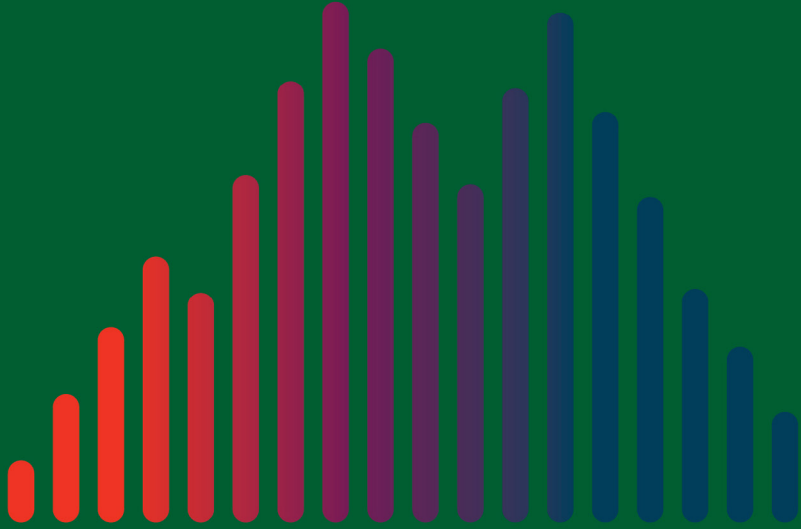
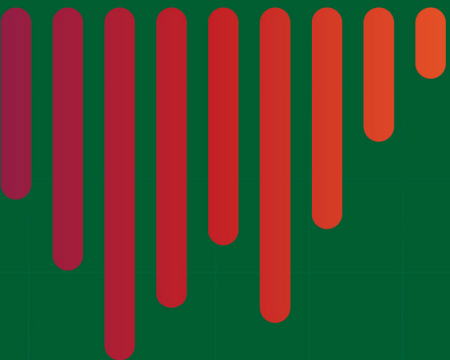


**Sexual & Gender  
Minority Research**



# PORTFOLIO ANALYSIS



**Fiscal Year 2019**



**National Institutes of Health**  
Sexual & Gender Minority Research Office

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# INTRODUCTION

The mission of the National Institutes of Health (NIH) is to seek fundamental knowledge about the nature and behavior of living systems and apply that knowledge to enhance health, lengthen life, and reduce illness and disability. As part of that mission, the NIH strives to support a range of biomedical, clinical, behavioral, and social sciences research to improve and protect the health of all sexual and gender minorities (SGMs; please see [NOT-OD-19-139](#) for more information) and has a specific interest in the disease areas and health conditions that most disparately affect these individuals. The populations that fall within the SGM portfolio at the NIH are defined below:

*SGM populations include, but are not limited to, individuals who identify as lesbian, gay, bisexual, asexual, transgender, Two-Spirit, queer, and/or intersex. Individuals with same-sex or -gender attractions or behaviors and those with a difference in sex development are also included. These populations also encompass those who do not self-identify with one of these terms but whose sexual orientation, gender identity or expression, or reproductive development is characterized by non-binary constructs of sexual orientation, gender, and/or sex.*

The Sexual & Gender Minority Research Office (SGMRO) of the NIH coordinates SGM research and related activities by working directly with the NIH's 27 Institutes, Centers, and Offices (ICOs). The SGMRO also serves as a resource on SGM health and research for the NIH and extramural research and stakeholder communities. For this reason, the SGMRO is situated within the Office of the Director (OD)—the central Office responsible for setting policy for the NIH and for planning, managing, and coordinating the programs and activities of all NIH components—and resides more specifically within the Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI) within the OD.

On October 6, 2016, the [NIH designated sexual and gender minorities](#) as a health disparity population for research. This designation builds on previous steps taken by the NIH to advance SGM health research. In 2015, the NIH developed the first agency-wide [strategic plan](#) devoted to advancing SGM health research and established the SGMRO to help eliminate barriers to conducting SGM-related research. The health disparity population designation marks an important and necessary step in realizing NIH's mission to advance the health of all Americans. The updated [NIH Strategic Plan to Advance Research on the Health and Well-being of Sexual and Gender Minorities: Fiscal Years 2021–2025](#) details NIH's SGM-related goals for the next 5 years.

This fiscal year (FY) 2019 Portfolio Analysis describes the SGM-related research portfolio at the NIH and aims to highlight various gaps and needs for additional SGM-related research in specific areas. This analysis also serves as one way that the NIH tracks progress on our agency-wide SGM research strategic plan.

# METHODS

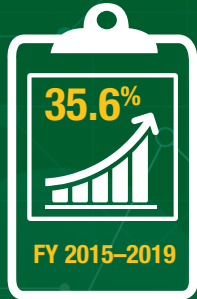
The projects included in the *NIH SGM Portfolio Analysis for FY 2019* are NIH-funded grants classified under the Sexual and Gender Minorities [Research, Condition, and Disease Categorization \(RCDC\)](#) spending category in the NIH [RePORTER database](#). In FY 2015, “Sexual and Gender Minorities” was added to the official list of RCDC categories that are reported as “spending categories,” which currently comprises more than 290 research areas, conditions, and diseases. The FY 2019 estimate of SGM projects and spending constitutes the fifth annual analysis to include those data. RCDC uses text data mining (categorizing and clustering words and multiword phrases) in conjunction with a “fingerprint” consisting of more than 80 weighted concepts and synonyms selected by scientific experts at the NIH to define spending categories. Notably, some SGM-related projects may not be captured because of the terms used in the project description.

Using this method, the SGM spending category may include projects that focus on a research area, disease, or condition that significantly affects SGM populations, such as discrimination or minority stress. Alternatively, a project may be related incidentally to SGM research, such as a study about mental health that includes SGM participants as a control, comparison, or sub-group. We generally use the terms “specific” and “relevant” to distinguish between these two broad categories of relevance. *Specific* refers to a project focused primarily on a pertinent disease, condition, or population; *relevant* means that a project pertains to a category, but another disease area, condition, population, or other focus is considered primary. Funding amounts derived from RCDC are an estimate based on the SGM fingerprint, text-mining approach, and the grant funds attributed to projects in the category.

After manual curation was completed in FY 2019, 408 projects were identified in RCDC as belonging to the SGM spending category. The second half of the FY 2019 Portfolio Analysis ([starting on page 18](#)) is based on the same 408 projects as the first half of the report. However, rather than using existing RCDC categories as described above for the variables under examination, each SGM-related project abstract was reviewed and coded manually on the basis of the variables listed in [Appendix I](#). These variables were chosen because they were noted as being of special interest to SGM research by SGMRO staff, members of the [SGM Research Coordinating Committee](#), and the [SGM Research Working Group of the Council of Councils](#). Each curator considered the presence or absence of variables of relevance to SGM research studies that currently are not captured by RCDC categories. For projects on which the coders did not agree or for which no clear majority for any variable was apparent, reconciliation was made by consensus during video meetings. For specific information regarding the inclusion or exclusion criteria of a given variable, please see the NIH SGM Data Dictionary.

# 2019 PORTFOLIO ANALYSIS

## SGM Project Increases



The **total number of projects** has **increased 35.6%** since 2015, from 301 to **408**.

## Non-HIV/AIDS Funding

The **total number of non-HIV/AIDS** projects reached its highest level ever in FY 2019.



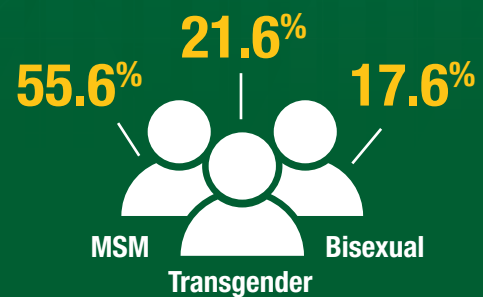
## Training Awards

The **total number of training and career-related awards** increased by **46.9%** from **FY 2015 to FY 2019**.



## Largest Populations Represented

Men who have sex with men (**MSM**), **transgender** individuals, and **bisexual** individuals are the **three largest** populations **indicated**,<sup>1</sup> accounting for **55.6%**, **21.6%**, and **17.9%** of the projects, respectively.



## SGM-Categorized Projects

In **total**, **5.9%** of all **SGM-categorized projects** pertain to **Disorders or Differences of Sex Development (DSD)** and **Intersex**.



## SGM Portfolio Project Increases

The total number of **projects at the NIH** increased from 51,382 in FY 2015 to **60,078** in FY 2019, an increase of **17.0%**. The **SGM portfolio**, by contrast, increased from 301 in FY 2015 to **408** in FY 2019, an increase of **35.6%**.

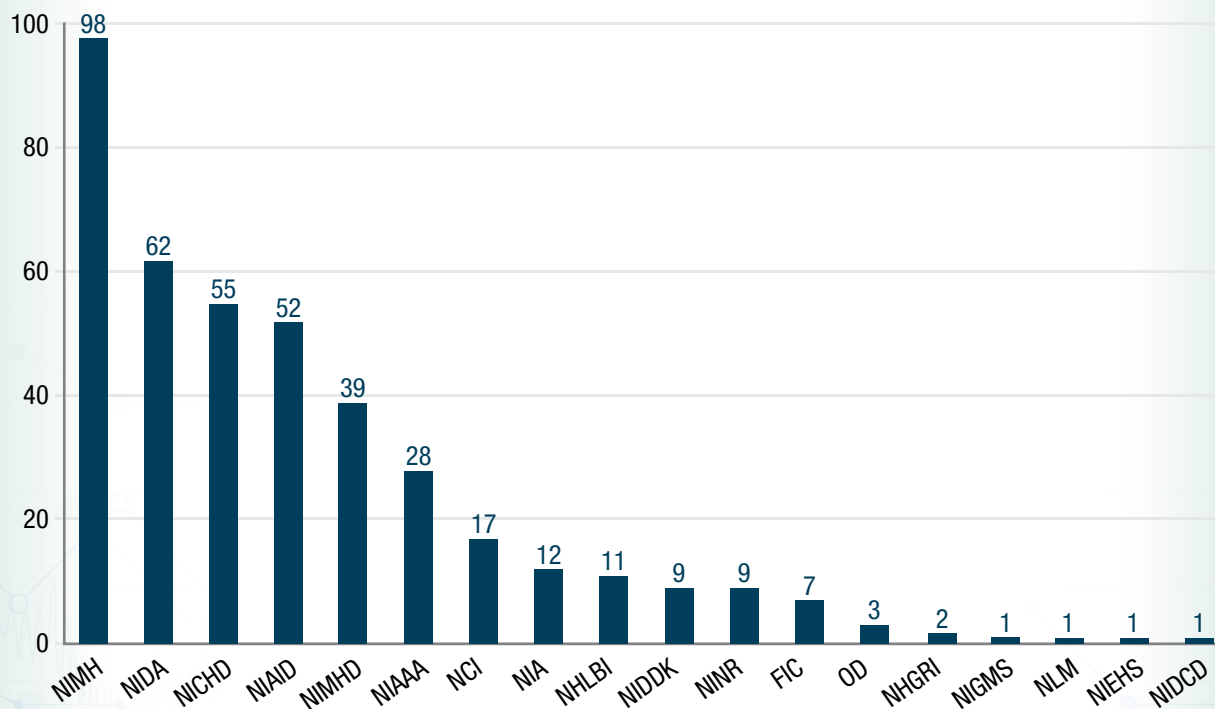


<sup>1</sup> As noted in the Methods section, project inclusion is based on both specific and relevant research, indicating the presence of an element of the project that pertains to the health of a given population; it does not necessarily mean that the project is primarily about that population.

