research Education & Collaboration Outreach (OCRECO), with a vision to facilitate clinical research and research training applicable to the NIH Intramural Program, the rest of the United States, and international investigators. Several comprehensive training programs are offered to investigators conducting research, providing education about the aspects to conduct clinical research. Over the years enrollment has expanded and uses videotaped lectures and virtual meetings. The educational opportunities include:

<u>Introduction to the Principles and Practice of Clinical Research</u>
This course, which is part of the Clinical Center's core curriculum in clinical research, is designed to train participants on how to effectively and safely conduct clinical research. The course focuses on the spectrum of clinical research and clinical research processes by highlighting statistical methods, study design, protocol preparation, patient monitoring, quality assurance, and Food and Drug Administration (FDA) issues. Other areas covered include data management, building a research budget and bioethical issues, including protection of human subjects, plus many special topics. For the 2023-2024 course, 17,730 participated via long distance learning from 152 different countries. Since initiation of the course in 1995, there have been over 126,000 registrants.

Principles of Clinical Pharmacology

This course is designed to meet the needs of researchers, fellows in training, and others who have an interest in the clinical pharmacologic aspects of contemporary drug development and utilization. This course is an online lecture series covering core principals of pharmacology; pharmacokinetics; drug metabolism and transport; drug therapy in special populations; assessment of drug effects; drug discovery and development; pharmacogenomics and pharmacotherapy. For the 2023-2024 course year, 9,089 participated via long distance learning from 141 different countries. Since initiation of the course in 1998, there have been 54,000 participants.

Ethical and Regulatory Aspects of Human Subjects Research

Implemented in 1999, the course offers formal education and training in research ethics. Participants are exposed to a broad range of issues important to the ethical conduct of clinical research. Individual lectures and group institutional review board (IRB) reviews are presented by leading experts in various areas of clinical research ethics. There have been approximately 15,000 students enrolled in the course since its inception, with close to 7,000 students having earned the certificate as of December 2024.

III. Analysis and Interpretation of Data

The Protocol Services Section collects the aggregate number of participants for protocols active in each fiscal year reported by the Principal Investigator. The data are then synthesized and submitted to the NIH Office of Extramural Research (OER) annually, who generate the intramural data provided in the appended tables. These data represent the aggregate number of participants enrolled over the life of the protocol through the fiscal years reported, at the NIH Clinical Center, other intramural locations including collaborative sites, as well as foreign locations.

A. Enrollment for Intramural NIH-Defined Clinical Research

Of the total number of participants enrolled in IRP protocols in FY22 (1,716,613), 18% (310,701) are attributed to protocols conducted at the NIH Clinical Center. The remaining 82% (1,405,912) are from protocols conducted at other intramural locations, collaborative sites, in addition to foreign locations. In contrast, in FY24 (1,100,049) participants were enrolled in IRP protocols with 28% (316,773) conducted at the NIHCC. The decrease in total enrollment in FY2024 is attributed to the closure of an NCI protocol that recruited ~570,000 participants. The closing of this protocol impacted subsequent tables summarizing participants by sex, race and ethnicity.

Table 1 summarizes the aggregate number of participants reported in FY2022, FY2023 and FY2024. The data show in FY 22, of the 1,716,613 enrolled, 49.8% were females. This percentage dropped slightly in FY2023 to 48.5% females (1,611,519) and in FY2024 increased to 53.7% females (1,100,049) enrolled. The data show an almost equal distribution of females to males in fiscal years 2022 and 2023, and, in fiscal year 2024, a 5% increase in females with an almost 11% difference in females vs males enrolled.

Looking at US sites only in Table 2, for both FY2022 and FY2023, 5% more males than females were enrolled. The closure of protocols that included females caused the decrease in female enrollment. However, in FY2024 this reversed enrolling 7% more females than males. On average over the years, there was an almost equal percentage of females (48.2%) to males (48.8%) enrolled in protocols.

In Table 4, looking at enrollment by race for the intramural program, minorities comprised 27.6% in FY2022, 26.9% in FY2023, and an 11% increase in FY2024 to 37.5%. Of the minority populations, American Indian Alaska Native remained steady across the fiscal years, Asian increased by ~3%, Black African American increased by ~5%, and Native Hawaiian Pacific Islander also remaining steady. The White race is the largest population percentage and showed a decrease of ~11% from FY2022 to FY204.

Table 5 summarizes race for US sites, showing a slight increase from FY2022 to FY2024 for American Indian Alaska Native, Asian, and Native Hawaiian Pacific Islander. Black African American had an increase of ~5% while White decrease by ~11%.

