

CHANGING THE CULTURE TO END SEXUAL HARASSMENT

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Working Group
report to the
Advisory
Committee to
the NIH
Director (ACD)

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II. Acknowledgements

The co-chairs are grateful for the contributions of the Working Group members for their dedication and passion in developing actionable recommendations to end the pervasive culture of sexual harassment in the biomedical sciences. The Working Group appreciates the information and thoughtful discussions brought to the Working Group by each of the invited speakers (see: [Appendix D](#)). The Working Group is especially grateful for the brave women who participated in the Listening Session (see: [Section V](#)). The testimonies from the Listening Session participants greatly influenced the trajectory of the Working Group. Finally, we acknowledge the considerable effort devoted to this Working Group by NIH Office of Science Policy staff, with particular gratitude to the Working Group's Executive Secretary, Dr. Jennifer Plank-Bazinet, for coordinating the Working Group's activities and preparing this report.

III. Introduction

Sexual harassment is a serious, pervasive problem that harms the well-being and careers of researchers and undermines our society's investment in science. As the largest public funder of biomedical research, the National Institutes of Health (NIH) is uniquely positioned to transform the culture of science to prevent sexual harassment and mitigate its detrimental impacts. Marked failures of Title VII of the Civil Rights Act of 1964 and Title IX of the Education Act of 1972 are well documented in the National Academies of Sciences, Engineering, and Medicine (NASEM) report, *Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*, and demonstrate the urgent need to develop new partnerships to address this challenging problem.¹ In addition to determining the direction of biomedical research, NIH has the broad influence to set the tone of scientific endeavor and, thus, is in a unique position to lead the solutions. NIH has an obligation to the scientific community to ensure that immediate and long-term changes are made to prevent sexual harassment. As NIH leadership said in their [February 2019 statement](#), "We can do better. We must do better."

The best path to eliminating sexual harassment is through fostering transparency, accountability, integrity, equity, and justice in the research environment. We must start by eliminating perpetrators but move on to remediating past injustices and systemic failures, improving accountability, and establishing transparent, accountable processes for reporting. This systemic problem will also require long-term change in the culture of the scientific enterprise and a fundamental restructuring of the research environment. Trainees (students, postdoctoral fellows, medical residents, and clinical fellows) and foreign scientists deserve special attention due to power differentials, career-stage vulnerability, and residency considerations.

Improving the culture and climate of research must rest on a foundation of trust and partnership between NIH and NIH-funded institutions. NIH holds the ultimate incentives of funding and influence by the way it evaluates and funds programs of research and ensures a safe and inclusive scientific enterprise. Research institutions set the local culture and oversee individual professional behavior. Person-focused efforts addressing the responsibilities of the perpetrator and the consequences to the target are central to addressing the problem of professional misconduct and sexual harassment, the investigation and adjudication of claims, and the restorative justice needed to repair harms. A singular approach to changing culture and climate of research everywhere is infeasible and will not address the fundamental problem. Policies and practices must be developed and implemented at the levels of the individual institutions and be seen as fair by all stakeholders.

The creation of a culture that eliminates sexual harassment demands the concerted efforts of NIH leadership, research institutions, and every individual within the biomedical ecosystem. Sexual harassment is a form of professional misconduct, and includes gender harassment, unwanted sexual attention (verbal or physical sexual advances, which can include assault), and sexual coercion. Sexual harassment may emerge as a single incident, or as an accumulation of many minor transgressions over time. These minor transgressions may appear innocuous to a bystander but are actually very harmful to the target of harassment. Mitigation and elimination of sexual harassment require action at each of three levels: the federal funding agency, the research institution, and individual behavior.

Every researcher, trainee, and staff member is entitled to a safe and inclusive research environment, characterized by diversity of thought and a workforce that reflects the population. Inequities in higher

education are pervasive and are based on gender, sexuality, race, ethnicity, immigration status, age, disability, and socioeconomic status. We are recommending solutions to help eliminate these inequalities. NIH, in partnership with NIH-funded institutions, should strive to change the culture to end sexual harassment. Implementation of these recommendations will advance a more vibrant, equitable, and safe research enterprise.

IV. Background and Key Definitions

NASEM conducted a comprehensive evaluation of prevalence of sexual harassment and its impacts on higher education.¹ A 2003 meta-analysis also indicated that 58 percent of women in academia faced sexually harassing behavior.² The prevalence of sexual harassment in academia has detrimental effects on the careers, well-being, and health of the targets of sexual harassment, representing an overall loss of talent in the academic workforce.

The NASEM study also identified a number of risk factors for sexual harassment ([Text Box 1](#)). By far, the most prevalent risk factor for sexual harassment is related to institutional culture or climate, specifically a perceived tolerance for sexual harassment. This tolerance can manifest in risks to individuals who report sexual harassment, lack of sanctions against offenders, and/or the perception that reporting sexual harassment will not be taken seriously. Given NASEM's thorough evaluation of sexual harassment in academia, the Working Group did not conduct another landscape analysis. Rather, the Working Group leveraged the work conducted by NASEM and others to develop actionable recommendations to address the culture of sexual harassment in biomedical science.

The research presented to the Working Group and in the NASEM report points to the imperative need for system-wide change to ensure the safety and wellbeing of trainees and employees in the research environment. Sexual harassment presents a significant health and safety issue in universities, research institutions, and other workplaces. Considerable research demonstrates that sexual harassment, and the psychological abuse and trauma that accompany the harassment, compromises the mental, emotion, and physical health of those targeted. Graduate students of all genders experience posttraumatic symptoms after being targeted by sexual harassment.³ Across academic disciplines, women who have experienced sexual harassment report significantly worse mental and physical health outcomes.^{1,4}

Institutions bear responsibility for these adverse health outcomes that disproportionately impact specific groups of people within higher education and the broader scientific community. Sexual harassment not only compromises the psychological well-being of women,⁵⁻⁹ gender also interacts with other systems of inequality. For example, race and sexual harassment interact to create specific health consequences for women of color.¹⁰ Moreover, gender harassment and sexual harassment threaten the psychological health and well-being of gender and sexual minorities, who report significantly higher rates of both harassment and the resulting negative psychological outcomes in the workplace and in higher education.^{9,11,12}

RISK FACTORS

Text Box 1: Risk Factors for Sexual Harassment in Academic Science, Engineering, and Medicine Programs:

1. Perceived tolerance for sexual harassment
2. Male-dominated work settings
3. Hierarchical power structures
4. Increased focus on symbolic compliance with Title VII and Title IX
5. Uninformed campus leadership

These health and personal costs not only result from institutional failures to protect their students and employees; unresponsive institutions actually exacerbate these adverse health outcomes by inflicting further psychological trauma and stress, as identified by psychologists Carly Smith and Jennifer Freyd in their theory of institutional betrayal.^{7,8,13} The



Figure 1: A schematic depicting the Working Group’s conceptualization of sexual harassment within the framework of professional misconduct. Please note: this schematic includes a non-exhaustive list of behaviors constituting professional misconduct.

effects of psychological abuse, including an altered sense of reality and “betrayal blindness” in which the involved parties avoid acknowledging injustice,¹⁴ can further complicate the organizational and institutional response to sexual harassment. Two targets of sexual harassment submitted to the Working Group narratives detailing the effects of psychological abuse and institutional betrayal (See: [Appendices B and C](#)). A standardized institutional response can cause additional psychological trauma to the target. In some cases, targets of psychological abuse may support or have conflicted feelings about the perpetrator, which makes investigations even more difficult and nuanced, requiring a target-centered, restorative justice approach (See: [Theme 2](#)). Moreover, targets often experience what psychoanalyst Robin Stern calls the “gaslight effect,” a form of emotional abuse and manipulation in which perpetrators and other involved parties make the target question their own feelings about and understanding of what happened.¹⁵ Gaslighting is made possible by the cultural association of femininity with irrationality and the structural conditions of gender inequality, which create additional vulnerabilities according to race, nationality, and sexuality.¹⁶ As sociologist Paige Sweet argues, “Policies to protect against gaslighting should therefore focus on increasing women’s institutional credibility and cultural and economic capital.”¹⁶

The Working Group recognizes that sexual harassment is part of a broader spectrum of behaviors encompassing professional misconduct, resulting in the loss of scientific talent and promoting research environments that are neither safe nor inclusive. For the purposes of this report, the Working Group has defined the following terms and their relationship to each other, building on the work of NASEM and [NIH’s internal policies](#) (See: [Fig. 1](#)).

Research Misconduct: The Working Group notes that the term “research misconduct” is a term of art used in federal regulation, based on a U.S. government-wide adoption of a uniform definition. This is limited to fabrication of data or results, falsification of research, and plagiarism. This is differentiated from the term “professional misconduct” as defined below.

Professional Misconduct: The Working Group defined professional misconduct as including a range of actions and behaviors that negatively affect the research environment, the people in the research environment, and science itself. This includes – but is not necessarily limited to – sexual harassment, harassment, inappropriate behaviors, and research misconduct. Employers, scientific and professional societies, and/or funding agencies might provide additional expectations of professional behaviors and actions in their codes of conduct. Professional misconduct includes more behaviors than those listed here; however, for simplicity only research misconduct and behaviors that can be related to sexual harassment are included in this report. Furthermore, clear processes already exist for the investigation and adjudication of research misconduct. Therefore, for the purposes of this report, recommendations for addressing *professional* misconduct are not intended to be duplicative or in conflict with the process for adjudicating *research* misconduct, but rather to encourage NIH and research institutions to broaden the standards of appropriate, professional behavior.

Harassment and Inappropriate Behavior: Sexual harassment is one form of harassment which, in turn, is one of many inappropriate behaviors. The NIH has developed definitions for harassment and inappropriate behavior as part of its new [Policy on Preventing and Addressing Harassment and Inappropriate Conduct](#) which collectively represent “any comments or conduct that disparages or demonstrates hostility or aversion towards any person that could reasonably be perceived as disruptive, disrespectful, offensive, or inappropriate in the workplace.” When the Working Group uses the terms “harassment” or “inappropriate behavior”, we refer to this NIH definition.