# Number of SGM-Related Projects, by NIH Institute, Center, or Office

The 408 SGM projects at the NIH in FY 2019 were administered by 18 of the 24 grant-making components of the NIH. Approximately 65.4% of all projects (267 of 408) were administered by the National Institute of Mental Health (NIMH), the National Institute on Drug Abuse (NIDA), the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD), and the National Institute of Allergy and Infectious Diseases (NIAID), a slight decrease from 71.6% in FY 2018, indicating diversification across ICOs among the remaining 34.6% of projects administered by 14 other ICOs in FY 2019. For a list of abbreviations of all NIH ICOs, see [Appendix II](#).

**Figure 1. FY 2019, Number of SGM-Related Projects, by NIH ICO (N = 408)**

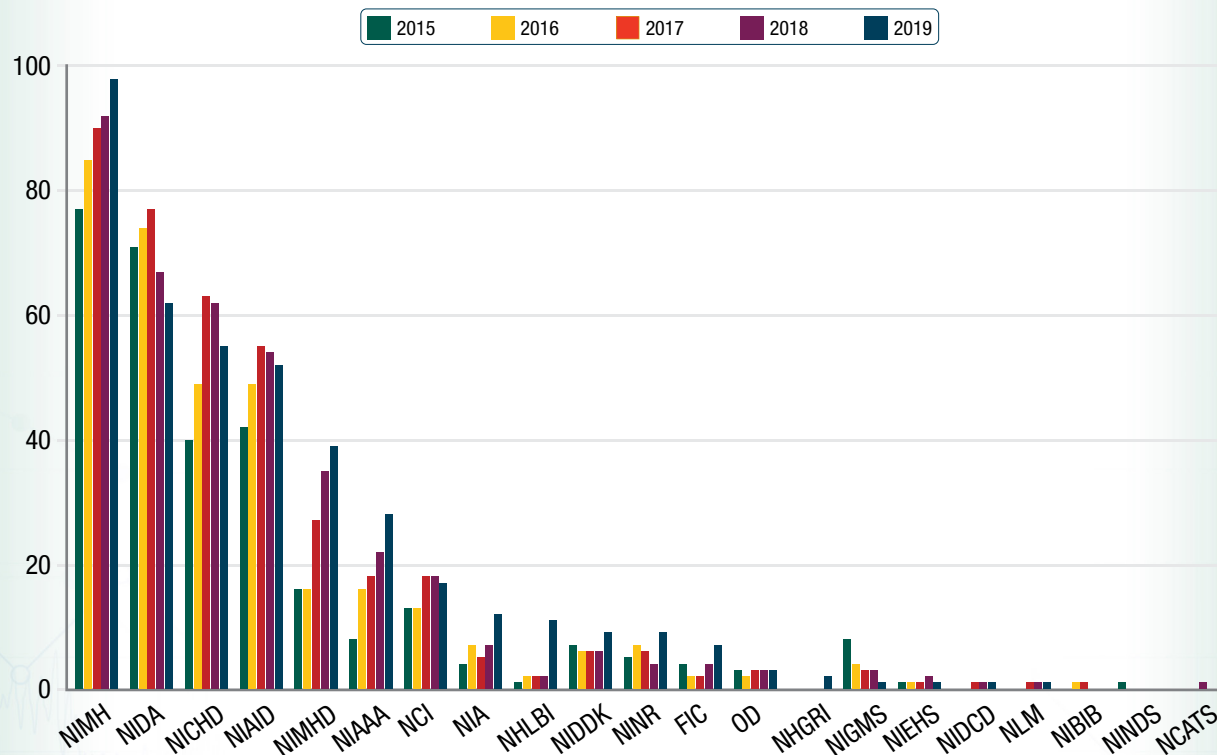


Note: Only ICOs with relevant data are included in this graph.

# SGM-Related Projects, FY 2015–2019, by ICO

The number of SGM-related projects has increased in the majority of ICOs, indicating that the growth of the portfolio, in terms of the number of projects, is driven by multiple ICOs. Fourteen of the 18 ICOs reporting SGM projects for FY 2019 experienced an increase in the number of projects between FY 2015 and FY 2019.

**Figure 2. FY 2015–2019, Number of SGM-Related Projects, by NIH ICO**  
(2015 = 301, 2016 = 334, 2017 = 379, 2018 = 384, 2019 = 408)

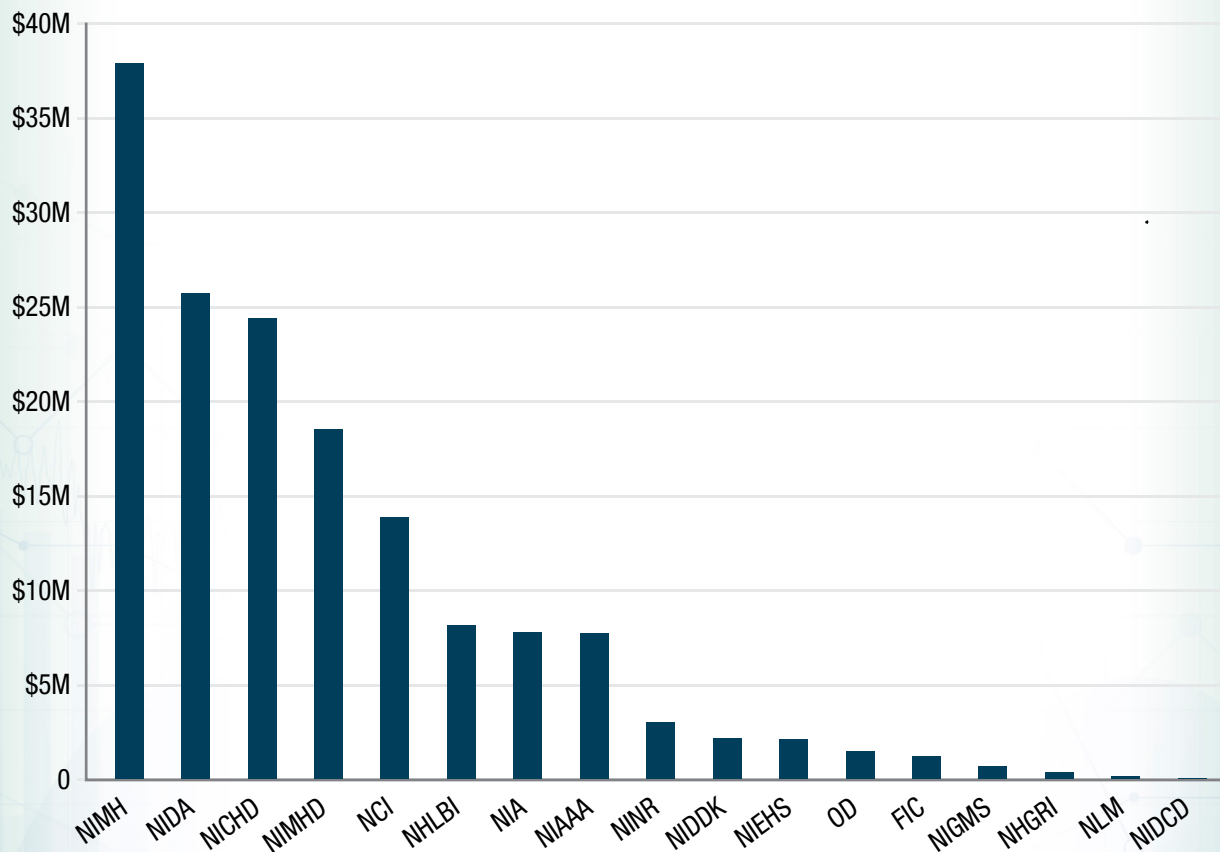


Note: The number of SGM-related projects by NIH ICO for FY 2015–2019 can be found in [Appendix III](#).

# SGM Funding Across NIH

The total amount of funding for SGM-related research in FY 2019 was \$253,170,553. The same ICOs that fund the largest number of projects also provide the most funding support. Specifically, NIAID, NIMH, NIDA, and NICHD together accounted for 73.4% of NIH SGM funding in FY 2019 (a total of \$185,937,573). It is noteworthy that NIAID is the single largest funder of SGM research and contributes more than 2.5 times the amount of the next largest funding ICO, with a total of \$97,513,633. Note that the NIAID HIV/AIDS Clinical Trials (CT) Networks are funded annually over a 7-year cycle through five large, multisite, multi-Principal Investigator (PI) cooperative agreements. Due to the complex nature of tracking and reporting funding allocations to these networks, funding totals for NIAID may fluctuate from year to year, which may result in a large increase or decrease in SGM-related funding that does not correspond with the increase or decrease in projects. For this reason and because of the total funding amount, NIAID has been excluded from the graph below. For actual dollar amounts, please see [Appendix IV](#).

**Figure 3. FY 2019, SGM Funding, by NIH ICO (Excluding NIAID)**



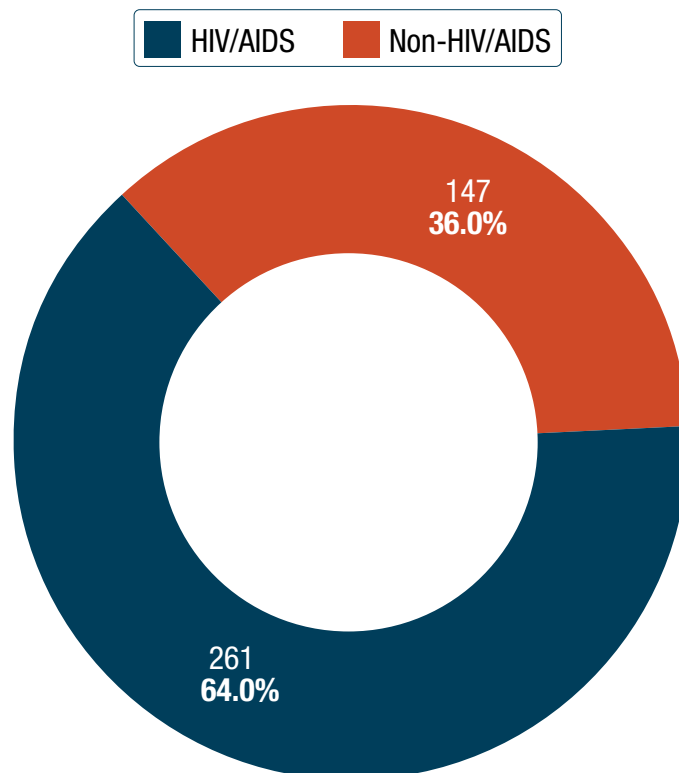
Note: Dollar amounts are in millions. ICOs that reported data are included in the graph, with the exception of NIAID. Due to variations in the reporting of funding, NIAID is excluded from this graph. Actual dollar amounts appear in [Appendix IV](#).