Table 7 summarizes the US Site Enrollment for NIH-Defined Clinical research by Sex, Race and Ethnicity. The number of female and male minority participants increased by 10% from FY2022 to FY2024. The distribution by race across fiscal years remained relatively steady with little change. The percentage of Not Hispanic female participants decreased by ~3% from FY2022 to FY2024. Percentage of Hispanic Latino female participants increased by ~3% and the number of females of unknown race and ethnicity varied over the 3 fiscal years reporting ~5%.

B. Enrollment Data for the Intramural Research Program Phase III Clinical Trials
Phase III Clinical Trials represent approximately 1% (30 protocols) of the protocols within the intramural program. Of the 30 protocols, the majority are at the NIH CC, and all are from within the US. Table 3 summarizes all NIH-Defined Intramural Phase III Trials in the US, showing a decrease of 12% in females enrolled from FY2022 to FY2024. In looking at the ratio of females to males, and the difference in females to males enrolled in FY2024 there were 43.4% more females enrolled. The decrease in

females enrolled is attributed to the closure of protocols. Across all three fiscal years, the number of participants who reported a race of unknown was 0.

Table 6 summarizes US NIH-Defined Phase III Clinical Trials by Race, showing a fluctuation in the minority population with a decrease of ~14% from FY2022 to FY2023 and a slight decrease of ~3% from FY2023 to FY2024. The percentage of American Indian Alaska Native participants increased by 24% from FY2022 to FY2024, with the number of participants reporting as More Than Once Race and Unknown Not Reported also increasing, but at a smaller percentage. The Asian population and Native Hawaiian Pacific Islander remained constant, while Black African American and White had a decrease of ~20% and ~13%.

Table 8 summarizes the US Site Enrollment for Phase III Clinical Research by Sex, Race and Ethnicity. Across all three fiscal years, more minority males were enrolled averaging ~65% than minority females averaging ~49%. However, when looking at the actual number of minority participants enrolled, more females were enrolled than minority males, with 90% minority females in FY2022, and 67% in both FY2023 and FY2024. Looking at all participants enrolled by ethnicity, the aggregate number of females enrolled is greater than males. In terms of race categories, the percentage of American Indian Alaska Native females increased from 8.7% in FY2022 to 35.5% in FY2024, percentage of Black African American females decreased from 26.3% in FY2022 to 4.0% in FY2024, percentage of White females also decreased slightly from FY2022 (59.7%) to FY2024 (47.9%), while the percentage of females reporting as More than One Race increased from 0.5% in FY2022 to 3.5% in FY2024. The Not Hispanic ethnicity had 93.7% of females and decreased to 83.8% in FY2024 while the percentage of Not Hispanic males remained relatively steady at ~85%. The percentage of Hispanic or Latino females was 5.6% in FY2022 and increased to 11.2% in FY2024, while Hispanic or Latino males remained relatively steady at ~14%.

IV. Additional information

In January of 2022 the IRP launched two new electronic systems simultaneously to track and capture protocol information. The first, managed by the NIH Institutional Review Board Office (IRBO) called PROTECT, captures data fields related to the regulatory requirements governing the protection of human subjects research. PROTECT contains a scientific ancillary module that captures the scientific review process and approvals for the IRP that include initial, annual, and quadrennial reviews in addition to substantive amendments. With the scientific ancillary module built into PROTECT, the IRBO can confirm the scientific review process has been completed and review documents if needed before granting final approval. The IRP data repository Protrak, also contains a validation that confirms completion of the

initial scientific review process before activating a protocol. The second system managed by the Protocol Services Section out of the Office of Research Support and Compliance (ORSC), CC, is the Protrak Query System (PQS). Although PQS is a separate system, it does link to PROTECT to pull in protocol data fields approved by the IRB and capture protocol data fields that do not require IRB approval but are needed for internal compliance and/or populate external websites. Data from the two systems (PROTECT and PQS) are electronically transmitted to the Protrak.

Appendix 1. Data Tables

Table 1 Metrics Based on Aggregate Enrollment: Sex
(Table 3-1-C. Total Enrollment for All NIH-Defined Intramural Clinical Research Between FY2022 and 2024)

Fiscal Year	Total Enrollment	Total Females	% Females	Total Males	% Males	Total Unknown	% Unknown	Enrollment in Female only	% Female only	Females, Excluding Female only	% Females, Excluding Female only	Males, Excluding Male only	% Males, Excluding Male only
2022	1,716,613	855,025	49.8	826,560	48.2	35,028	2.0	89,684	5.2	765,341	44.6	818,904	47.7
2023	1,611,519	782,263	48.5	793,785	49.3	35,471	2.2	45,693	2.8	736,570	45.7	785,400	48.7
2024	1,100,049	591,233	53.7	470,561	42.8	38,255	3.5	47,432	4.3	543,801	49.4	461,723	42.0

Table 2 Metrics Based on Aggregate Enrollment: Sex
(Table 3-2-C. US Site Enrollment for All NIH-Defined Intramural Clinical Research. Note: female/male only and excluding female/male not included.)