Sexual Harassment: While many workplace policies (including that of NIH in its context as an employer and research institution) limit the definition of sexual harassment to the form of harassment that violates Title VII of the Civil Rights Act of 1964 or Title IX of the Education Act of 1972, the Working Group strongly supports the NASEM’s expanded definition, moving beyond the narrowly defined legal categories of sexual harassment to encompass gender-discriminatory behaviors which “can result in the same level of negative outcomes”. The NASEM report defined sexual harassment as three broad categories: sexual coercion, which is when favorable treatment is predicated on sexual activity; unwanted sexual attention, such as unwelcome verbal or physical advances, including assault; and gender harassment, which includes crude behavior and sexist hostility. It is important to note, as evidenced in the NASEM report, that this latter category of gender harassment is pervasive and most commonly experienced by women in the sciences.

Sexual Assault: A variety of non-consensual sexual acts, including any form of unwanted sexual contact, sexual coercion, attempted and completed rape.¹⁷

Psychological Abuse: A form of behavior that arises when a target is exposed to inappropriate behaviors that can result in emotional trauma. Psychological abuse is pervasive, often more common than physical and sexual violence, and is viewed by many targets as the most harmful form of abuse.^{18,19}

Psychological Safety: A characterization of an organization that promotes the safety and well-being of all members by fostering a working environment in which all members feel safe to speak up and express a sense of trust and respect for one another.²⁰

Institutional Betrayal: When an institution perpetuates wrongdoing by failing to act or prevent wrongdoing committed within the institution upon an individual or group of individuals dependent on that institution, as in the case of sexual harassment.^{7,8}

Targets and Affected Individuals: Throughout the report, the term “target” refers to an individual who has been subject to harassment, including sexual harassment. A number of other individuals, including but not limited to other trainees and research staff in the same working environment as well as witnesses to the harassment, may be adversely affected by sexual harassment. Therefore, this report considers the ramifications for all parties adversely affected by sexual harassment.

V. Working Group Charge and Activities

Working Group Charge

In January 2019, NIH Director, Francis S. Collins, M.D., Ph.D., charged the Working Group with the following:

“As stewards of the biomedical research workforce, NIH is deeply concerned about accounts of sexual harassment in scientific research settings^{1,21}. Sexual harassment is inexcusable, as are workplace cultures that promote harassment through gender discrimination. Pervasive harassment creates obstacles for women - who are particularly more likely to be subject to sexual harassment – at all stages of their scientific career.

A recent National Academies report¹, which NIH funded along with other government science agencies, describes three forms of harassment: 1) Unwanted sexual attention (verbal or physical sexual advances), 2) Sexual coercion (when favorable treatment is conditioned on sexual activity), and 3) Gender harassment (sexist hostility, crude behavior). The report concludes there is no evidence that current policies, procedures, and approaches, have significantly reduced sexual harassment in academic sciences, engineering, and medicine. As stated in the report,

...the cumulative effect of sexual harassment is a significant and costly loss of talent in academic science, engineering, and medicine, which has consequences for advancing the nation’s economic and social well-being and its overall public health.

NIH has recently developed resources that comprehensively outline policies, practices, and initiatives to address sexual harassment at NIH, NIH-funded institutions, and anywhere where NIH research activities take place. NIH has also made publicly available the policies developed by the NIH Anti-Sexual Harassment Steering Committee, and new initiatives for NIH staff, which include a new centralized process for managing reports of harassment, and administration of a survey this winter to all NIH staff, including contractors, to assess NIH workplace climate and harassment. As an additional step, the NIH Director has concluded that a high-level Working Group of the Advisory Committee to the NIH Director is essential to review the plans and recommend further action.

This Working Group is charged with:

- *Assessing the current state of sexual harassment allegation investigation, reporting, remediation, and disciplinary procedures at NIH-funded organizations;*
- *Advising on oversight, accountability, and reporting measures for awardee institutions, that will encourage a reduction in, and prevention of, sexual harassment in biomedical research laboratories;*
- *Proposing actions and policies that would promote a safe and inclusive culture at NIH-supported research conferences;*
- *Suggesting system-wide changes to culture and climate to prevent harassment and gender discrimination through diffusion of hierarchical environments by mentoring networks and committee-based advisement, and strong and diverse leadership;*
- *Developing strategies for encouraging research on anti-harassment policies, procedures, and training; and measures and evaluations of their effectiveness."*

Working Group Activities

Members of the Working Group included experts in addressing sexual harassment from a number of different perspectives, including but not limited to, the Federal government, university administrators, faculty, and trainees, as well as targets and survivors of misconduct in the academic environment. The Working Group members leveraged their expertise, heard from outside speakers (See: [Appendix D](#)), and reviewed selected publications to develop its recommendations. The Working Group met in-person on four occasions (February 5-6, 2019; May 17, 2019; August 19-20, 2019; and October 7-8, 2019). A summary of the in-person meetings can be found in [Appendix E](#), and agendas for the meetings can be found in [Appendix F](#). The full Working Group also met by teleconference four times in 2019, generally to discuss logistics for upcoming meetings. Additionally, smaller subgroups of the Working Group met numerous times to discuss specific projects, such as the listening session (see below), or to develop and revise report recommendations. The Working Group also met once by videoconference and once by telephone to discuss finalizing this report.

Listening Sessions

On May 16, 2019, the Working Group hosted private and public listening sessions with targets of sexual harassment. The purpose of the listening sessions was to provide an opportunity for the Working Group to receive feedback from invited guests and public attendees in order to: 1) learn about institutional processes and procedures and the culture underlying sexual harassment; and 2) give targets of sexual harassment and their advocates an opportunity to share thoughts and experiences to the Working Group, to influence its trajectory. [Videocast of the public listening session](#) can be found on the NIH Videocast website. Key messages from the listening sessions included:

- How institutions have interpreted Title IX has failed many targets of sexual harassment by protecting institutions, and not the affected individuals. Current practices in which institutions put their own interests (i.e., liability, reputation, and grant funding) above the targets' interests can be detrimental to the targets of sexual harassment;
- Retaliation against those who speak about harassment is common;
- Targets of sexual harassment often suffer twice: first by the perpetrators and second by the institutions and processes;

- There is an urgent need for restorative justice for targets of sexual harassment; and
- By not assessing how institutions may be enabling perpetrators and continuing to fund them, Federal agencies have been perpetuating the problem.

The Working Group thanks the women who participated in the listening session, as well as audience members who were willing to share their experiences with harassment. We understand that this was a difficult event, and the courage of the participants is commendable.

VI. Themes and Recommendations

Changing the culture to end sexual harassment requires efforts at every level of the research enterprise. Therefore, the Working Group developed recommendations for NIH, NIH-funded institutions, and scientific and professional societies.

Theme 1: Increase Transparency and Accountability in Reporting of Professional Misconduct, especially Sexual Harassment

The NASEM report documented the high incidence of sexual harassment in the sciences and its cumulative damage to research integrity.¹ As a result, NASEM recommended that sexual harassment be treated in a manner similar to that with which research misconduct is addressed with regard to the effects on the integrity of research.

Research misconduct is a serious violation of scientific norms and results in a great waste of taxpayer dollars. A robust system is in place through a partnership of the Department of Health and Human Services (HHS), specifically their Office of Research Integrity (ORI), and NIH to identify, investigate, and penalize investigators found to have engaged in research misconduct. In addition, because institutions know that NIH-funded dollars are at stake, there are robust educational mechanisms in place at many institutions to teach researchers best research practices to help mitigate any potential research misconduct issues before they arise.

Recommendation 1.1: NIH should create a parallel process to treat professional misconduct, including sexual harassment, as seriously as research misconduct.

NIH should view sexual harassment as a type of professional misconduct and address it in a manner as seriously as research misconduct. Mechanisms for reporting, investigating, and adjudicating professional misconduct parallel to those in place for research misconduct are needed. The precise mechanism may be different because of legal or regulatory restrictions, but finding a way forward is imperative. These recommendations emphasize the importance of enhanced two-way communication between NIH and grantee institutions to ensure that harassment is regarded and addressed in a comprehensive manner and with the same level of seriousness as research misconduct.

Recommendation 1.1a: NIH should immediately establish a process to report findings of professional misconduct, including sexual harassment, by any key personnel on an active NIH grant within two weeks of the issuance of the findings.

In the cases where an institutional investigation has concluded that a Principal Investigator (PI) or other key personnel has violated a professional code of conduct or had a finding of sexual harassment, the institution should be required to report this finding to the NIH within a period of two weeks of the issuance of the finding.

Recommendation 1.1b: NIH should amend its current process of reporting a change in PI status on an active NIH grant in cases where professional misconduct, including sexual harassment, is any part of the reason for the change.

The above [Recommendation 1.1a](#) was in reference to institutional *findings* of professional misconduct after an investigation was completed. However, in some circumstances, PIs are put on leave prior to any official findings. For example, the institution may place a PI and/or other key personnel on administrative leave during an investigation, or after an investigation, while the finding is being reviewed and possible penalties are being considered. The current [NIH Grants Policy Statement](#), directs grantee institutions to contact the NIH Office of Extramural Research (OER) to report the change in PI and/or key personnel status, such as a paid or unpaid leave of absence. However, there is currently no requirement for notification of the *reason* for the change in PI status. We recommend that the current procedure should be amended for cases in which the change in PI status is related to professional misconduct, including sexual harassment, to require the institution to provide to NIH the reason for the change in status. Confidentiality should be maintained to the maximum extent possible. The reason for the change should be explicitly included in the notification to the OER and should occur within 2 weeks of the change in PI status. Further, in this circumstance of change in PI related to professional misconduct, the current procedure of requesting that the PI on the grant sign-off on the change should be omitted.

Recommendation 1.1c: NIH should require that grantee institutions consult with NIH to determine disposition of grant oversight when there is a change in PI and/or key personnel status that involves professional misconduct, including sexual harassment.

In addition to changing the reporting procedure for a change in status in cases of professional misconduct, NIH should ensure transition support for researchers on a funded grant when a faculty member is removed as the PI or their employment terminated due to a finding of harassment. Removal of a PI can unintentionally penalize the target of that harassment and other affected members of the lab if they abruptly lose support for their work. To avoid this outcome, NIH, working together with the institution, should identify another PI with no record of misconduct to take over the grant, so that the trainees and staff can continue their work with minimal interruption. Targets of harassment should be part of the process of identifying a suitable replacement PI. If no appropriate alternate PI is identified, or if the affected individuals prefer to change labs, departments, or institutions, NIH should make bridge funding available (See: [Theme 2](#)).

Recommendation 1.1d: NIH should require that NIH-funded institutions develop or maintain a professional code of conduct as a condition of award for a grant or contract.