# SGM Projects Related to HIV/AIDS Research

The majority of NIH's SGM projects (64.0%, or 261 of 408) pertain to HIV/AIDS and are considered "HIV/AIDS-specific" based on a metric established for the categorization of projects by spending category, meaning the project pertains directly to HIV/AIDS. Some projects are "HIV/AIDS-relevant," meaning that they pertain in some way to HIV/AIDS but are not included in the HIV/AIDS category, because another methodological or population focus is considered primary. The prevalence of HIV/AIDS-related projects (both HIV-specific and HIV-relevant) reflects the historical and contemporary disproportionate incidence and prevalence of HIV/AIDS among SGM persons, particularly MSM and transgender women. In addition, for decades, people conducting SGM research could obtain funding more readily by conducting HIV/AIDS-related research. The percentage of HIV/AIDS-related projects in the FY 2019 SGM (64.0%) research portfolio increased slightly over FY 2018 (63.0%) but is approximately 3.0% less than that of the FY 2017 (67.0%) portfolio and 9.0% less than that of FY 2016 (73.0%).

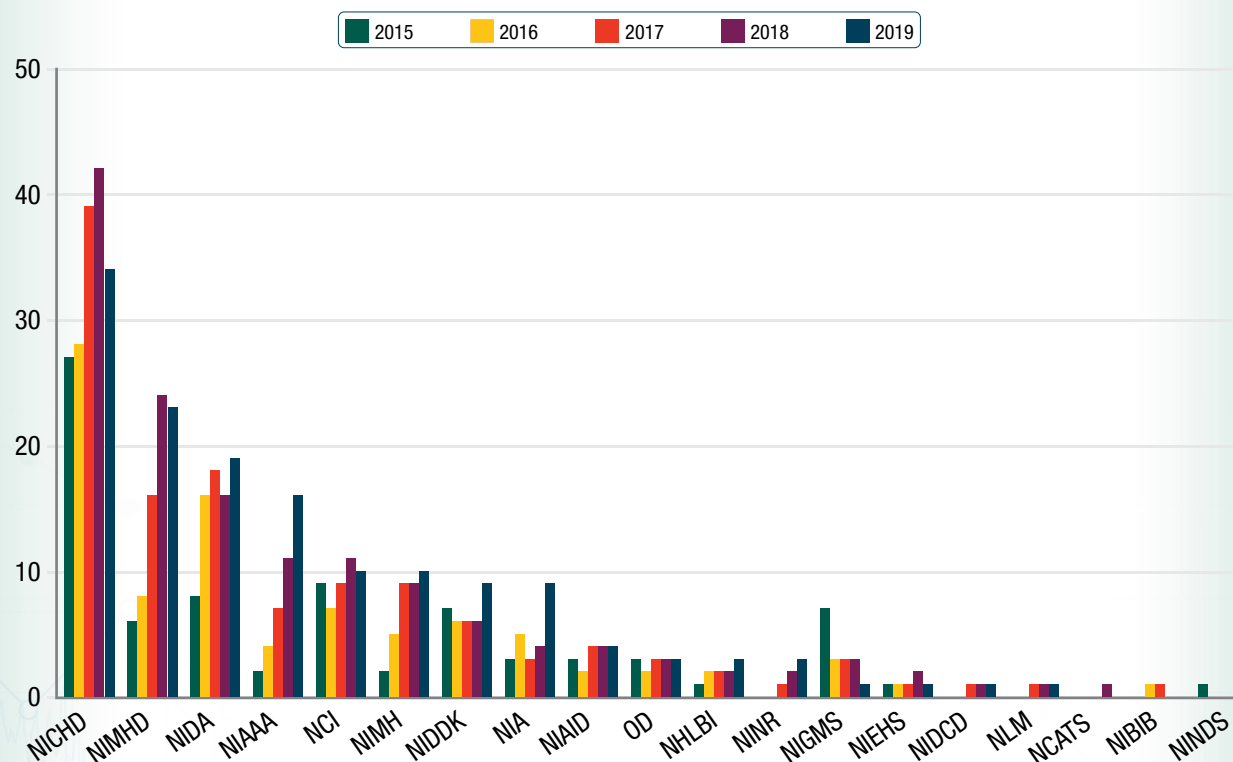
**Figure 4. FY 2019, HIV/AIDS Projects in the SGM Portfolio**



# SGM Projects Not Related to HIV/AIDS, FY 2015–2019, by ICO

The number of SGM-related projects not focused on HIV/AIDS-related research increased from 80 in 2015 to 147 in 2019, an increase of 83.8%. In 13 of the 16 ICOs presenting data for 2019 in the figure below, the number of non-HIV/AIDS projects increased between 2015 and 2019.

**Figure 5. FY 2015–2019, Number of Non-HIV/AIDS SGM-Related Projects, by NIH ICO (2015 = 80, 2016 = 90, 2017 = 124, 2018 = 142, 2019 = 147)**

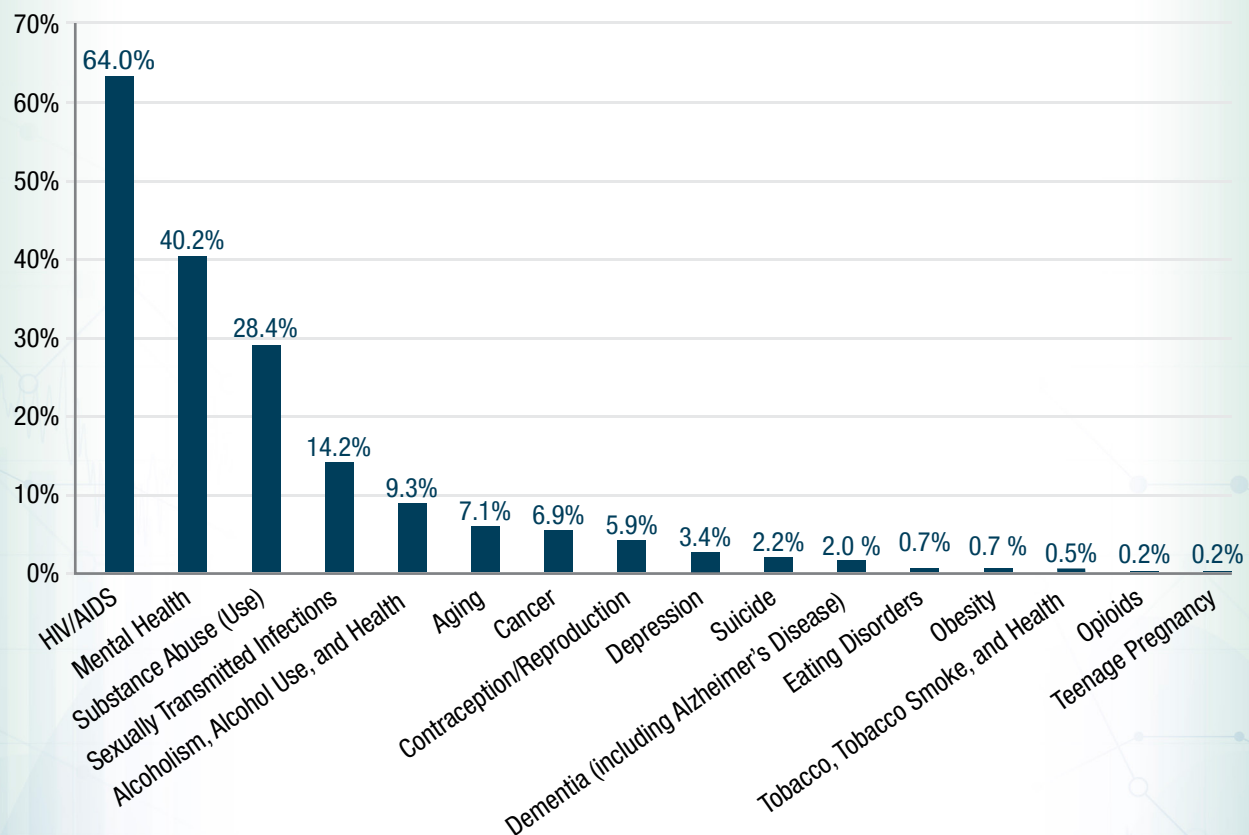


Note: The number of non-HIV/AIDS SGM-related projects by NIH ICO for FY 2015–2019 can be found in [Appendix V](#).

# SGM Projects, by Research, Condition, and Disease Category

A broad range of research, condition, and disease categories were addressed in SGM-related projects funded by the NIH in FY 2019. These projects may focus on the diseases or conditions themselves, associated health care access or utilization, or another subtopic in the context of specific diseases or risk factors. The graph below illustrates the proportion of projects within a selected number of existing RCDC categories. The number of projects in fields outside of HIV/AIDS has increased in each of the past 4 years. For FY 2019, other than HIV/AIDS, the most common areas included mental health; substance abuse (use); sexually transmitted infections; and alcoholism, alcohol use, and health. Additional projects addressed aging; cancer; contraception/reproduction; depression; suicide (including suicide prevention); dementia (including Alzheimer’s disease); eating disorders; obesity; tobacco, tobacco smoke, and health; opioids; and teenage pregnancy. The categories reported below are not mutually exclusive because a project can focus on more than one disease area or health condition; therefore, percentages add to more than 100%.