Fiscal Year	Total Enrollment	Total Females	% Females	Total Males	% Males	Total Unknown	% Unknown
2022	1,405,174	653,070	46.5	718,137	51.1	33,967	2.4
2023	1,376,368	638,251	46.4	703,811	51.1	34,306	2.5
2024	867,896	448,151	51.6	382,619	44.1	37,126	4.3

Table 3 Metrics Based on Aggregate Enrollment: Sex
(Table 3-4-C-Total Enrollment for All NIH Defined Intramural Phase III Trials)

Fiscal Year	Total Enrollment	Total Females	% Females	Total Males	% Males	Total Unknown	% Unknown
2022	6,576	6,135	93.3	441	6.7	0	0.0
2023	1,520	1,080	71.1	440	28.9	0	0.0
2024	1,351	969	71.7	382	28.3	0	0.0

Table 4 Enrollment by Race
(Table 4-1-1-E. Total Enrollment of NIH-Defined Intramural Clinical Research)

Fiscal Year	Total Enrollment	No. Inclusion Data Records	Minority Enrollment	% Minority Enrollment	American Indian Alaska Native	% American Indian Alaska Native	Asian	% Asian
2022	1,716,613	1,583	474,408	27.6	27,537	1.6	140,059	8.2
2023	1,611,519	1,595	433,591	26.9	27,618	1.7	126,614	7.9
2024	1,100,049	1,585	412,630	37.5	27,396	2.5	122,244	11.1

Fiscal Year	Black African American	% Black African American	Native Hawaiian Pacific Islander	% Native Hawaiian Pacific Islander	White	% White	More Than One Race	% More Than One Race	Unknown Not Reported	% Unknown Not Reported
2022	182,301	10.6	3,968	0.2	1,210,466	70.5	11,379	0.7	140,903	8.2
2023	189,998	11.8	4,086	0.3	1,149,500	71.3	12,541	0.8	101,162	6.3
2024	173,646	15.8	4,027	0.4	656,694	59.7	17,221	1.6	98,821	9.0

Table 5 US Site Enrollment by Race
(Table 4-1-4-B. US Site Enrollment of NIH-Defined Intramural Clinical Research)

Fiscal Year	Total Enrollment	No. Inclusion Data Records	Minority Enrollment	% Minority Enrollment	American Indian Alaska Native	% American Indian Alaska Native	Asian	% Asian
2022	1,405,174	1,498	255,311	18.2	27,405	2.0	30,668	2.2
2023	1,376,368	1,520	259,321	18.8	27,486	2.0	32,135	2.3
2024	867,896	1,516	240,682	27.7	27,263	3.1	27,325	3.1

Fiscal Year	Black African American	% Black African American	Native Hawaiian Pacific Islander	% Native Hawaiian Pacific Islander	White	% White	More Than One Race	% More Than One Race	Unknown Not Reported	% Unknown Not Reported
2022	133,566	9.5	3,931	0.3	1,094,071	77.9	11,318	0.8	104,215	7.4
2023	133,863	9.7	4,047	0.3	1,068,537	77.6	12,479	0.9	97,821	7.1
2024	120,276	13.9	3,988	0.5	576,350	66.4	17,159	2.0	95,535	11.0

Table 6 US Site Enrollment of NIH-Defined Intramural Phase III Trials by Race
(Table 4-2-4-B. US Site Enrollment of NIH-Defined Intramural Phase III Trials)

Fiscal Year	Total Enrollment	No. Inclusion Data Records	Minority Enrollment	% Minority Enrollment	American Indian Alaska Native	% American Indian Alaska Native	Asian	% Asian
2022	6,576	29	2,887	43.9	681	10.4	214	3.3
2023	1,520	31	879	57.8	583	38.4	45	3.0
2024	1,351	26	733	54.3	486	36.0	44	3.3

Black African American	% Black African American	Native Hawaiian Pacific Islander	% Native Hawaiian Pacific Islander	White	% White	More Than One Race	% More Than One Race	Unknown Not Reported	% Unknown Not Reported
1,666	25.3	0	0.0	3,830	58.2	41	0.6	144	2.2
112	7.4	1	0.1	633	41.6	47	3.1	99	6.5
72	5.3	1	0.1	608	45.0	51	3.8	89	6.6

Table 7
(Table 5-1-4-C. US Site Enrollment for NIH-Defined Intramural Clinical Research, Sex, by Race and Ethnicity)