If institutions do not have an existing code of conduct, they should consider following [the NIH Policy on Preventing and Addressing Harassment and Inappropriate Conduct](#).

Recommendations for NIH-funded Institutions

- Put in place clear procedures for reporting and adjudicating professional misconduct, including sexual harassment, that are parallel to the procedures for research misconduct. The reporting procedures and the subsequent implementation flow chart (i.e., yes-no decision tree flow chart outlining each step) for adjudication at the institution should be clearly outlined on a publicly-available website.
- Establish an office for professional misconduct, in addition to, and in parallel to, the office of research misconduct. This office should inform and educate faculty, staff, and students about issues

related to professional misconduct. Education could include what constitutes misconduct, how to recognize it, sessions on bystander intervention, and how to report.

- Designate a specific administrator at the institution to communicate with NIH about changes in PI status that are related to professional misconduct, including sexual harassment.
 - Currently, procedures involve the grants administration official as the contact person for reporting a change in PI status. However, this official might not be informed about confidential matters being investigated at the institution. In order to have clear communication in conversations involving a change in status due to an ongoing investigation, a designated institutional official, who is trained in issues of sexual harassment investigations and has knowledge of the institutional investigation, should be designated as the point of contact.
- Establish a policy regarding personal relationships between individuals in inherently unequal positions, where one party has the real or perceived ability to influence the career trajectory of the other. If such a policy does not exist, one should be created and could be modeled on the [NIH Policy Statement: Personal Relationships in the Workplace](#). There is precedent for similar policies at NIH-funded institutions. A [recent survey of 150 human resources executives](#) indicated that almost 80 percent of organizations prohibit relationships between a supervisor and direct report. The Working Group recommends development of broader policies, not limited to supervisors and direct reports, but rather, including any personal relationship between individuals in inherently unequal positions.
- Develop and maintain a professional code of conduct that addresses inappropriate behaviors in addition to harassment or sexual harassment. Inappropriate behaviors are broader than the legal definitions of both harassment and sexual harassment and includes conduct that disparages or demonstrates hostility or aversion towards any person (See: [Fig. 1](#)).

Recommendation 1.2: NIH should establish a hotline and a web-based form for reporting sexual harassment and inappropriate behavior by any PI or key personnel funded by NIH.

The hotline and web-based form should allow both anonymous and non-anonymous reporting. Such a hotline exists for NIH employees, contractors, trainees, and volunteers, and it allows anyone with knowledge of instances of sexual harassment at NIH to report it, including witnesses to harassment. A similar mechanism that allows individuals from NIH-funded institutions to contact NIH would help standardize reporting which may be inconsistent between different grantee institutions.

Many targets of sexual harassment do not report events or perpetrators due to fear of retaliation or lack of confidence in the effectiveness of institutional responses. Providing all institutional staff and trainees with a direct reporting link between them and NIH could bridge this gap. This approach will both provide targets with a direct reporting mechanism and reinforce NIH's commitment to ensuring that all funded researchers, trainees, and staff have access to a safe, harassment-free workplace. We recommend that this link is prominently included on multiple NIH websites and systems. An example of a location for this link to reside is eRA Commons. eRA Commons is an online interface where grant applicants, grantees, trainees, and federal staff at NIH can access and share administrative information relating to research grants. Although not all scientific staff are supported by NIH grants, many institutions require eRA Commons accounts for non-NIH grants as well. Providing a link in eRA Commons is not anonymous, thus, additional approaches for publicizing the existing anonymous reporting system to NIH will create

multiple opportunities for institutional employees and trainees share with NIH harassment-related concerns associated with NIH-funded research. Other locations for reporting could be considered if they would be more fully anonymous than the eRA Commons can be.

- NIH should create a set of web resources accessible from multiple locations, including eRA Commons, that provide the following:
 - Clear definitions of professional misconduct, inappropriate behaviors, harassment, and sexual harassment.
 - A list of resources for individuals reporting harassment; [some resources are already published](#).
 - A hotline number, email address and/or link for faculty, staff, and trainees to report sexual harassment directly to NIH. This link should be accompanied by clear and unambiguous information about how NIH will act on this information and how the individual's anonymity will or will not be maintained.
- NIH should outline and publicize clearly how it will respond to reports through this channel, both to the individual and the institution. This will increase confidence in NIH response and ensure that reporting individuals understand how their reports will be acted upon.

[Recommendations for NIH-funded Institutions](#)

- Establish a hotline and a web-based form for anonymous and non-anonymous reporting of sexual harassment occurring at their institutions. In addition, NIH-funded institutions should provide a link to the [webform](#) and [email address](#) established by NIH to report sexual harassment that is easily accessible on the institution's internal website.
- Publicize outcomes of investigations and inform targets and affected individuals of the outcome after an investigation has been concluded, while protecting the identity of the target, if preferred by the target. Dr. Angela Rasmussen, a member of this Working Group and a target of sexual harassment, submitted a personal narrative discussing the importance of institutional transparency and accountability to targets of harassment (See: [Appendix C](#)).
- Provide information to *all* research staff (including those not directly funded by NIH grants) about the NIH webform and email address for reporting sexual harassment affecting NIH-funded research. Institutions should also provide links to their own resources and descriptions of their policies and codes of conduct. Communications to affected individuals should be distributed on a yearly basis.

[Recommendation 1.3: NIH should establish clear and transparent Standard Operating Procedures \(SOPs\) to respond to reports or findings of professional misconduct, including sexual harassment, or change in PI status in extramurally-funded laboratories.](#)

All reporting and communication with NIH-funded institutions should be centralized through OER. Extramural program staff at all NIH Institutes and Centers should be trained to refer reports of professional misconduct, especially sexual harassment, and change in PI or key personnel status to OER. This SOP should be readily accessible and visible on the NIH website. The SOP should include both specific procedural pathways (e.g., a flow chart or decision tree) and quantifiable benchmarks regarding:

- Change in PI and/or key personnel status due to investigation or adjudication of professional misconduct, especially sexual harassment;

- Complete report of investigation into the misconduct, to be reviewed and maintained confidentially at OER, to the extent allowable;
- Documentation of disciplinary actions imposed on the PI and/or key personnel; and
- Consequences for PI, key personnel, and institution for non-compliance with the Division of Grants Compliance and Oversight within OER.

In addition to the current reporting mechanisms, NIH should establish a central position within OER to whom anyone can call to discuss misconduct related to any NIH-funded project and get information and confidential advice about the process of reporting. We envision that this central NIH official will act as a backstop; any individual at any training level or professional status can and should report information to this NIH official, who is empowered to make inquiries at both the NIH and institutional level to ensure that information is acted upon in a timely fashion. Despite being able to act upon a complaint if requested by the target, this position should not be a mandatory reporter. Such a position should increase the likelihood that NIH will be notified of concerns related to sexual harassment. We offer the following examples of such cases and individuals where the NIH was not notified in a timely fashion drawn from the public testimony of the Working Group's listening session along with the popular press (See: [Text Box 2](#)).

Recommendations for NIH-funded Institutions

- Designate an official with knowledge of misconduct investigations to interact with NIH when notified of accusations of a PI and/or key personnel's inappropriate behavior.
- Have in place transparent and accessible SOPs to investigate and respond to reports of sexual harassment when notified by NIH and maintain active communication with NIH throughout the process to ensure safe working environments for researchers in NIH-funded laboratories.
- If not already employed by the institution, hire and retain a university official, who is not a mandatory reporter, and who can provide information and confidential advice to any faculty, staff, or trainees.

FAILURES IN NOTIFYING NIH ABOUT SEXUAL HARASSMENT RELATED TO NIH-FUNDED RESEARCH

Text Box 2: We offer the following examples of cases and individuals where the NIH was not notified in a timely fashion drawn from the public testimony of the [Working Group's listening session](#) along with the popular press;

- Targets or other affected individuals who have been [defunded, fired, retaliated against](#) such that they have left the institution.
- Targets or other affected individuals who [do not work at the same institution](#) as the individual accused of harassment, including sexual assault.
- Targets or other affected individuals with [temporary residence or uncertain legal standing](#) (undocumented immigrants, foreign trainees on temporary Visas) .
- Incidents reported in the popular press or another credible public forum **which were not** appropriately relayed to NIH or acted upon by an institution.

Recommendation 1.4: NIH should establish mechanisms of accountability for findings of professional misconduct.

OER should develop and promulgate an SOP for investigating complaints of professional misconduct, auditing institutional compliance, and imposing sanctions on PIs, key personnel, and/or institutions. Serious complaints or inadequate institutional response as determined by the OER SOP should trigger audits for grant compliance including compliance with NIH anti-misconduct policies pursuant to [45 CFR Part 75 Subparts C-F](#). These statutes explicitly provide government agencies the legal authority to enforce compliance with Federal statutes as well as agency regulations and policies. Once NIH establishes a professional misconduct policy as a condition of award for a grant or contract (See: [Recommendation 1.1d](#)), and an institution is not immediately transparent and compliant with OER's process, then NIH should conduct an audit and apply corrective measures for findings of non-compliance. This can include suspension or withdrawal of funded awards. We recommend that NIH revise their policies to give latitude for strong action in the event of an investigation or audit. The policy revisions should include the following components:

- Require institutions to provide documentation at NIH's request, including but not limited to, investigation reports, personnel records, payroll records, and financial records;
- Explicitly prohibit retaliation against targets of sexual harassment and whistleblowers when NIH-funding is involved, regardless of the mechanism of retaliation;
- Assert NIH's authority to remove or replace a PI, or other key personnel, in the event of a serious finding of professional misconduct especially sexual harassment, violation of NIH policies, or retaliation;
- Assert NIH's authority to withdraw departmental or institutional training or resource grants; and
- State unambiguously that repeated institutional non-compliance can result in suspended or terminated eligibility for NIH funding.

Recommendation 1.5: NIH should exclude researchers with a confirmed finding of sexual harassment, or other professional misconduct, from participating in NIH study sections or NIH advisory councils/committees for a determined period of time.

Participating on NIH peer review committees is neither a right nor a requirement. In March 2019, Dr. Noni Byrnes, the Director of NIH Center for Scientific Review published a [blog post](#) indicating that NIH may exercise its right to exclude individuals from peer review if they have been accused of or have a finding of sexual harassment. We recommend that NIH expand upon this to develop a formal policy to exclude from peer review and/or advisory councils anyone who has a finding of professional misconduct, including sexual harassment.