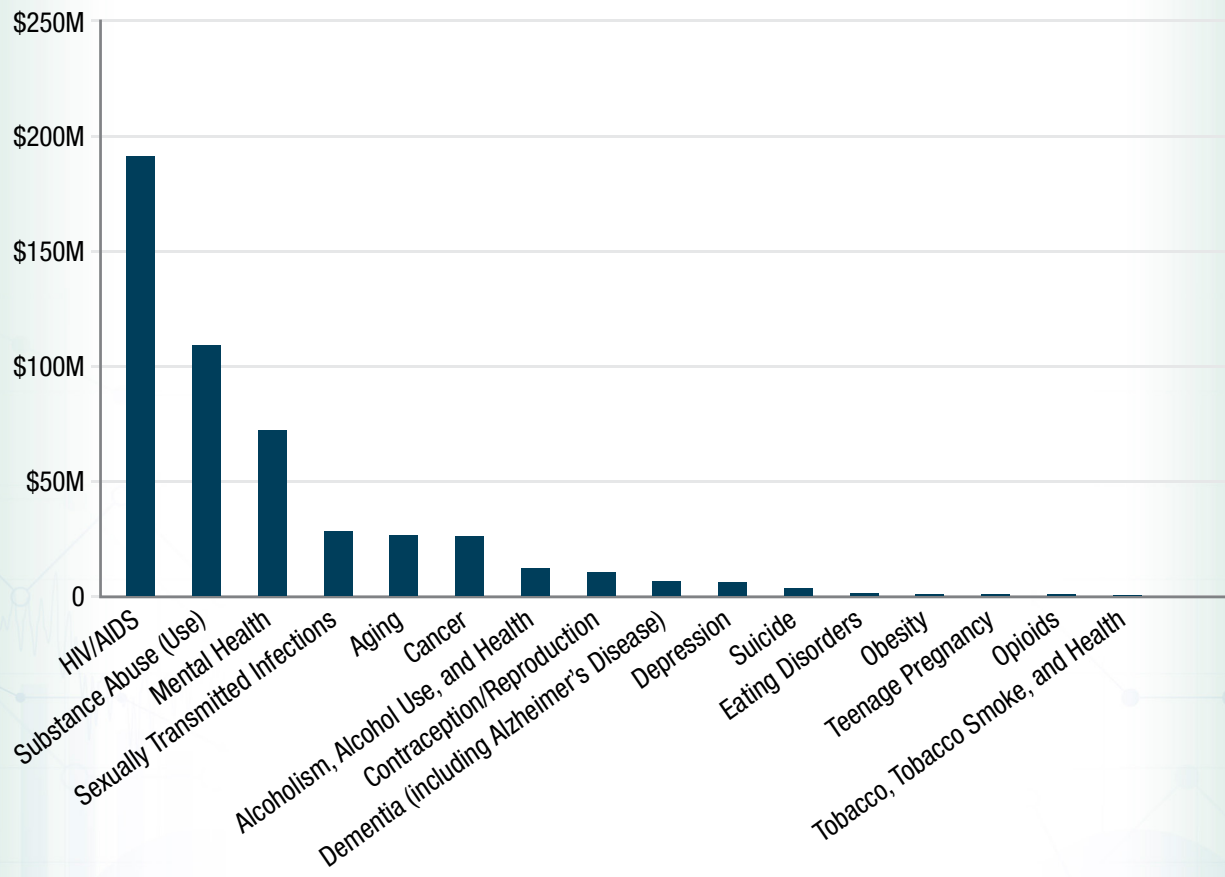
**Figure 6. FY 2019 Proportion of SGM Projects, by Research, Condition, and Disease Category (N = 408)**



# SGM Funding, by Research, Condition, and Disease Category

The amount of funding in each of the disease areas or health conditions corresponded roughly to the number of grants in those areas. Funding in HIV/AIDS totaled \$191.8 million. Funding for SGM research in substance abuse (use), mental health, sexually transmitted infections, aging, and cancer all exceeded \$26 million. The categories reported below are not mutually exclusive and represent multiple areas of research within the RCDC categorization system. Therefore, dollars may be counted toward more than one disease area or health condition.

**Figure 7. FY 2019 Total Grant Dollars, by SGM Research, Condition, and Disease Category**

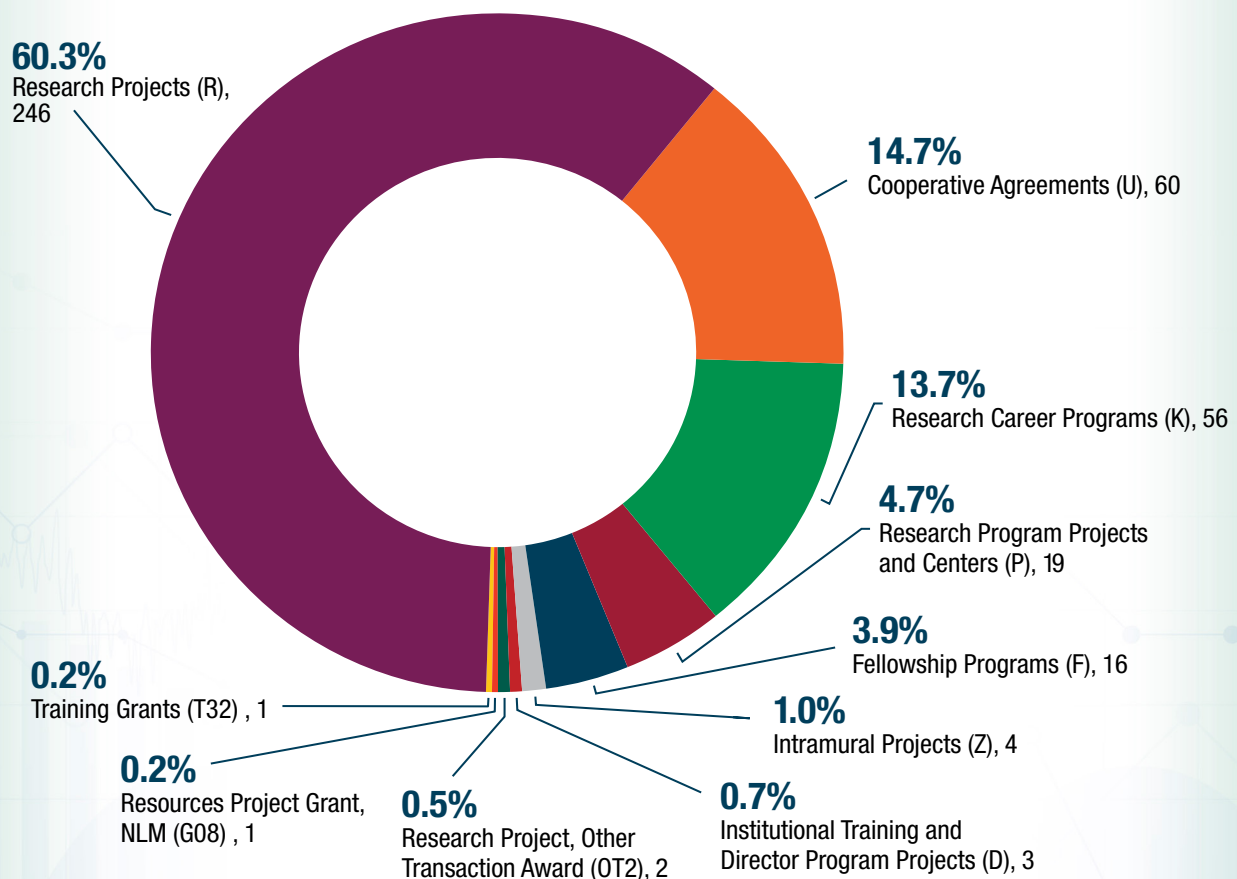


Note: Dollar amounts are in millions. Actual dollar amounts appear in [Appendix VI](#).

# Proportion of SGM-Related Projects, by NIH Grant Mechanism

The distribution of projects by [grant mechanism](#) allows a comparison of the percentages going to research projects, career development, research centers, and other categories. The Research Project (R) mechanism constituted the majority of grants (60.3%), followed by Cooperative Agreements (U; 14.7%) and Research Career Programs (K; 13.7%). Research Program Projects and Centers (P; 4.7%), Fellowships (F; 3.9%), and Intramural Projects (Z; 1.0%) accounted for 9.6% of the portfolio. Institutional Training and Director Program Projects (D); Research Project, Other Transaction Awards (OT2); Training Grants (T32); and Resources Project Grants (G08)—each accounting for <1% of total funding—together totaled 11 projects, or 2.7%, of the total SGM portfolio.

**Figure 8. FY 2019, Proportion of Projects, by Grant Mechanism (N = 408)**

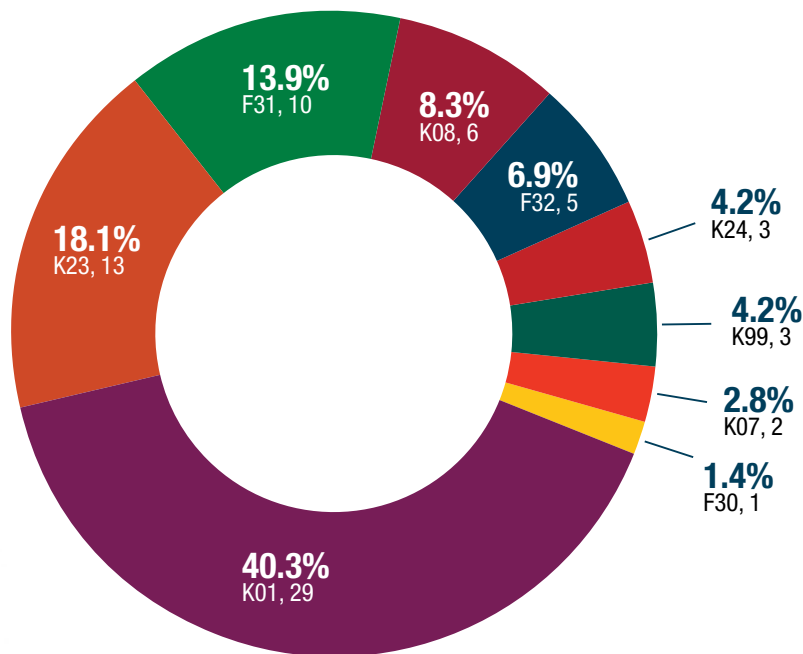


Note: Percentages do not add up to 100% because they are rounded to the nearest tenth of a percent.

# Proportion of SGM-Related Projects, by Type of Training or Career Funding Mechanism

This analysis was compiled to provide insight into the progress made toward the strategic goals of strengthening the community of researchers conducting SGM research. Research Scientist Development Awards (K01), Clinical Investigator Awards (K08), Mentored Patient-Oriented Research Career Development Awards (K23), and Predoctoral Fellowships (F31) accounted for more than three-quarters (80.6%) of projects pertaining to training and career development in FY 2019. The total number of training and career-related awards was 72 in FY 2019, compared with 49 in FY 2015, reflecting a 46.9% increase in these types of awards.

**Figure 9. FY 2019, Proportion of SGM-Related Projects, by Type of Training or Career Funding Mechanism (N = 72)**



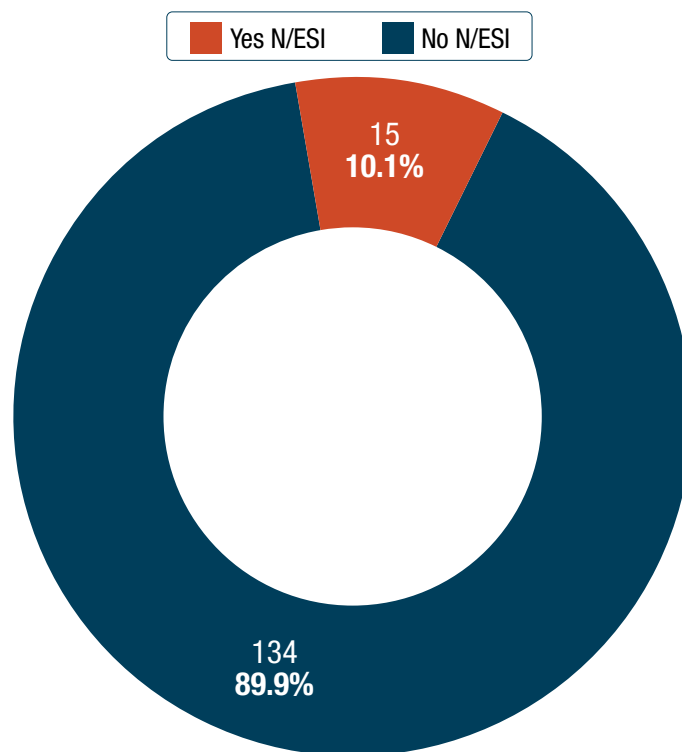
Note: Percentages do not add up to 100% because they are rounded to the nearest tenth of a percent.