Fiscal Year	Sex	Minority	% Minority	Total Enrollment	% Total	American Indian Alaska Native	% American Indian Alaska Native	Asian	% Asian
2022	Female	11,307	76.2	14,841	97.1	531	3.6	188	1.3
2022	Male	286	64.9	441	2.9	150	34.0	26	5.9
2022	Unknown	0	0.0	0	0.0	0	0.0	0	0.0
2023	Female	588	54.4	1,080	71.1	428	39.6	20	1.9
2023	Male	291	66.1	440	28.9	155	35.2	25	5.7
2023	Unknown	0	0.0	0	0.0	0	0.0	0	0.0
2024	Female	486	50.2	969	71.7	344	35.5	20	2.1
2024	Male	247	64.7	382	28.3	142	37.2	24	6.3
2024	Unknown	0	0.0	0	0.0	0	0.0	0	0.0

Fiscal Year	Sex	Black African American	% Black African American	Native Hawaiian Pacific Islander	% Native Hawaiian Pacific Islander	White	% White	More Than One Race	% More Than One Race	Unknown Not Reported	% Unknown Not Reported
2022	Female	1,613	10.9	0	0.0	3,661	24.7	29	0.2	8,819	59.4
2022	Male	53	12.0	0	0.0	169	38.3	12	2.7	31	7.0
2022	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2023	Female	58	5.4	0	0.0	469	43.4	32	3.0	73	6.8
2023	Male	54	12.3	1	0.2	164	37.3	15	3.4	26	5.9
2023	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2024	Female	39	4.0	0	0.0	464	47.9	34	3.5	68	7.0
2024	Male	33	8.6	1	0.3	144	37.7	17	4.5	21	5.5
2024	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table 7
(Table 5-1-4-C. US Site Enrollment for NIH-Defined Intramural Clinical Research, Sex, by Race and Ethnicity, continued.)

Fiscal Year	Sex	Not Hispanic	% Not Hispanic	Hispanic Latino	% Hispanic Latino	Unknown Not Reported	% Unknown Not Reported
2022	Female	5,746	38.7	9,047	61.0	48	0.3
2022	Male	374	84.8	64	14.5	3	0.7
2022	Unknown	0	0.0	0	0.0	0	0.0
2023	Female	920	85.2	112	10.4	48	4.4
2023	Male	374	85.0	65	14.8	1	0.2
2023	Unknown	0	0.0	0	0.0	0	0.0
2024	Female	812	83.8	109	11.2	48	5.0
2024	Male	327	85.6	54	14.1	1	0.3
2024	Unknown	0	0.0	0	0.0	0	0.0

Table 8

(Table 5-3-4-C. US Site Enrollment for NIH-Defined Intramural Phase III Clinical Research, Sex, by Race and Ethnicity)

Fiscal Year	Sex	Minority	% Minority	American Indian Alaska Native	% American Indian Alaska Native	Asian	% Asian
2022	Female	2,601	42.4	531	8.7	188	3.1
2022	Male	286	64.9	150	34.0	26	5.9
2022	Unknown	0	0.0	0	0.0	0	0.0
2023	Female	588	54.4	428	39.6	20	1.9
2023	Male	291	66.1	155	35.2	25	5.7
2023	Unknown	0	0.0	0	0.0	0	0.0
2024	Female	486	50.2	344	35.5	20	2.1
2024	Male	247	64.7	142	37.2	24	6.3
2024	Unknown	0	0.0	0	0.0	0	0.0

Fiscal Year	Sex	Black African American	% Black African American	Native Hawaiian Pacific Islander	% Native Hawaiian Pacific Islander	White	% White	More Than One Race	% More Than One Race	Unknown Not Reported	% Unknown Not Reported
2022	Female	1,613	26.3	0	0.0	3,661	59.7	29	0.5	113	1.8
2022	Male	53	12.0	0	0.0	169	38.3	12	2.7	31	7.0
2022	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2023	Female	58	5.4	0	0.0	469	43.4	32	3.0	73	6.8
2023	Male	54	12.3	1	0.2	164	37.3	15	3.4	26	5.9
2023	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2024	Female	39	4.0	0	0.0	464	47.9	34	3.5	68	7.0
2024	Male	33	8.6	1	0.3	144	37.7	17	4.5	21	5.5
2024	Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table 8

(Table 5-3-4-C. US Site Enrollment for NIH-Defined Intramural Phase III Clinical Research, Sex, by Race and Ethnicity, continued.)

Fiscal Year	Sex	Not Hispanic	% Not Hispanic	Hispanic Latino	% Hispanic Latino	Unknown Not Reported	% Unknown Not Reported
2022	Female	5,746	93.7	341	5.6	48	0.8
2022	Male	374	84.8	64	14.5	3	0.7
2022	Unknown	0	0.0	0	0.0	0	0.0
2023	Female	920	85.2	112	10.4	48	4.4
2023	Male	374	85.0	65	14.8	1	0.2
2023	Unknown	0	0.0	0	0.0	0	0.0
2024	Female	812	83.8	109	11.2	48	5.0
2024	Male	327	85.6	54	14.1	1	0.3
2024	Unknown	0	0.0	0	0.0	0	0.0