Recommendation 1.6: NIH should require that each PI and key personnel on an NIH grant attest that they have not been found to have violated their institution's code of professional conduct, including having a finding of sexual harassment, for a determined period of time.

We recommend that the institutional signing official in the grants administration office also be required to attest that there are no findings of professional misconduct or sexual harassment by the PI or other key personnel. We recommend this information be directed to NIH staff and not to the study section. For new applications, one mechanism could be to require the questions to be answered in the "Just in Time" information that NIH requests prior to funding; however, other mechanisms may achieve the same goal. Each subsequent year of the grant, the same questions should be asked of the PIs, key

personnel, and institutional signing officials on progress report documents. The attestations should be included on the NIH Program checklist to release funds for every year of the award.

Two retrospective questions NIH should ask:

- 1) Have you had a finding against you for professional misconduct or sexual harassment in the past?
- 2) Have you been involved in a settlement regarding an allegation of professional misconduct, including sexual harassment in the past?

One prospective question to ask:

- 1) Will you abide by your institution's code of conduct and policies regarding professional misconduct, including sexual harassment during this period of award?

Further, NIH should require assurance from an institution that a faculty member who leaves and transfers their grant to a new institution is not under investigation and/or has not a finding of professional misconduct. The new institution should not be allowed to accept funds unless they have assurance from the transferring institution that there is neither an investigation nor a finding of professional misconduct. These assurances should be stated within the Change of Grantee Institution materials that are reviewed by NIH before an award is granted to the new institution.

We recommend that NIH develop an internal procedure to review any instance of a positive statement on a grant for which PI or other key personnel has had a finding of professional misconduct, such as a finding of sexual harassment. The internal review process should include conversation with the grantee institution about the nature of the findings, a review of documentary records regarding the findings, and any action taken. This process should include a review of whether the NIH SOP outlined in [Recommendation 1.3](#) was followed, if applicable.

FACULTY REFERENCE CHECKS – UNIVERSITY OF CALIFORNIA, DAVIS

Text Box 3: The University of California (UC) is committed to creating and maintaining a community dedicated to the advancement, application, and transmission of knowledge and creative endeavors through academic excellence, where all individuals who participate in University programs and activities can work and learn together in a safe and secure environment, free of violence, harassment, discrimination, exploitation, or intimidation. [UC Davis piloted a program](#) to conduct reference checks on final candidates with tenure or security of employment. The following text is included in relevant job postings “The University of California is committed to creating and maintaining a community dedicated to the advancement, application, and transmission of knowledge and creative endeavors through academic excellence, where all individuals who participate in University programs and activities can work and learn together in a safe and secure environment, free of violence, harassment, discrimination, exploitation, or intimidation. With this commitment, UC Davis requires all candidates of ladder rank faculty tenured or security of employment searches to complete, sign, and upload the form entitled ‘Authorization to Release Information’ into RECRUIT as part of their application. If the candidate does not include the signed authorization with the application materials, the application will be considered incomplete, and as with any incomplete application, will not receive further consideration. Although all applicants for faculty recruitments must complete the entire application, only finalists considered for positions with tenure or security of employment will be subject to reference checks.” UC Davis will update and continue the program in 2020. A copy of the required release form can be found in [Appendix G](#).

Recommendations for NIH-funded Institutions

- Require all new faculty hires, in their offer letters, to attest that they do not have findings of, or ongoing investigations of, professional misconduct, including sexual harassment, at their past or current institutions.
- Require faculty to authorize, in their official offer letter, reference checks regarding any potential past professional misconduct. Institutions should carry out those reference checks. The University of California, Davis (See: [Text Box 3](#)) and the University of Wisconsin system (See: [Text Box 4](#)) have developed approaches for addressing reference checks related to sexual harassment when making offers to faculty candidates. For both universities, a positive finding does not mean that an individual cannot be hired. Rather, the universities discuss the nature of the finding and determine whether to extend an offer to the candidate.
- Have in place a process to ensure that NIH is notified if there is an investigation or finding of professional misconduct before they transfer a grant to a new institution.
- Do not enter into non-disclosure agreements with faculty who have engaged in professional misconduct, including sexual harassment.

Recommendation 1.7: All meetings and conferences that receive NIH funding, directly or indirectly, must advertise NIH communications channels.

Instances of professional misconduct, including sexual harassment, occur in the context of scientific meetings and conferences, where targets do not have access to university or other resources to make a report.

Additionally, given that the event may have involved someone who is not at their home institution, reporting channels may not be clear. For conferences supported directly by NIH or where a substantial number of attendees are traveling using NIH funds, NIH should require that meeting organizers put in place a code of conduct and develop mechanisms for reporting misconduct by attendees. These should include offering services and resources to support targets including established procedures for ensuring target safety, up to and including removing the perpetrators from the conference or expelling them from the scientific or

FACULTY REFERENCE CHECKS – UNIVERSITY OF WISCONSIN

Text Box 4: In June 2018, the University of Wisconsin (UW) Board of Regents adopted Resolution 11038 on [employee personnel files](#) and [reference checks](#), which required the development or modification of policies for all UW institutions regarding sexual harassment allegations and findings, including:

- documenting investigations;
- maintaining personnel files and conducting reference checks;
- exchanging personnel files between all UW institutions and State of Wisconsin agencies.

The UW system includes 26 campus around the state. Therefore, the University developed policies (effective January 1, 2019) for centralizing and increasing uniformity of personnel records across the UW system and Wisconsin state agencies.

All candidates for faculty or professional positions, on an ongoing or full-time basis, must also answer questions about their past conduct as well as authorize reference checks related to sexual harassment. Employees must include professional contacts for the previous 7 years, unless the candidate was previously employed by UW or another Wisconsin State institution. In the latter case, there is no time limit. This is in addition to UW's requirement for a criminal background investigation. The questions asked of the candidate and their former employer include:

- Was the candidate ever found to have engaged in any sexual misconduct?
- Is the candidate currently under investigation for allegations of sexual misconduct against the candidate?
- Did the candidate leave your employment prior to the completion of an investigation into allegations of sexual misconduct against the candidate?

Additional information about UW's implementation can be found in [Appendix H](#).

professional society sponsoring the meeting. The code of conduct and reporting mechanisms should be clear and accessible to all meeting attendees.

Recommendations for Scientific Societies

- Conference organizers and scientific societies sponsoring events or meetings should have policies in place to reduce risk of sexual harassment or other inappropriate behaviors (See: [Recommendation 3.2](#)), including a code of conduct with clearly stated expectations of behavior, systems of reporting and addressing inappropriate behavior, and safe, harassment-free spaces.
- Meeting organizers are encouraged to include other resources to support targets of harassment, including personnel trained in advocacy and counseling for targets, as well as referrals to legal or health care resources.
- Recognizing that not all organizations, particularly smaller societies, may have the resources or ability to establish reporting channels, we recommend that NIH communication and reporting channels be widely advertised at conferences, particularly those meetings directly supported by NIH or whose attendees travel expenses and registration are supported by NIH.
- Conference organizers should conduct conference climate surveys, specifically related to sexual harassment and professional misconduct.

Recommendation 1.8: NIH should support research on procedures and policies that model and promote a positive climate that cultivates respect, civility, and safety.

Cultivating respect and civility within an organization has been found to be the key approach in preventing sexual harassment.¹ Research on procedures and policies that model and promote positive climates that cultivate respect, civility and safety are needed. We recommend that funding opportunity announcements (FOAs) be developed to study positive climate models and the evaluation of effectiveness of the following policies and procedures. Effectiveness evaluations should account for and examine the effectiveness of the interventions supporting diverse groups of women (e.g., women of color and sex and gender minority women). Areas of research should include, but are not limited to:

- Anti-harassment policies;
- Bystander intervention trainings;
- Informal and formal reporting systems (mandatory reporting requirements and disciplinary actions);
- Civility work programs; and
- Intersectionality and sexual harassment.

Recommendations for NIH-funded Institutions:

- We recommend that NIH-funded institutions undertake an evidence-based approach when writing and revising institutional policies.

Theme 2: Establish Mechanisms for Restorative Justice

Current approaches to adjudicating sexual harassment claims often do not center on the target of harassment, instead center upon perceived institutional priorities or liability which often result in additional harm to the target. These failures to support targets of harassment necessitate restorative justice. A restorative justice approach provides an opportunity for the target of harassment to provide substantial input into what kind of institutional actions they would like to see take place when a person responsible for harassment has been identified.¹ We extend this definition to also include restoration of the careers of targets and other affected individuals. Restorative justice is critical to both changing the

culture of biomedical research and preventing further harm. The objectives for restorative justice are to ensure that the response of institutions and funding agencies remains centered upon the needs of targets and other affected individuals.

We must ensure that targets and other affected individuals are able to thrive in the biomedical workforce, whether the target is returning to or continuing in the workforce. Over the long-term we aspire to rebuild the trust of the biomedical research community in our institutions and our funding agencies.

Recommendation 2.1: NIH should create new incentives and funding opportunities to restore the careers of targets and other affected individuals.

The inadequate response of institutions and funding bodies to address professional misconduct, including sexual harassment, is a major contributor to the gender-based disparities observed in participation in the biomedical workforce, faculty recruitment and advancement, and extramural funding.^{1,5,22-24} Currently, there are no uniform processes focused upon restoring the careers of the targets and other affected individuals. As the major public body for funding of biomedical research and training in the United States, the NIH is uniquely positioned to create a set of funding mechanisms and to better incentivize institutional responses to professional misconduct to ensure the continued participation of targets and other affected individuals within the biomedical research enterprise. We recommend the creation of a set of new and adapted funding mechanisms for individuals who desire to remain in research by prioritizing long-term career support.

Recommendations for NIH-funded Institutions

Institutions also have the responsibility to restore the careers of targets and other individuals who have been adversely affected.