# Proportion of Projects with New and Early-Stage Investigators

Of the 149 [R01](#) FY 2019 grant awards in SGM health research, 15 (10.1%) were awarded to either New Investigators (NI), who prior to this award had not received substantial NIH funding, or Early-Stage Investigators (ESI), who had received their terminal degree within the last 10 years but had not yet been the PI on a substantial NIH research award.

Note that this statistic illustrates NI and ESI status at the time of the initial application and reflects the status of only the PI, not other members of the investigative team. An increase in the number of NIs and ESIs from year to year may indicate progress in both removing barriers to research and supporting the community of scholars conducting SGM-related research. This represents an increase of 87.5% from FY 2018 when eight new and early-stage investigators were funded for SGM-related projects.

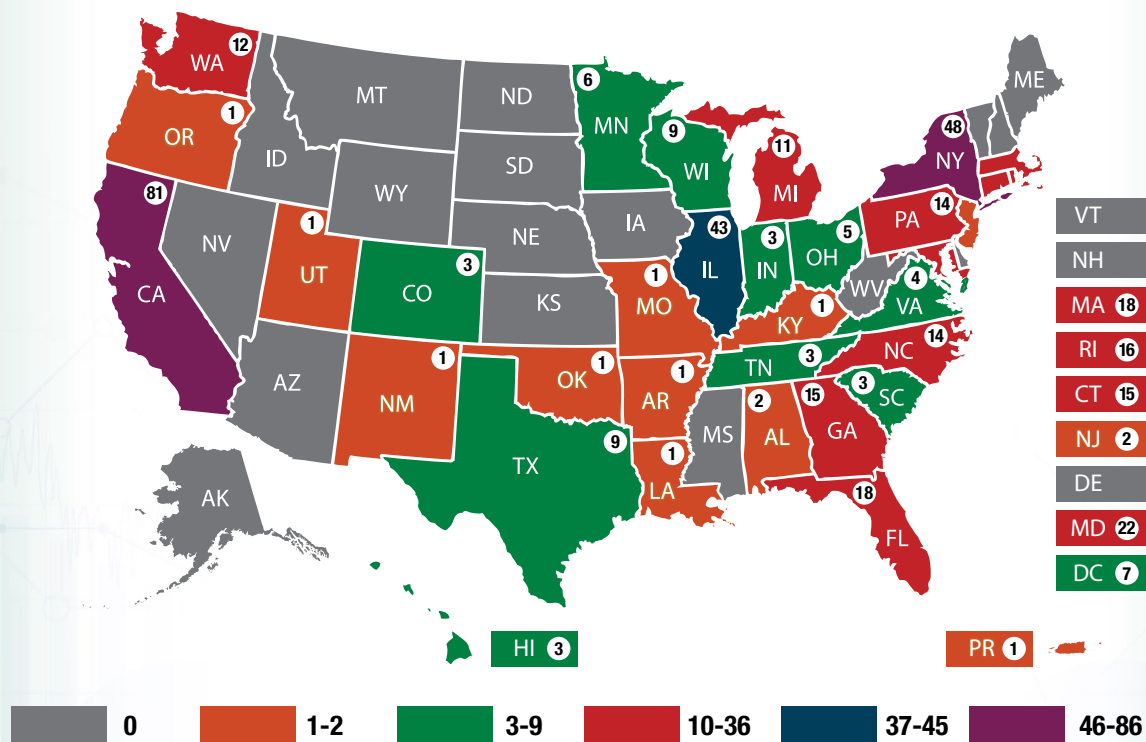
**Figure 10. FY 2019, Proportion of Projects with New and Early-Stage Investigators (N = 149)**



# U.S. Funding of SGM Research, by Location of Administering Institution

SGM-related research funding was provided via 395 projects to organizations in 33 states, Puerto Rico, and the District of Columbia. The states with the largest number of projects (43 or more each) were California, New York, and Illinois. Nearly one-third of the projects (32.7%, or 129 of 395) were awarded to institutions located in either California or New York. Arkansas, Louisiana, New Mexico, and Puerto Rico had no projects in FY 2018, but each had one in FY 2019. Thus—including South Carolina, Utah, and Virginia, which had projects for the first time in FY 2018—seven new jurisdictions have had SGM projects funded in the past 2 years. The map below indicates the location of the institutions receiving funding in FY 2019 and not necessarily where project activity took place. An increased number of states with funded projects may indicate the extent to which NIH-funded research is applicable to and involves the diverse SGM populations in the United States and may have implications for the SGMRO goal of fostering a highly skilled and diverse workforce in SGM health research.

**Figure 11. FY 2019, SGM Projects, by U.S. Location of Administering Institution (N = 395)**



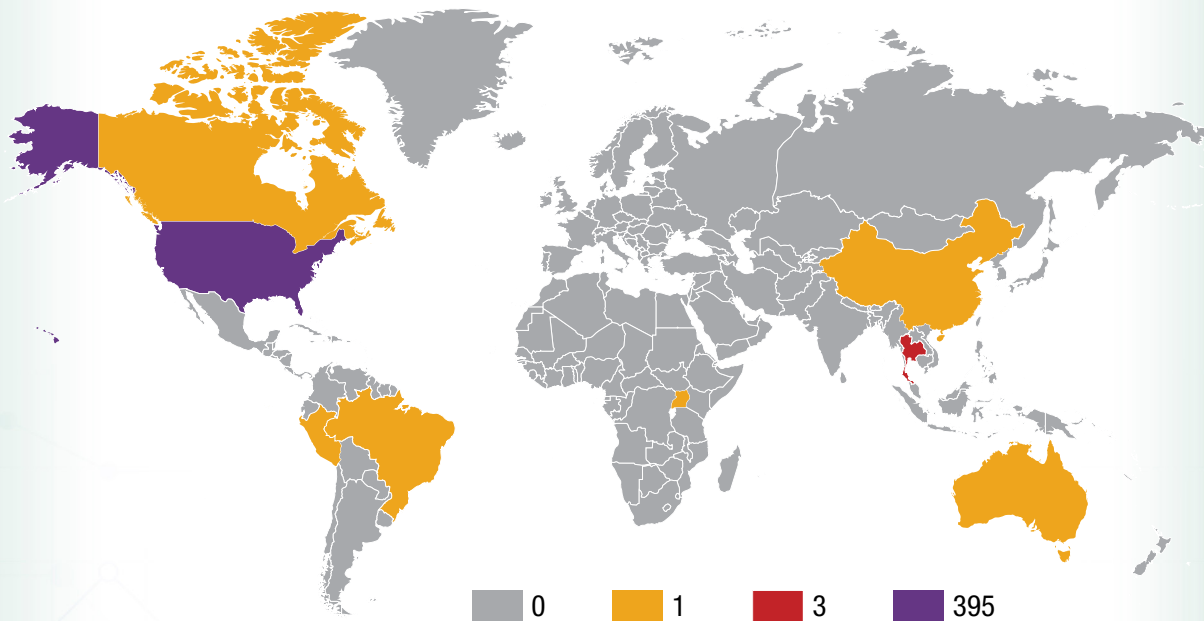
Note: Twelve projects are not included on the map because they took place on the NIH campus in the intramural program.



# Funding of International SGM Research, by Country of Administering Institution

Funding for nine SGM-related research projects was provided directly to foreign organizations in seven nations outside of the United States (Australia, Brazil, Canada, China, Peru, Thailand, and Uganda). Only Thailand had more than a single funded research grant, with a total of three—one more project than in FY 2018. The project in Uganda is new in FY 2019 and represents the sole NIH-funded SGM health project at an organization on the continent of Africa.

**Figure 12. FY 2019, SGM Projects, by Country (N = 404)**



Note: Four projects did not include location data and, therefore, are not included in the map.



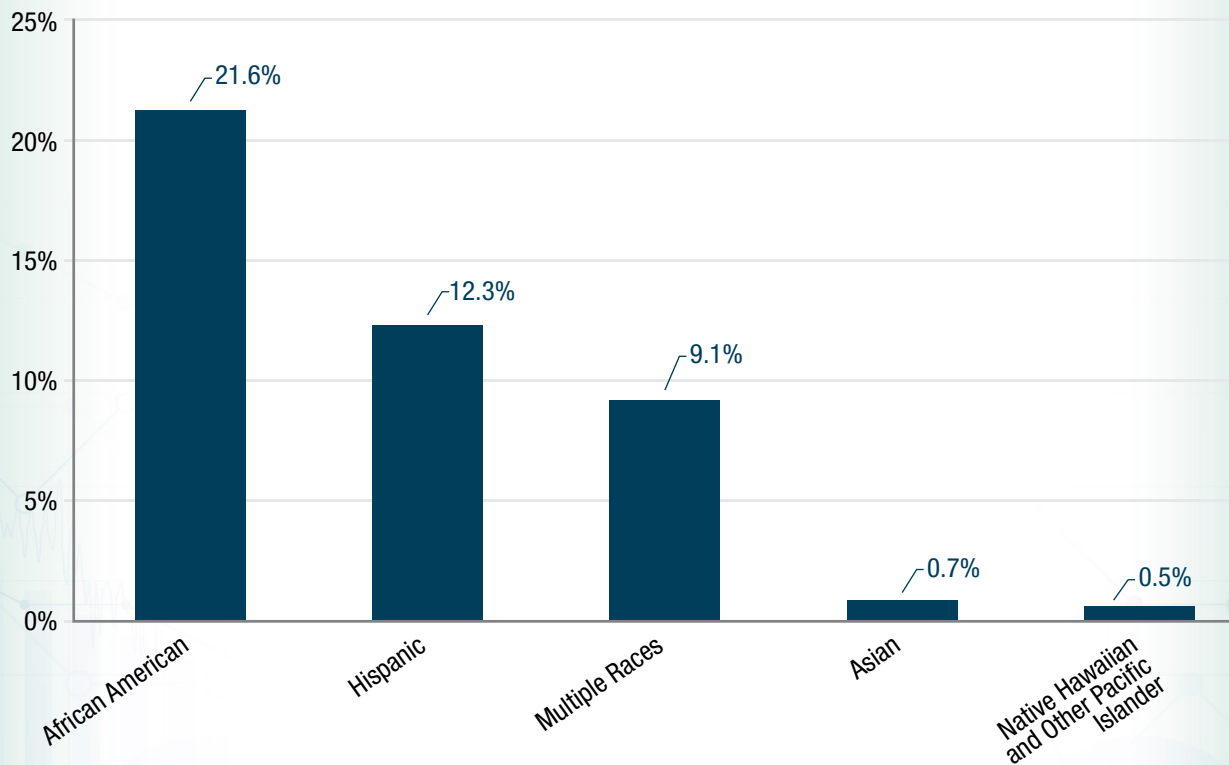


# Proportion of SGM Projects, by Race and Ethnicity

The second half of the report highlights analyses that resulted from the manual curation of the SGM portfolio. As previously noted, only the title, abstract, and specific aims were reviewed during this process.