NIH-funded institutions should provide concrete resources to targets and other affected individuals. Targets of sexual harassment should be protected from further emotional and physical harm in the workplace and provided a set of concrete and practical resources for support. Targets and other affected individuals often face the dual burden of experiencing or witnessing harassment, followed by the recapitulation of the trauma of engaging with opaque “institutionally-focused” reporting and investigation processes.²⁵ Targets of harassment may suffer long-term impact upon their professional or personal identity related to the underlying psychopathology of a responsible individual.^{26,27} Additionally, targets and other affected individuals may commonly face retaliation.^{28,29} Retaliation may be covert or difficult to recognize, occurring outside the public eye or purview of a single institution, and may occur within professional settings where a power-differential may be present.³⁰ Career-related disadvantages are an additional burden to the psychological difficulties occurring as a direct result of participation in an investigation which may be experienced outside of the workplace.^{31,32} The professional and personal burden is likely to be compounded in individuals who self-identify as a sexual-minority or person of color.^{24,33,34} There is substantial institutional variability in the response to targets and other affected individuals, which along with retaliation, serves to disincentivize reporting.^{5,35} We recommend institutions create a set of standards for conducting investigations while providing resources and support to targets and other affected individuals in order to mitigate the short-term personal and professional harms of gender-based harassment.

- The preferences of targets and other affected individuals over how their information is shared within the organization and publicly should be sought and honored (See: [Text Box 5A](#)). A change in work environment and/or supervisor should be offered to the target and other affected individuals at their discretion. We provide an [example from the United States Military](#) highlighted by the NASEM report which outlines key points for a manager or supervisor of a target or other affected individual (See: [Text Box 5B](#)).
- Institutions should offer resources to cover the personal and professional “debt” to targets of sexual harassment incurred by participation in institutional administrative processes. This would include, but is not limited to the following items:
 - Twenty hours of outside legal counsel (selected by the target) paid for by institutions during and after an investigative process;
 - Confidential and free-of-charge psychological support services (from outside the institution);
 - Free-of-charge professional and career-related support services (e.g., networking, grant-writing, and job search support);
 - Sponsorship for conferences and career development activities relevant to the area of research and/or stage of training; and
 - Specific processes of restorative justice, such as reintegration circles to support targets and other individuals through a period of professional and personal instability.
- Other affected individuals may be inadvertently affected by the suspension of an accused investigator or their funding in the course of an investigation. We wish to ensure that the potential repercussions suffered by other affected individuals is minimized to the degree possible by the institution.
 - Confidential and free-of-charge psychological support services (from outside the institution); and
 - Free-of-charge professional and career-related support services.

EXAMPLES OF RESTORATIVE JUSTICE

Text Box 5A: The University of California, Irvine frequently consults Complainants of sexual harassment in determining if, and what, information will be released about their case. In some instances, the Complainants of harassment have chosen to make their names made public, while others prefer to not have their identities disclosed. Additionally, the University publishes an anonymized [annual report](#) containing the outcomes of all formal and informal investigations of discrimination and sexual harassment.

Text Box 5B: We provide an example from the US Military highlighted by the NASEM report which outlines key points for a manager or supervisor of a target or other affected individual. This [document](#) includes attention to a target’s preference on work environment, accommodation of ongoing investigative processes and need for supportive services, all administered with sensitivity and patience as guiding principles.

Recommendation 2.2: NIH should develop mechanisms for bridge funding for targets and affected individuals who lose their salary support due to sexual harassment.

An earlier stated recommendation, [Recommendation 1.1c](#), discusses the removal of a PI from a grant and institutional replacement of that PI with another from the institution, in the case of a finding of sexual harassment. While ideally a suitable alternative PI can be named to take over that grant, that may not be possible, so additional measures should be taken to preserve the careers of the targets of sexual harassment and/or other affected individuals. Therefore, NIH should make bridge funding available in a timely manner specifically to targets and other affected individuals for a period of time to allow the originally funded work to be completed and published by those individuals who were originally working on the project.

Recommendation 2.3: We recommend an immediate NIH mechanism be developed/modified to reintegrate targets and other affected individuals into the research workforce.

The [trans-NIH Re-Entry program](#), established by the Office of Research on Women's Health, can support targets of sexual harassment and could be modified such that the mechanism does not need to supplement an existing NIH research grant, but could be independent of an existing grant. Moreover, using existing mechanisms, NIH can earmark funding for training grants to fund targets staying in a particular field or retraining for another professional path such as:

- NIH career development (K) Awards
- NIH fellowship (F) Awards
- Specific awards to support trainee research
- Loan repayment programs

There are three necessary criteria for any funding mechanisms to be fair and viable in real world practice. First, a fast process is imperative for the individuals affected, timeline to review should involve rolling submission and rapid evaluation and funding. Second, all funding mechanisms should be available to targets and affected individuals at all training levels and faculty/professional status. Third, all funding mechanisms should also have a clear provision for "stopping-the-clock" whereby the eligibility of an individual can be linked to a specific documentation of time and that this eligibility may be back-dated to incidents. However, when moving forward with implementation of these items, NIH must keep the target's needs and unintentional consequences in mind. For example, using any provisions for stopping-the-clock may result in bias during peer review. Furthermore, development of these mechanisms could require the target to divulge information about their cases, which would adversely affect targets who wish to remain anonymous. Any approaches NIH undertakes for implementation must include strategies for maintaining confidentiality, to the maximum extent possible. As the trans-NIH Re-Entry program currently does not require applicants to divulge personal information on their specific reasons for re-entry, it is conceivable that future approaches could also support the re-entry for targets of sexual harassment in a confidential way.

Recommendations for NIH-funded Institutions

- Institutions should demonstrate clear standards for target-centered investigative processes and practices of restorative justice from the inception of any investigation. Current processes for investigations of gender-based harassment are generally guided at the institutional level by Federal and State law; however, targets of sexual harassment commonly describe an “institutionally-focused” response characterized by a lack of transparency in the rights of targets or responsible individuals, processes of adjudication, and the absence of public knowledge of outcomes for the accused. The “institutionally-focused” response is an important contributor to psychological harm experienced by targets and other affected individuals.^{25,28} Additionally, the lack of transparency serves to functionally limit the penalties accrued by responsible individuals and gives rise to mistrust of institutions.
- From the beginning, attention to restorative justice should permeate the investigation. Investigations should be focused, first and foremost, on being fair and impartial, considering the needs of the target, with sufficient transparency to alert people and institutions considering working with responsible individuals. We refer to recommendations detailed in [Theme 1](#) defining timing and standards of internal and external communication regarding investigations, changes in PI status, personal attestations, and institutional codes of conduct.
- We recommend the creation of institutional practices for target-focused restorative justice. After an individual has accepted responsibility or been found responsible for wrongdoing through an appropriate fact-finding process, the target considers what type of action they might like to see take place in conjunction with an institutional ombudsman or advisor. We offer the [Campus PRISM \(Promoting Restorative Initiatives for Sexual Misconduct\) Project](#), coordinated by Skidmore College, as a commonly cited institutional initiative which frames a set of core concepts, offers real-world examples, and describes a set of target-centered practices for engaging with these issues within an academic community (See: [Text Box 6](#)). As discussed

CAMPUS PRISM

Text Box 6: Campus PRISM, coordinated by Skidmore College, promotes restorative justice processes that:

- Encourage true accountability through a collaborative rather than adversarial process;
- Reduce risk of reoffending and provide greater reassurance of safety to survivors/harmed parties and the community;
- Meet survivors’/harmed parties’ needs for safety, support, and justice; and
- Create meaningful forums for the examination of hostile campus climates and the development of community-building interventions.

Goals of the Campus PRISM Project:

- Create space for scholars and practitioners to explore the use of restorative justice for campus sexual and gender-based misconduct (which includes sexual harassment, sexual assault, and other forms of gender-based misconduct) as an alternative or complement to current practices.
- Consider the potential and challenges of restorative justice in light of the national concern about campus sexual assault.
- Apply lessons learned from the use of restorative justice in criminal justice sex offenses, e.g. Circles of Support and Accountability, restorative conferencing, and other trauma-informed practices.
- Gather and disseminate knowledge about restorative justice practice and research.
- Explore the potential for multi-campus restorative justice pilots.

above, due to psychological abuse, the person targeted may not initially want to discontinue their relationship with the perpetrator, because the abuse made them question their own feelings about and understanding of what happened.¹⁵ Special care and professional guidance must be used in such cases. A target-centered approach to restorative justice avoids a one-size-fits-all solution that holds the potential to cause further harm. When criminal activity has occurred, the practice of restorative justice is not intended as a substitute for legal action but may still be necessary to communicate events and consequences within the context of community standards for professional conduct and accountability.

Recommendation 2.4: NIH should partner with institutions to develop institutional safe-harbors for targets of professional misconduct.

It should be possible to establish designation of a laboratory or a research group as “safe-harbor”, i.e., those that have been vetted or certified by competitive external review, as a welcoming and supportive environment for targets and other affected individuals, with supplemental funding for the research group analogous to the [“Diversity Supplement” program](#). Targets of professional misconduct and other affected individuals may then select a designated “safe-harbor” laboratory or research group for continuation of research careers and funding. One potential safe-harbor could be certified labs within the NIH Intramural Research Program.

Recommendation 2.5: NIH should fund additional research on policies, procedures, trainings, and interventions for restorative justice practices specifically tailored to the biomedical research environment.

A stronger research base on restorative justice processes and supportive structures and systems for those who experience sexual harassment is needed. Individuals who experience sexual harassment often fear reprisal and suffer psychological consequences. The evaluation of the effectiveness of informal reporting programs, such as [Campus PRISM](#), and the viability of its scaling up (See [Text Box 6](#)), could be useful in the development of good practice for institutions. The consideration of the reintegration of targets of professional misconduct is often neglected when sexual harassment policies, procedures, and trainings are being developed.¹ We recommend that NIH conduct or fund an assessment of the psychological impact of trauma associated with sexual harassment and the overlap trajectories of sexual trauma in the workplace versus other life-traumatic events. [Research on these topics will expand upon current trauma-informed approaches and could inform appropriate restorative justice processes.](#) Ideally, lessons should be learned and applied from previous assessments of sexual harassment, including from different fields such as industry and the military.

Theme 3: Ensure Safe, Diverse, and Inclusive Research and Training Environments

Trainees are particularly susceptible to sexual harassment in the scientific enterprise; in addition, other individuals such as junior faculty, laboratory technicians, staff scientists, and administrative assistants, among others, may be susceptible to the effects of sexual harassment. This section includes recommendations to create a safe, diverse, and inclusive environment for everyone involved in research and training.

In this series of recommendations, we acknowledge that the complex issue of creating safe and effective research and training environments is best tackled using a combination of “bottom-up” tactics (helping

to support trainees/staff directly), and “top-down” tactics (working to make institutional environments better workplaces). Efforts to bring trainees and staff into the scientific enterprise should not be done in the absence of robust efforts by the institution to demonstrate that these individuals will be safe, welcome, and supported in their lab and institution. Support systems may include but are not limited to bias training, safe spaces, emotional and psychological support resources, legal resources, and other programs aimed at reducing sexual harassment and supporting targets of sexual harassment on their campuses. Specific considerations should also be given to addressing the specific vulnerability of international trainees.

Beyond the act of sexual harassment itself, psychological abuse is a particularly challenging and insidious form of professional misconduct, which should be specifically addressed to maintain a safe research environment. [Psychological abuse and trauma can lead to “Corporate Stockholm Syndrome” and “Betrayal Blindness”](#), wherein the targets of harassment begin to identify with, and protect, their abusers. This further complicates sexual harassment investigations, as it can lead faculty and administrators to believe that the problem is not as serious as the reality. The trauma and betrayal blindness experienced in these situations can be exacerbated by a poor institutional response, termed institutional betrayal.⁷ In cases where interpersonal trauma such as sexual harassment has occurred, institutional betrayal leads to higher incidences of adverse health outcomes in targets of harassment.⁸ Therefore, we consider the mitigation of psychological abuse and institutional betrayal as core components of creating a safe working environment, and we strongly encourage institutions to provide training about these phenomena to trainees, laboratory personnel, supervisors, administrators and anyone involved in professional misconduct investigations.

Recommendation 3.1: NIH should create new mechanisms whereby research awards are given directly to trainees.

Hierarchical relationships, particularly those with high dependency between faculty and trainees increase the potential for abuse, including the risk of sexual harassment, sexual assault, and interpersonal violence.¹ Therefore, we recommend the creation of new mechanisms in which awards are granted directly to trainees to support their independence and to reduce hierarchical relationships between trainees and mentors. These awards should be linked to the individual trainees, rather than the advisor. These awards would be re-imagined independent training awards that give funds to young scientists, like a career development (K) award, but without the dependence on a specific mentor. We recommend creating new funding mechanisms and/or modifying existing mechanisms:

- (a) **Option 1:** A new/funding mechanism to create independent grants, which should consider existing models as alternative approaches to achieve career independence
 - (i) [Katz Award](#): award does not require preliminary data when changing fields
 - (ii) [NIH Innovator Award](#): award does not require letters of recommendation from the applicant’s advisor/mentor
 - (iii) *National Science Foundation (NSF)* [predoc/postdoc](#) model: awards go directly to trainees without a specific advisor
- (b) **Option 2:** Modify existing fellowship (F) or career development (K) awards that enable more independence from one particular mentor, and that enable trainees to more easily and confidentially change mentors in cases of harassment, prioritizing the need to protect privacy of targets of harassment.

Recommendation 3.2: All NIH grants should have specific expectations and requirements for maintaining a safe training and research environment including, but not limited to, at the research institution, conferences, other research settings (e.g., field work), and clinical settings.

Multiple studies have shown that the culture of sexual harassment has significant health impacts as well as decreases scientific productivity.¹ Sexual harassment impacts the physical, emotional, and mental health of trainees, and creates an unsafe work environment for targets of harassment and bystanders alike. We, therefore, strongly encourage institutions to treat sexual harassment as a workplace safety issue, and to develop risk mitigation plans that treat harassment as a breach of workplace safety rules. Additionally, we recommend that NIH-funded personnel have a section in their biographical sketch describing how they have contributed to safe, inclusive, and diverse work environments. A [safe, diverse, and inclusive environment](#) is defined as one which promotes the safety and well-being of all members; comprises people of all demographics including race, religion, gender, sexual orientation, age, socio-economic status, nationality, or disability; and promotes a feeling of belonging, value, recognition, and respect as well as encourages full participation among all members. Further, since the majority of NIH-funded researchers are not on training grants, but other grant mechanisms (e.g., research or center grants) we recommend that mentor training requirements that are currently applied to training grants be applied to all funding mechanisms.

(a) Key personnel should declare their role in promoting safe, inclusive, and diverse work environments:

- (i) PIs and other key personnel should have a section in their biographical sketch about how they are creating, or have created, a safe working environment. Descriptions could include explanations of bystander intervention training that all trainees and mentors underwent, codes of conduct that individual labs have implemented, workplace safety mitigation plans in place, etc.
- (ii) All new grant applications and NIH grant annual reports should include section about a safe working environment for PIs to explain how they created a safe training environment.

(b) NIH should require evidence of mentor training and professional conduct of all key personnel on a research grant:

- (i) To ensure that all mentors on NIH grants of all mechanisms are held to the same standard, we recommend NIH make the mentor training requirements for all grants and contracts congruent with those outlined for [institutional training grants \(T32\)](#).
- (ii) A new required grant section could be created along the lines of others (e.g., Protection of Human Subjects, Vertebrate Animals, Select Agents, Authentication of Key Resources, Resource Sharing Plan, Responsible Conduct of Research) to include sections on Mentor Training Plan and Professional Conduct Plan. This would apply to all research grants and contracts. This plan should be reviewed to ensure adequacy (develop principles similar to guidance/standards for human subjects or vertebrate animal research and include administrative review).

- (iii) Compliance should be an item on the NIH program checklist prior to release of funding every year.

(c) Risk mitigation plans:

- (i) NIH should develop an approach to assess whether institutions are ensuring a safe, inclusive, and diverse environment. For example, the Institutional Environment scored criteria for all NIH funding mechanisms could be modified to specifically consider the safety and inclusivity of the environment.
- (ii) Risk mitigation plans should be attached to grant proposals for all funding mechanisms, as an addendum. We recommend a transition phase in which risk mitigation plans are optional. However, all grants should include a check box where applicants can indicate “Yes” or “No” that the risk mitigation plan is included. After this transition phase, the risk mitigation plans should be required and reviewed more critically (i.e., included in the grant score as part of the environment criteria). We believe that it is critical to include a safe working environment in the environment score of these grants because data show that scientific productivity is dependent on safety.^{36,37}
- (iii) Risk mitigation plans should include items from the list above in [Recommendation 3.1](#) and specifically focus on how trainees, researchers, and other laboratory staff will be kept safe with respect to workplace climate and how breaches of safety (e.g., cases of harassment) are dealt with.
- (iv) Approaches to address the vulnerability of international trainees on non-resident work or study visas are essential. International students on F-1 non-immigrant visas are particularly vulnerable to harassment, as their ability to work and study in the United States is entirely dependent on their enrollment and employment at a specific institution. We recommend that specific risk mitigation plans be developed for international trainees, such as ensuring that employment/enrollment can continue for the trainee even if they move labs as a result of professional misconduct, including sexual harassment.

[Recommendations for NIH-funded Institutions](#)

- Institutions should advise faculty on developing risk mitigation plans, including a section on safety at conferences. Specifically, we recommend that these risk mitigation plans clearly state that institutional codes of conduct apply to personnel at conferences and other social events, as well as at institutions. Conference organizers should also have risk mitigation plans in place to ensure the safety of trainees at conferences.
- NIH-funded institutions should develop a mechanism for removing mentors found to be in violation of the institution’s code of conduct and/or policies on inappropriate behavior/harassment.

[Recommendation 3.3: NIH should require its grantee institutions to conduct anti-sexual harassment training, in a manner parallel to Responsible Conduct of Research.](#)

In the last 15 years, formal instruction in Responsible Conduct of Research (RCR) has gone from being a rarity to being mandated by NIH for all trainees on training grants. Previous experience with RCR training suggests that once NIH mandates that a specific assurance has to be part of the grant application documentation, institutions adopt these mandates and make them required for all employees.³⁸ This

would allow for the protection of not just trainees and other researchers on NIH grants, but for all institutional personnel.

We note specifically that not all anti-sexual harassment training is effective, and poor training practices have been shown to worsen pre-existing gender biases and excuse tendencies towards harassment.^{39,40} This is also true for implicit bias training.⁴¹ Evidence from the corporate environment suggests that providing sexual harassment training to managers, rather than just to employees, is most effective in mitigating sexual harassment and also increases the proportion of women in management positions.⁴² Research has shown that sexual harassment training for managers, which treats managers as allies of targets of harassment and gives them tools to intervene, is followed by increases in the number of women managers, which in turn makes the trainings more effective.⁴² Therefore, supervisors, PI, mentors, and individuals in leadership positions should be required to participate in harassment and bias training, and all trainings should involve a focus on allyship and provision of tools for managers to intervene and interrupt harassment when they witness it occurring. We, therefore, recommend that any anti-sexual harassment training programs be developed and implemented with these factors in mind, and that mechanisms for measuring their effectiveness over time also be included.

Our immediate recommendation is that NIH modify its employee anti-sexual harassment training module and make it available to institutions to adapt and customize based on their specific state laws.

Important elements for the training:

- Emphasis should be on understanding relevant professional norms and values as well as institutional and governmental guidelines and regulations that dictate how sexual harassment should be an anathema when conducting any type of research.
- Instruction should include key definitions (e.g., sexual harassment, unwanted sexual attention, sexual assault, interpersonal violence), how to identify it, where to go, who to tell, how to stop as it happens, define inappropriate behavior by mentors/supervisors.
- It is important that these harassment courses do more than just provide information; they should involve in-person discussion not simply online modules or lectures. These courses should provide a toolkit of how to respond to incidents of sexual harassment. Bystander intervention training is an example of this.
- We specifically recommend that any sexual harassment training should include a training about psychological abuse, trauma, and Corporate Stockholm Syndrome/Betrayal Blindness. This training should be mandated for trainees, mentors, and anyone involved in sexual harassment investigations. We believe this specific training is pivotal in avoiding Institutional Betrayal, which can compound the trauma of professional misconduct on targets of harassment.⁸

Recommendations for NIH-funded Institutions

- All mentors should participate in mandatory, in-person training sessions that include identifying sexual harassment and what to do in the case of sexual assault.
- We note that PIs may be poor human resources managers and may not be appropriately trained to deal with professional misconduct or other personnel complaints, including the psychological trauma associated with harassment. Additional training for understanding mentor/mentee relationships should be required, perhaps using [National Mentoring Resource Network \(NMRN\)](#) infrastructure.

- Anti-sexual harassment training should be a combination of lectures and case study discussions about sexual harassment, including how to identify and mitigate should be a requirement. It should also occur at the beginning of and throughout an individual's scientific career to allow for maximum career impact.