A majority of projects did not identify a specific racial or ethnic group included in the study. However, for those projects that specified inclusion of racial or ethnic groups, African Americans were included at the highest rate (21.6%). Hispanics were included at a lower rate (12.3%), as were people of multiple races (9.1%), which includes other people of color. Asians, Native Hawaiians, and other Pacific Islanders were included at the lowest rates (0.7% and 0.5%, respectively). Notably, the projects did not involve American Indian/Alaska Native populations.

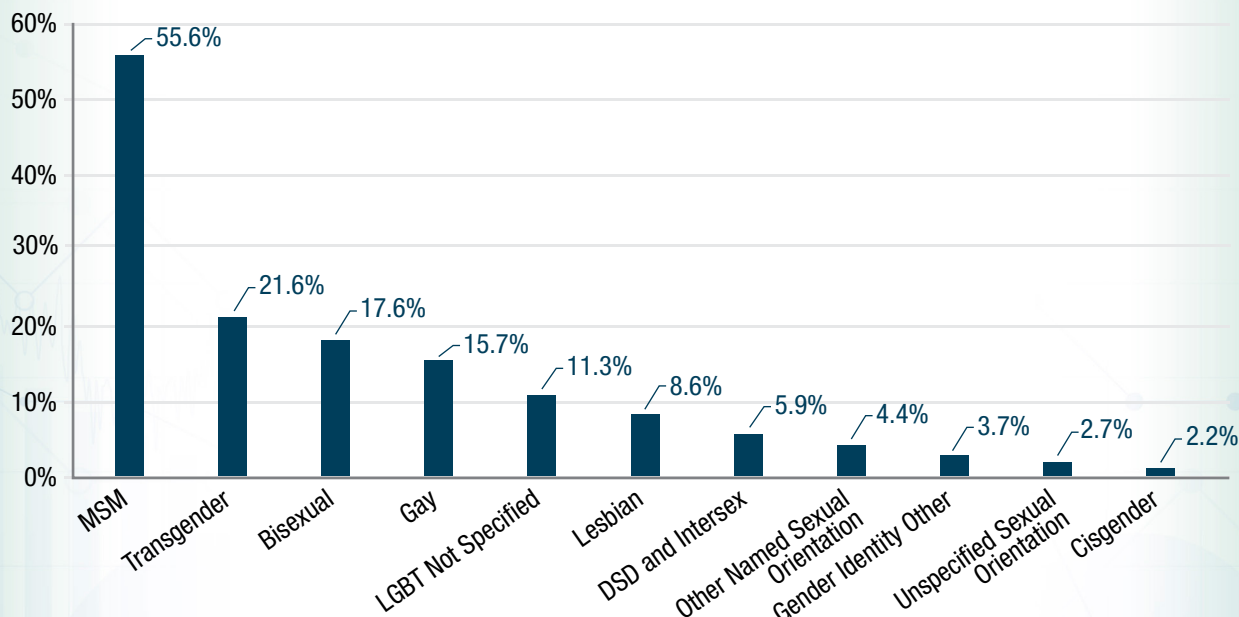
**Figure 15. FY 2019, Proportion of SGM Projects, by Race and Ethnicity (N = 408)**



# Proportion of SGM Projects, by Population

Each project was assigned a “population” based on various identities, behaviors, or diagnoses, depending on the population under study. Each project was assigned to at least one population category and could be assigned any number of additional population categories as appropriate. This was done to enumerate the various communities under study in the SGM portfolio. More than half of the portfolio (55.6%) consists of projects that pertain to MSM. More than one-fifth pertains to transgender individuals (21.6%). The third largest population category is bisexual, representing 17.6% of the projects. The fourth largest category was gay, with more than one in seven projects (15.7%) pertaining to that population. More than one in 10 projects (11.3%) do not specify subcategories within the LGBT population but indicate that LGBT individuals are a population of interest in the project. Additional categories—including lesbian, intersex, and DSD—pertained to fewer than one in 10 projects. Cisgender, sexual orientation categories not previously mentioned, conceptual investigation of sexual orientation, and other gender identities all pertained to fewer than one in five projects. No projects were Two-Spirit focused in FY 2019. The proportion of projects belonging to each category is depicted in the figure below. Categories are not mutually exclusive, so percentages add to more than 100 percent. As noted previously, population is an indication in the title, abstract, or specific aims that an element of the project pertains to the health of a given group; it does not necessarily mean that the project is primarily about or specific to that population.

**Figure 16. FY 2019, Proportion of SGM Projects, by Population**



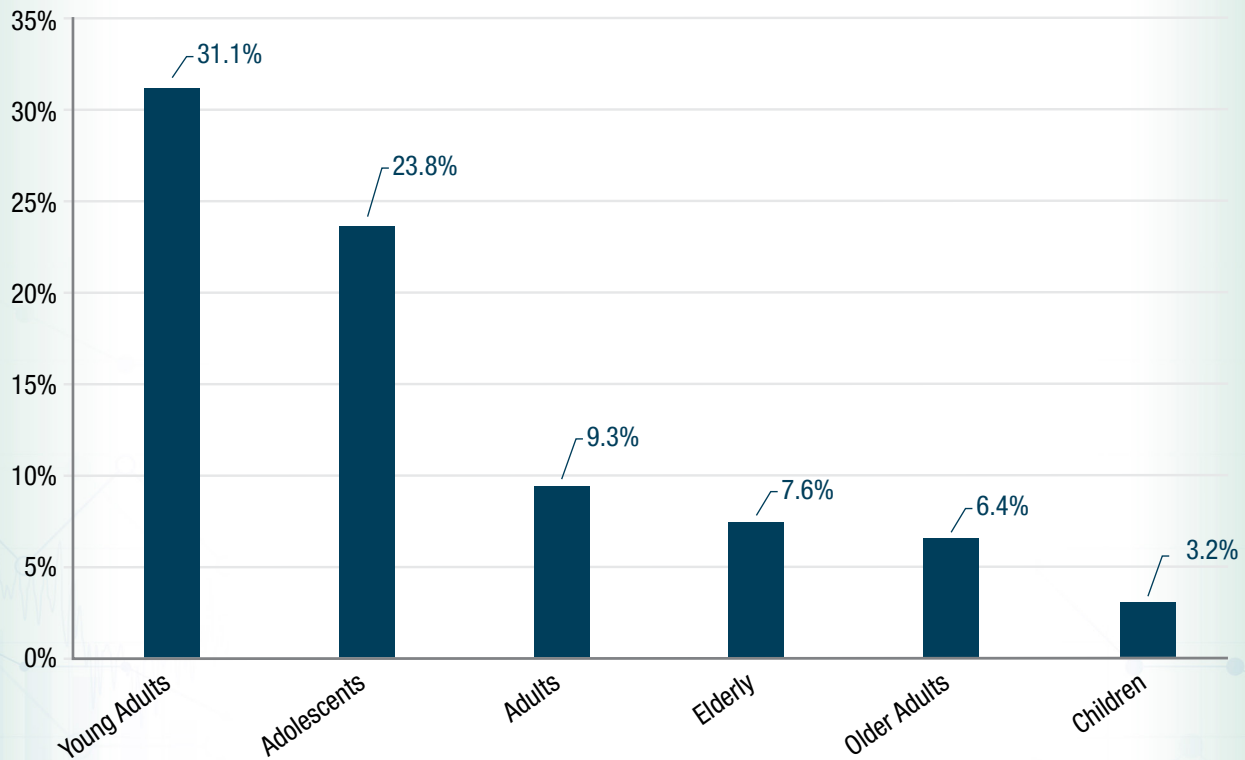
Key:

**MSM** = men who have sex with men. **LGBT Not Specified** = the project does not specify a population but indicates an LGBT population is included. **DSD and Intersex** = disorders or differences of sex development and intersex. **Other Named Sexual Orientation** = other named sexual orientation categories not previously listed (e.g., queer, pansexual). **Gender Identity Other** = gender identity other than transgender (e.g., non-binary, gender non-conforming, etc.). **Unspecified Sexual Orientation** = the project conceptually investigates sexual orientation but does not specify a sexual minority identity.

# Proportion of SGM Projects, by Age Group

A total of 187 projects in the SGM portfolio (45.8%) specified an age group. Some projects identified more than one age group; age categories are not mutually exclusive (meaning that the same project can include more than one age group). The graph below likely underrepresents age groups because some projects that pertain to a specific age group did not make that explicit in their descriptions. The age groupings are as follows: children (12 years and under), adolescents (13–17 years), young adults (18–35 years), adults (36–55 years), older adults (56–64 years), and elderly (65 years and older). The age group with the largest proportion of projects in the SGM portfolio was young adults (31.1%), followed by adolescents (23.8%), adults (9.3%), the elderly (7.6%), older adults (6.4%), and children (3.2%).

**Figure 17. FY 2019, Proportion of SGM Projects, by Age Group (N = 408)**



# Other Categories of Interest in the SGM Portfolio

Below is a list of additional categories used to classify the 408 projects in the FY 2019 SGM portfolio. The categories were based on feedback from SGMRO staff, the Research Coordinating Committee, and the Research Working Group about potential variables to include, and they reflect an increased interest in the intersection of social categories with sexual orientation and gender identity. However, because of the small numbers, only the total number of relevant projects in each category, and not the proportions, is presented in the table below. Notably, no projects looked at children involved in the foster care system. Low socioeconomic status (SES) was associated with the largest number of projects. These numbers are minimums because other projects may have included members of these groups without specifically identifying them in project descriptions.