Recommendation 3.4: NIH should fund research on the development of effective interventions tailored to different types of organizations and climates that improve the health and safety of biomedical researchers.

Institutional change is critical for the success of any efforts targeting sexual harassment. Institutional transformation has been tackled in other contexts, such as the ADVANCE program at NSF, which focuses on gender and ethnic diversity within science. Similarly, we recommend that NIH develop mechanisms to incentivize institutions to develop increased capacity to prevent sexual harassment and better support trainees and other vulnerable individuals conducting research in these spaces. A critical review of sexual harassment training effectiveness found that sexual harassment training is relatively consistent in increasing knowledge of sexual harassment, but it was unclear to what extent the knowledge was retained and applied.⁴⁰ Some have found that anti-bias training and anti-sexual harassment training can actually perpetuate the problem of gender harassment or is ineffective in changing behaviors. To ensure the success of training in decreasing the incidence of sexual harassment, it is important to identify both targets' the organizations' specific needs because one-size-fits-all approaches to training often do not address all aspects of the individual climates and cultures. We recommend funding research on the development of effective training tailored to different types of organizations and climates that improve the health and safety of biomedical researchers. Training interventions that need further research on their implementation and an evaluation of the effectiveness include anti-sexual harassment training, combining anti-harassment trainings with civility trainings, bystander interventions, and leadership training.

We recommend the creation of a new grant mechanism awarded to institutions that will perform and evaluate a specific intervention(s) to change the culture at their institution to end sexual harassment. These awards will encourage institutions to craft their own plan and to describe how they will both implement and evaluate it. They will encourage cross-disciplinary collaborations between medical schools, law schools, social sciences departments, etc. A non-exhaustive list of recommended example interventions that institutions can propose include:

- Bias training (in-person specifically recommended);
- Bystander intervention training (e.g., "see something, do something" model);
- Bridge funding;
- Legal assistance;
- Provision of matching institutional or non-restricted funds for international students, who are not eligible for independent funding from NIH and whose ability to stay in the US is tied exclusively to employment; and
- "Safety walks" and/or checklist by leaders to assess workplace climate for individuals working in the institution, also where individuals within the environment are part of the inspection.

Theme 4: Create System-wide Change to Ensure Safe, Diverse, and Inclusive Research Environments

Sexual harassment is ultimately about power in the workplace and in society.^{43,44} In biomedical science, power stems from who has access to awards. The Working Group heard repeatedly that the concentration of funding in a relatively small number of investigators (who are overwhelmingly white, cisgender, straight men) incentivizes universities to protect researchers bringing in high levels of grant funding, even when a minority of them engage in persistent, unacceptable behavior. The NASEM report has identified this concentration of funding as a major risk factor for harassment.¹ NIH unwittingly propagates this as they award a full [40 percent of their funding to 10 percent of investigators](#).

Moreover, practices considered normal and acceptable in science perpetuate a culture of science that not only discounts the contributions of key participants but can materially interfere with merit-based career progression and future funding. These practices include, but are not limited to, the apprenticeship system of research training; the reward and incentive system of publication and promotion; an emphasis on treating the laboratory as a surrogate “family” environment rather than a professional workplace; the culture of scientific review and funding decisions; and subversive practices like “ghost PIs”, in which a proposal is nominally led by a junior person with the actual leadership held by senior member listed as key personnel or in which prestigious scientists are the titular lead on an award, while a potentially more diverse group of researchers contribute the work but may not share in the credit or reward system. Ultimately, any practice that systematically propagates bias throughout the scientific endeavor is not just a threat to the safety of individual researchers but also undermines the meritocratic base of biomedical science funding. Research institutions and funders have the power to create cultures of science that are inclusive and safe; this will result in better science.

Recommendation 4.1: NIH should address funding strategies that contribute to male-dominated power structures, including addressing grant mechanisms that are awarded predominantly to men.

The NASEM report identified male-dominated leadership and workplaces as well as hierarchical work environments as major risk factors for sexual harassment. Additionally, the report noted that the perception that an organization will not sanction offenders “increases the risk of sexual harassment perpetration.” Prevention of sexual harassment requires mitigating these risk factors to ensure safe, inclusive, and diverse research environments.

How does this translate into the activities of NIH and the biomedical research enterprise? The Working Group consistently found both data and anecdotal evidence suggesting: 1) [a large proportion of NIH funding is concentrated in the hands of relatively few scientists, the majority of whom are men](#); 2) targets of sexual harassment believe institutions protect researchers who receive multiple and/or large awards from NIH (which affirms the evidence presented in the NASEM report); and 3) gender inequities in NIH awards raises questions about the meritocratic foundations of funding distribution. As stated in the introduction, the Working Group believes strongly that power structures that propagate gender bias do not reward the best science.

Recommendation 4.1a: NIH should ensure that review actions and funding decisions are free of bias related to gender and work to address disparities.

The current culture of scientific review and funding decisions has an unanticipated consequence of perpetuating a singular, and potentially biased, approach to rewarding a dominant line of reasoning that is both self-referential and disproportionately benefits white men. Clear evidence identifies how gender, race, ethnicity, nationality, sexuality, age, and ability status, among others, impact reviewers' assessments in ways unexplainable by characteristics of science. This calls for close attention by funding authorities to identify and mitigate these problems. Bias emerges in evaluation systems when the criteria is ambiguous, specifically through the well-known mechanisms of setting a higher bar, giving extra scrutiny, or shifting the criteria.⁴¹ Approaches to address this issue could include:

- Regular and transparent evaluation of the gender distribution of funding decisions and minimize the risk of bias;
- Develop a robust scorecard calibration system to reduce bias in evaluation. When well-developed and implemented consistently, this minimizes the biased tendencies to shift the criteria, apply extra scrutiny, or set higher standards when the evaluation criteria are ambiguous and uncertain;
- Identify funding mechanisms in which there are disparities related to gender or other underrepresented groups and create strategies for engagement and bias mitigation in both proposal submission as well as program review;
- Ensure significant representation of women and individuals from underrepresented backgrounds on Advisory Councils and peer review panels;
- Continue to support the work of and adopt the recommendations of the [NIH Working Group on Women in Biomedical Careers](#);
- Limit the number of awards or amount of funding to individual principal investigators;
- Consider changes to peer review, such as anonymous study section reviews or identifying study section reviewers;
- Address the issue of “ghost PIs”;
- Use technological advances in machine learning to ensure there is not significant overlap in awards granted to an individual.

Recommendation 4.1b: We recommend that NIH develop incentives and rewards for overcoming male-dominated power structures.

NIH, institutions, and scientific societies need to examine their review, incentive, and reward structures to address the perpetuation of the “superstar” culture of science, in which recipients of multiple and/or large grant awards are given or are perceived to be given preferential treatment and excused for inappropriate conduct. The narrative provided by Dr. Angela Rasmussen addresses the potential repercussions of the “superstar” culture, when one PI receives a substantial amount of grant funding (See: [Appendix C](#)).

Recommendation 4.2: NIH should develop mechanisms to incentivize institutions that excel at promoting diversity and inclusion.

All institutions should strive at maintaining a diverse and inclusive workforce that is protected from professional misconduct, including sexual harassment. However, the reality is that very few institutions are achieving this goal. Therefore, we recommend that NIH incentivize exemplars with regard to

recruitment and retention of diverse groups of individuals as well as those maintaining a safe and inclusive research environment.

[Recommendation 4.2a: NIH should incentivize third party recognition of institutional support for diversity and inclusion.](#)

Programs like STEMM Equity Achievement (SEA) Change, led by the American Association for the Advancement of Science (AAAS), or the United Kingdom's Athena SWAN, have clear systems of metrics and awards to recognize institutions whose cultures enhance gender equity and diversity. The Athena SWAN model in the UK has been both well-received and responsible for a significant reduction in gender bias in the medical arena.^{45,46} We propose two possible avenues for upholding this model:

1. NIH could incentivize institutional commitment to these or similar, validated programs, either through providing a competitive advantage for institutions who achieve and maintain such recognition, or by setting an expectation for this certification. The Working Group acknowledges that such programs can create an unfair workload for those directly working on the certification. See, for example, Caffrey *et al.*⁴⁷ Moreover, this increased workload can unequally affect women, which is contrary to the ultimate goal of this recommendation. Therefore, in setting this expectation, we recommend that NIH include language that instructs institutions to appropriately compensate those faculty and staff working to meet the standards of the program (e.g., higher salary, decreased teaching responsibilities).
2. NIH could replicate the Athena SWAN model. This would require funding an organization to promote the standards and provide peer review for institutions attempting to get awards for their performance under those standards. Institutions must then get sufficient notice to create changes and apply for awards. Then, NIH must (as was done in the United Kingdom) require that certain types of institutional funding are predicated on at least a silver Athena SWAN award. NIH could adapt the Athena SWAN principles, which identify a commitment to advancing equity in science; addressing unequal representation across disciplines; tackling the gender pay gap; removing obstacles faced by underrepresented groups; making the necessary structural and cultural changes; and addressing how gender, race, social class, sexuality, nationality, disability, and age intersect. As stated earlier, an independent council of peers will judge whether institutions have operationalized these principles sufficiently.

[Recommendation 4.2b: NIH should provide formal awards and recognition for institutions that excel in this area.](#)

In addition to encouraging third party recognition, NIH could directly provide formal awards and recognition for institutions that strive to reach the standards set by their peers as well as continuously strive to push the bar higher. Regular climate surveys could serve as critical monitoring tools. The NIH should find a way to spotlight and bring tangible recognition to organizations that show notable improvement over successive climate surveys. NIH can create an incentive to motivate improvement by publicly spotlighting success. Examples of how this might be implemented include:

- A formal award or recognition of institutions that achieve the equivalent of Athena SWAN Gold standards;
- An administrative supplement for institutions demonstrably training higher rates of women and/or underrepresented minorities or hiring and retaining cohorts of women or minority faculty.

Recommendations for NIH-funded Institutions

- Adopt third party assessment and recognition for issues of gender equality.
- Fairly compensate (e.g., decreased teaching responsibilities, increased pay) any faculty and/or staff who directly works on addressing the needs for a safe, diverse, and inclusive research environment.

Recommendation 4.3: NIH should hold institutions accountable to exceed the standards set by their peers and continuously strive to set a higher bar to create safe, diverse, and inclusive scientific workplaces.