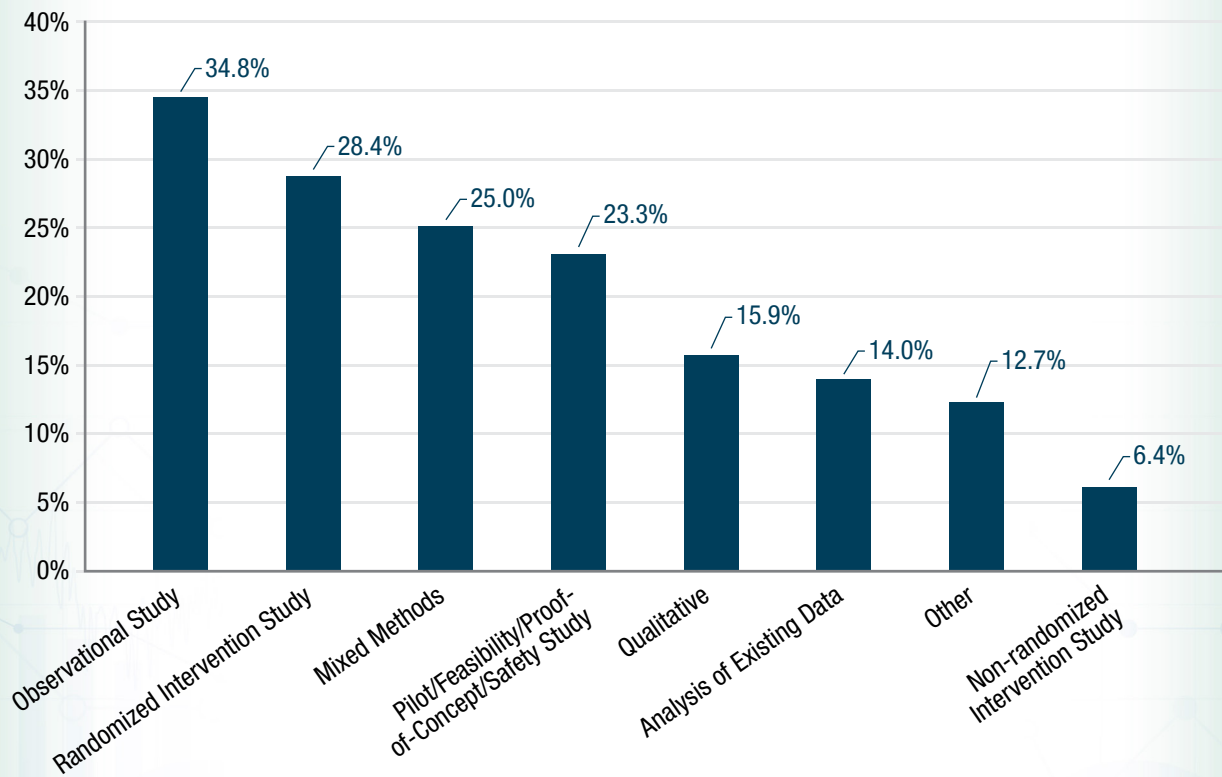
**Table 1. FY 2019, Other Categories of Interest in the SGM Portfolio**

Other Research Categories	Number of Projects
People identified as low socioeconomic status	18
People who live in rural areas	11
People experiencing homelessness	9
People involved with the criminal justice system	9
People living with disabilities	3
People who have served in the U.S. Armed Forces	3
People who have immigrated from other countries	2

# Proportion of SGM Projects, by Research Methods

Each of the projects was curated for the research methods used in the study. Nearly two-thirds of the projects (63.2%) were either observational studies (34.8%) or randomized interventions (28.4%). Fully one quarter of projects (25.0%) incorporated mixed methods, whereas more than one in five (23.3%) were pilot/feasibility/proof-of-concept/safety studies. More than one in seven projects (15.9%) applied qualitative measures, whereas 14.0% involved analysis of existing data. More than one in 10 (12.7%) used some other type of research method. Additionally, 6.4% of the projects were non-randomized intervention studies. “Other” was a relatively broad category because a number of training and center-type grants that do not focus on conducting research were included. The same project can appear in more than one category; therefore, the total percentage across categories exceeds 100%.

**Figure 18. FY 2019, Proportion of SGM Projects, by Research Methods (N = 408)**

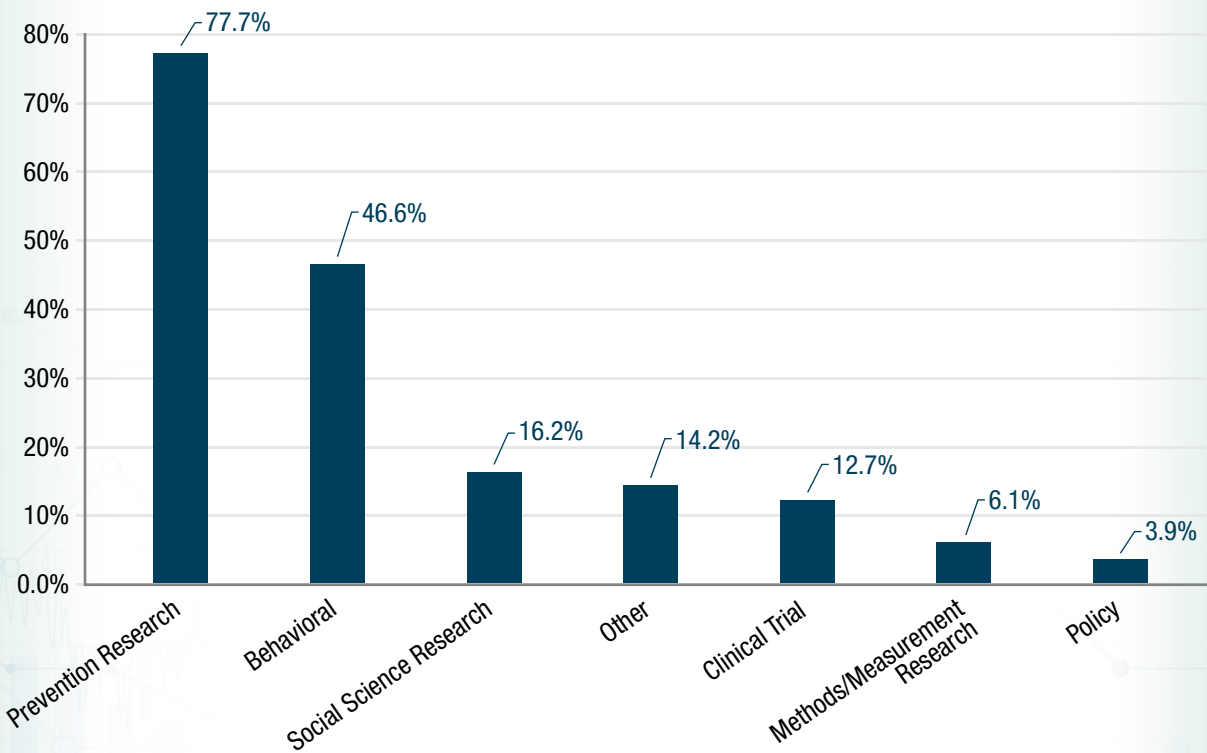




# Proportion of SGM Projects, by Type of Study

Each of the projects also was curated according to the type of study. Seven study categories were coded, with the majority of projects identified as prevention research (77.7%). Behavioral research was conducted in nearly half of all projects (46.6%). Social science projects comprised more than one in seven projects (16.2%). Smaller proportions of the projects in the portfolio fell under the categories of clinical trials (12.7%), methods/measurement research (6.1%), and policy research (3.9%). Other types of studies—those that did not fall within the existing categories—accounted for 14.2%. The same project can appear in more than one category; therefore, the total percentage across categories exceeds 100%.

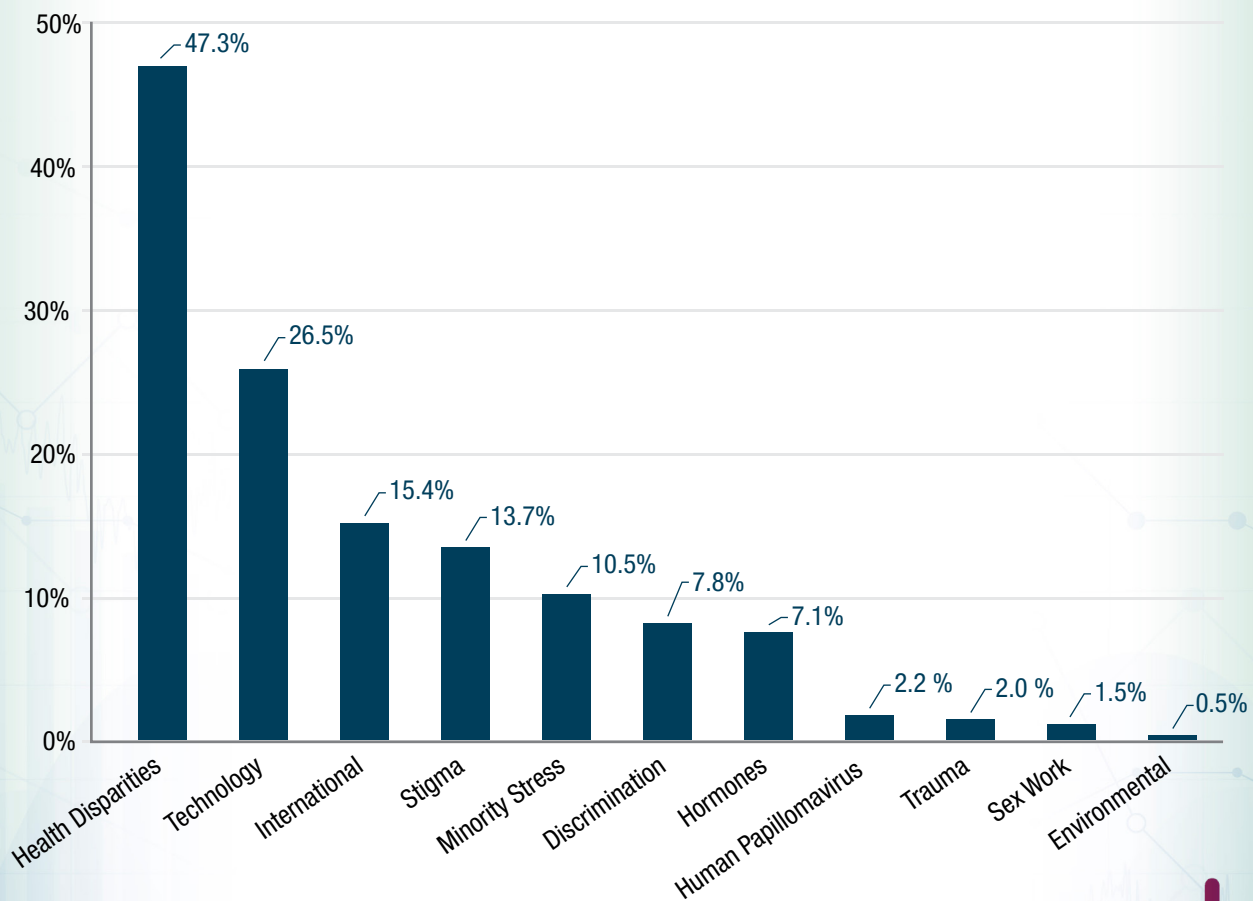
**Figure 19. FY 2019, Proportion of SGM Projects, by Type of Study (N = 408)**



# Proportion of SGM Projects, by Special Topic Category

A number of other topics of interest to SGM health research did not fit into the other groupings previously described but were curated. Nearly half of all projects were categorized as health disparities research (47.3%). More than one in four projects (26.5%) had a technological component, such as the use of a website, mobile phone application, or computer to deliver an intervention. Often, these studies involved health information, medication tracking and reminders, or social networks. Nearly one in six projects (15.4%) had an international component, taking place or concerning a population outside the United States. Stigma, minority stress, and discrimination pertained to 13.7%, 10.5%, and 7.8% of the projects, respectively. More than one in 20 projects (7.1%) pertained to hormones, their use, their production, or their effects on development. Smaller percentages of projects pertained to human papillomavirus (2.2%), trauma (2.0%), sex work (1.5%), or the environment (0.5%). Note that all projects were curated, but not all projects included a special category of interest.

**Figure 20. FY 2019, Proportion of SGM Projects, by Special Topic Category (N = 408)**



# CONCLUSION

The number of projects in the NIH SGM portfolio has increased gradually since 2015 (Figure 2). This is true for the total number of projects, as well as for projects that are not related to HIV/AIDS (Figure 5). The increased investment in non-HIV/AIDS-related projects over the past 5 years has contributed to the broadening of the SGM portfolio at the agency. Additionally, the total number of training and career-related awards in FY 2019 increased by 46.9% over FY 2015 (Figure 9), indicating the NIH's sustained commitment to supporting SGM research and researchers.

Notably, the majority of projects in FY 2019, for the second year in a row, included one of three groups: MSM, transgender, and bisexual people (Figure 16). More than one in 20 projects (5.9%) pertained to DSD or intersex populations. The curation conducted this year indicates that the SGM portfolio is diverse. An estimated one in five projects involved African Americans (Figure 15); the projects spanned the life course, with work on aging being the sixth largest research, condition, or disease category (Figure 17). Additionally, the curation identified such groups as people who live in rural areas, people with disabilities, and people who have served in the U.S. armed forces, among other diverse groups—all of whom are the subject of health research in projects in the FY 2019 SGM portfolio (Table 1). The topics were broad ranging and timely, such as environmental health and projects related to opioid use.

As noted previously, four states have SGM health research funded by the NIH for the first time in FY 2019 (Figure 11). Although only 2.2% of FY 2019 projects were administered by institutions outside the United States (Figure 12), more than one in seven (15.4%) had an international component. To reap the full benefits of diversity, national and international expansion ideally must ensure the inclusion of diverse populations at all levels, creating spaces for these groups to lead, design, and implement science that will benefit their communities.

Most of the projects in the portfolio (77.7%) are related to prevention. More than one in 20 projects (6.1%) included research to develop or improve methods and measurement for SGM populations, an increase from 19 to 25 projects (31.6%) over FY 2018 figures.

Several populations are notably absent from the FY 2019 portfolio, including children involved in the child welfare system, Two-Spirit, and American Indians and Alaska Natives. Measurement and inclusion in research of the full spectrum of populations that identify as SGM is crucial for understanding and addressing the needs, disparities, and outcomes of vulnerable populations who remain underrepresented, understudied, and underreported in NIH-funded research. This dynamic reminds us that much work always needs to be done to focus on and describe the full spectrum of research and groups of people that fall within the SGM umbrella.

# APPENDIX I:

## CURATION VARIABLES

### Population

Bisexual  
Cisgender  
Gay  
Gender Identity Other  
Lesbian  
LGBT, not specified  
MSM  
Other Named Sexual Orientation  
Transgender  
Unspecified Sexual Orientation

### Race/Ethnicity

African American  
Asian  
Native Hawaiian or Other Pacific Islander  
Hispanic Ethnicity  
Multiple Races

### Sex

Male  
Female  
DSD and Intersex

### Age

Children (12 and under)  
Adolescents (13 to 17)  
Young Adult (18 to 35)  
Adult (35 to 55)  
Older Adult (56 to 64)  
Elderly (65 and above)

### Other Research Categories

People identified as low socioeconomic status  
People who live in rural areas  
People experiencing homelessness

People involved with the criminal justice system  
People living with disabilities  
People who have served in the U.S. Armed Forces  
People who have immigrated from other countries

### Research Methods

Analysis of Existing Data  
Non-Randomized Intervention Study  
Observational Study  
Pilot/Feasibility/Proof-of-Concept/Safety Study  
Randomized Intervention Study  
Qualitative Measures  
Methods Research  
Mixed Methods  
Other Research Method/s

### Type of Study

Clinical Trial  
Prevention Research  
Methods/Measurement Research  
Behavioral  
Social Science Research  
Policy  
Other Type of Study

### Other

Environmental  
Sex Work  
Hormones  
Trauma  
Human Papillomavirus (HPV)  
Health Disparities  
International  
Technology  
Stigma  
Minority Stress  
Discrimination

# APPENDIX II:

## NIH INSTITUTES, CENTERS, AND OFFICES

### NIH 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)  
*Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD)  
National Institute on Drug Abuse (NIDA)  
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 of Environmental Health Sciences (NIEHS)  
National Institute of General Medical Sciences (NIGMS)\*  
National Institute of Mental Health (NIMH)  
National Institute on Minority Health and Health Disparities (NIMHD)  
National Institute of Neurological Disorders and Stroke (NINDS)  
National Institute of Nursing Research (NINR)  
National Library of Medicine (NLM)

### NIH Centers

Clinical Center (CC)<sup>†</sup>  
Center for Information Technology (CIT)<sup>†</sup>  
Center for Scientific Review (CSR)<sup>†</sup>  
Fogarty International Center (FIC)\*  
National Center for Advancing Translational Sciences (NCATS)\*  
National Center for Complementary and Integrative Health (NCCIH)

### NIH Offices

Office of the Director (OD)

\* Indicates no intramural program.

<sup>†</sup> Indicates no grant-making authority.

# APPENDIX III:

## SGM-RELATED PROJECTS BY ICO, FY 2015–2019

ICO	2015	2016	2017	2018	2019
NIMH	77	85	90	92	98
NIDA	71	74	77	67	62
NICHD	40	49	63	62	55
NIAID	42	49	55	54	52
NIMHD	16	16	27	35	39
NIAAA	8	16	18	22	28
NCI	13	13	18	18	17
NIA	4	7	5	7	12
NHLBI	1	2	2	2	11
NIDDK	7	6	6	6	9
NINR	5	7	6	4	9
FIC	4	2	2	4	7
OD	3	2	3	3	3
NHGRI	0	0	0	0	2
NIGMS	8	4	3	3	1
NIEHS	1	1	1	2	1
NIDCD	0	0	1	1	1
NLM	0	0	1	1	1
NIBIB	0	1	1	0	0
NINDS	1	0	0	0	0
NCATS	0	0	0	1	0
<b>TOTAL</b>	<b>301</b>	<b>334</b>	<b>379</b>	<b>384</b>	<b>408</b>

# APPENDIX IV:

## SGM FUNDING, FY 2015–2019

INSTITUTE	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
FIC	\$730,186	\$437,569	\$461,067	\$655,891	\$1,178,950
NCATS	—	—	—	\$8,757,478	—
NCI	\$9,991,090	\$8,279,332	\$8,464,477	\$7,905,839	\$13,909,205
NHGRI	—	—	—	—	\$354,635
NHLBI	\$811,954	\$932,741	\$892,597	\$1,284,043	\$8,146,375
NIA	\$1,069,939	\$2,792,329	\$2,848,625	\$3,513,115	\$7,800,079
NIAAA	\$2,678,842	\$5,020,318	\$4,640,697	\$6,353,760	\$7,718,038
NIAID	\$61,640,360	\$59,043,639	\$99,922,189	\$156,276,560	\$97,513,633
NIBIB	—	\$221,250	\$265,500	—	—
NICHD	\$13,178,918	\$18,057,038	\$29,602,401	\$27,169,305	\$24,490,244
NIDA	\$29,886,832	\$32,278,080	\$30,099,799	\$29,762,873	\$25,845,455
NIDCD	—	—	\$97,802	\$30,257	\$30,749
NIDDK	\$1,898,377	\$1,415,141	\$1,540,040	\$1,776,864	\$2,177,743
NIEHS	\$182,920	\$2,015,207	\$2,127,583	\$2,568,759	\$2,088,356
NIGMS	\$6,041,087	\$4,465,457	\$4,919,606	\$4,906,869	\$640,596
NIMH	\$24,501,620	\$26,931,099	\$30,643,798	\$33,429,012	\$38,088,241
NIMHD	\$6,467,439	\$10,201,837	\$14,092,073	\$17,219,873	\$18,588,261
NINDS	\$178,378	—	—	—	—
NINR	\$1,469,185	\$2,116,894	\$2,128,327	\$1,655,638	\$2,991,475
NLM	—	—	\$219,102	\$173,778	\$134,732
OD	\$570,073	\$781,862	\$1,298,752	\$655,988	\$1,473,786
<b>TOTAL</b>	<b>\$161,297,200</b>	<b>\$174,989,793</b>	<b>\$234,264,435</b>	<b>\$304,095,902</b>	<b>\$253,170,553</b>

# APPENDIX V:

## NON-HIV/AIDS SGM PROJECTS BY ICO, FY 2015–2019

ICO	2015	2016	2017	2018	2019
NICHD	27	28	39	42	34
NIMHD	6	8	16	24	23
NIDA	8	16	18	16	19
NIAAA	2	4	7	11	16
NCI	9	7	9	11	10
NIMH	2	5	9	9	10
NIDDK	7	6	6	6	9
NIA	3	5	3	4	9
NIAID	3	2	4	4	4
OD	3	2	3	3	3
NHLBI	1	2	2	2	3
NINR	0	0	1	2	3
NIGMS	7	3	3	3	1
NIEHS	1	1	1	2	1
NIDCD	0	0	1	1	1
NLM	0	0	1	1	1
NCATS	0	0	0	1	0
NIBIB	0	1	1	0	0
NINDS	1	0	0	0	0
<b>TOTAL</b>	<b>80</b>	<b>90</b>	<b>124</b>	<b>142</b>	<b>147</b>



# APPENDIX VI:

## FUNDING BY DISEASE AREA/HEALTH CONDITIONS, FY 2019

DISEASE AREA/HEALTH CONDITION	ALL SGM FUNDING
HIV/AIDS	\$191,760,981
Substance Abuse (Use)	\$109,359,363
Mental Health	\$72,265,103
Sexually Transmitted Infections	\$28,202,310
Aging	\$26,180,038
Cancer	\$26,160,449
Alcoholism, Alcohol Use, and Health	\$12,175,063
Contraception/Reproduction	\$10,200,009
Dementia (including Alzheimer's disease)	\$6,461,605
Depression	\$5,789,770
Suicide	\$3,109,910
Eating Disorders	\$939,097
Obesity	\$782,679
Teenage Pregnancy	\$508,109
Opioids	\$444,441
Tobacco, Tobacco Smoke, and Health	\$212,165



**National Institutes of Health**  
*Sexual & Gender Minority Research Office*