To further support and reward compliance with a third-party system of recognition, NIH should take the following actions identified in the NASEM report to incentivize efforts to reduce sexual harassment in academia:

- Require, and when possible assist, ongoing evaluations of the research environment's safety, diversity, and inclusion;
- Fund research and evaluation of training for students and faculty (including bystander intervention, anti-harassment, psychological abuse, and cognitive bias training);
- Support the development and evaluation of leadership and mentoring training for faculty, either through funding or directly implementing;
- Fund research on effective policies and procedures that will enhance efforts to reduce the culture of harassment; and
- Identify, raise awareness, and fund research on unhealthy behaviors that do not foster a safe or healthy environment and allow for the perpetuation of psychological abuse. Specifically, provide training about psychological abuse and abusive behaviors.

Recommendation 4.4: We recommend that NIH facilitate and collect data from a wide-scale climate survey that allows every individual funded on an NIH award to confidentially disclose whether they are experiencing an adverse work environment.

In NIH's recent broad climate survey of their own staff and contractors, the interim report noted that 26.9 percent of women had experienced harassment in the past 12 months. [It was also reported that in some populations, particularly bisexual women and transgender people, over 40 percent of the group reported harassment in the past 12 months.](#) These surveys are valuable for several reasons, not only do they establish a baseline from which to evaluate progress, but they also perform two additional key functions: one, they help spread education among all staff about appropriate behavior expectations from upper management; two, they also serve to break the culture of secrecy around antisocial behavior. This culture of secrecy was a particular concern of the Working Group. Individuals, both on the Working Group and testifying at the public listening session, had experience with situations where the research institution was relying on secrecy to allow an adverse environment to continue unabated.

One approach for implementing the climate survey could be to administer it in a rolling fashion to all proposed employees on any new research proposal. For example, the applicant could be asked to have all proposed employees fill out the confidential climate survey, the results of which would then be available only to NIH and periodically made public to hold institutions accountable and increase transparency. One of the strengths of this strategy is it creates a line of communication directly from the most junior, and therefore most vulnerable, to the most influential agent, the funder. This would strongly dissuade institutions from the persistent practice of attempting to hide the behavior of sexual harassers. In addition, in these types of surveys, it is vital that the data be disaggregated by demographic

statuses—gender, sexuality, race and ethnicity, nationality, age, disability, etc.—to expose difference across groups and also apply an intersectional lens. However, NIH would need to carefully consider this approach to ensure they could maintain anonymity of respondents.

The Working Group understands there are legal and structural barriers to NIH administering such a survey directly, but we encourage NIH to thoroughly explore feasibility of direct administration, as we feel it is the most powerful option. In the case that is not considered feasible, the next most powerful is if an outside contractor is funded to administer such a survey and make the data available to NIH. The third most powerful option is for NIH to develop FOAs that involve sharing the cost with institutions for the administration of the survey, and a national database where institution-specific data is stored and shared. A final option is to encourage outside agents to conduct and report the results of self-surveys or if an outside agent is funded to conduct a survey of a full probability sample of all grant-funded staff. These three options are designated less powerful simply because they will only capture a fraction of the full population and there is less of a deterrent power as a result. In all cases, findings should be made available to NIH for review in the proposal submission process.

Recommendation 4.5: NIH, working with research institutions, should foster examination of the system of research training, recognizing that the current apprenticeship system facilitates risk factors for sexual harassment.

NIH, working with graduate training institutions, should use its influence as a research funder and convener to force an examination of the current structure of research training. Doctoral level scientists are currently typically trained through an apprenticeship model, in which graduate students are highly dependent on faculty “mentors” for training experiences, financial support, professional development, and ultimately, the decision to grant a degree. This system carries over into the training of postdoctoral scholars, whose dependence on their “mentors” for resources and access to research opportunities is critical for the hallmarks of professional success in science, such as the number and quality of publications. This hierarchical, power disparate relationship is a primary risk factor for sexual harassment and other forms of professional misconduct and discourages reporting of such behavior (See: [Text Box 1](#)).

NIH is a major funder of research training, and is therefore, a critical stakeholder in leading the transformation of the structure of doctoral and post-doctoral research training. As described extensively in previous work, institutions have little incentive to change their systems of training.⁴⁸ The Working Group recognizes that this is a long-term, aspirational recommendation, but believes NIH has the opportunity to provide real leadership to change the research training pathway to substantially reduce the risk of sexual harassment and create long-term, positive culture change.

Recommendation 4.6: NIH should conduct a landscape analysis of the prevalence and antecedents of sexual and gender harassment in order to develop interventions that address goal-specified gaps.

To assist with this analysis, NIH should validate and optimize tools that can be used to evaluate the research environment, with the goal of developing safe, diverse, and inclusive research environments. The developed tools can be used to assess the landscape as well as to understand the efficacy of any interventions. Research on creating methodological approaches that address the change in culture is also needed. We propose the development of a program assessing workplace climate culture at a

national level and the data be used as a foundation to develop strategies to combat the problem of sexual and gender harassment. The program could have the following elements:

- Survey – Institutions funded by NIH could administer a work-climate survey, similar to the NIH climate survey, that would act as a baseline for the institutions. The survey should probe for subtle gender harassment, overt sexual harassment, retaliation, as well as discrimination in other forms such as by race, ethnicity, sexual and gender minority status, disability status, immigration/citizenship status. In addition, student-to-student or peer-to-peer level harassment could be assessed.
- Tools – The program would provide funding to develop effective tools and interventions to address goal-specific gaps found by the survey to incentivize the institutions in changing the culture.
- Evaluation – Institutions would administer a work-climate survey, in addition to the survey administered by NIH, before and after and intervention. The results of this survey should be transparent and accessible. Institutions that participate in funding for the development of tools would conduct a post-intervention survey to assess the effectiveness of the strategies employed by the funding.
- Case Studies – Data coordinating centers could aggregate the data of the surveys (national work-climate surveys and post-intervention surveys) and host the developed strategies/interventions based on specific survey results. The aggregated data would be used for further research on the prevalence of sexual harassment within the biomedical workforce, implementation science of strategies to end sexual harassment, improve practices, and access culture change. The evidence-based practices and interventions found to be most effective should receive funding for deploying and scaling them up to NIH-funded institutions.

VII. Conclusion

In closing, the Working Group reiterates the need for NIH to use its unique position to set the tone to ensure that immediate and long-term changes are made to prevent sexual harassment. In order to sufficiently change the culture, NIH and the institutions it funds must coalesce around these recommendations and form a robust partnership to fully implement change. The Working Group felt strongly about the development of recommendations, not only for NIH, but also for NIH-funded institutions and scientific and professional societies.

While we recognize that many of these changes will require significant community input, time, and resources, we believe these changes are necessary for ensuring a safe research environment. Additionally, several of these recommendations should be easily implementable as they build on existing NIH and institutional grant and training infrastructure, rather than reinventing it. To increase the likelihood of uptake by NIH-funded institutions, NIH should make public as many resources as possible including, but not limited to, SOPs, flow charts, and trainings.

NIH must be committed to ongoing evaluation of all efforts to change the culture and end sexual harassment over time and provide accountability for all involved parties. A detailed evaluation plan should be developed to ensure that policies and strategies are having the intended effects. Considering that implementation of some recommendations may take significant time and resources, transparency and accountability will be paramount during the implementation of these recommendations to ensure progress is being made. There is not only a moral obligation for ending the culture of sexual harassment

in biomedical research – safe and harassment free research environments are also essential for conducting high-quality science.

VIII. Appendices

A. Concurrent NIH Actions

Assembling this Working Group is among a suite of actions undertaken by NIH to address the culture of sexual harassment. This section highlights NIH activities that occurred prior to and during the tenure of this Working Group.

NIH as a Research Institution

In late 2017, NIH established the Anti-Harassment Steering Committee, chaired by NIH Principal Deputy Director, Dr. Lawrence Tabak. This committee provides oversight on a number of actions to address harassment, including sexual harassment, at NIH. One such action was the expansion of the [NIH Civil Program](#), whose mission is to foster civility throughout the NIH community, and to address issues related to harassment, sexual harassment, and inappropriate conduct. Expansion of this program included the development of a hotline and a webform to anonymously report concerns associated with harassment. The Civil Program team delivered 102 anti-harassment training sessions to all level of staff within 22 different NIH Institutes and Centers on and off main campus, including Montana, North Carolina, and Baltimore. The Civil Program experienced tremendous growth throughout 2019 (Table 1). Their staff tripled to ensure they can properly handle the increase in reporting since the launch of the new process for reporting allegations of harassment. They also effectively managed and closed 271 cases so far in calendar year 2019 (CY19) and had a 165 percent increase in Civil website traffic. If the Civil Program continues received cases at the same rate as they have for the first 11 months of CY19, they will see the following percentage increase in CY19 over CY18:

- 98 percent increase in the total number of inappropriate conduct cases reported to Civil in CY19
- 79 percent increase in corrective actions taken for misconduct of a non-sexual and sexual nature

NIH Civil Data Report		
Program Activity	2018	2019**
Allegations of Inappropriate Conduct (Inappropriate Conduct of a Sexual and/or Non-Sexual Nature, Harassment, Bullying and Intimidation, Physical Violence, and Threats)	232	408
Active Cases / Pending Disciplinary Action (NOTE: During active inquiries interim action, including Administrative Leave, Telework, Cease and Desist Orders, etc., may be taken when necessary)	0	137
Evaluated & Referred to Another Resource (Referred to partnering offices as appropriate)	153	182
Corrective Actions* Taken for Misconduct of a Non-Sexual Nature	53	63
Corrective Actions* Taken for Misconduct of a Sexual Nature (Includes Gender Harassment)	26	26
Civil Training Sessions	97	102

Table 1: Data from the NIH Civil Program for calendar years 2018-2019.

* Corrective Actions include Separation during/after formal Civil process, suspensions, reprimands, cease and desist orders, written and verbal counseling, and required training.

** Jan 1 – Nov 30, 2019

In addition to expansion of the Civil Program, NIH issued a new chapter of the [NIH Policy Manual](#) and issued a new policy statement about [personal relationships in the workplace](#). The Policy Manual chapter states “The NIH will not tolerate inappropriate conduct or harassment, including sexual harassment. Timely and appropriate action will be taken against any individual found to be in violation of the policy outlined in this document. Through enforcement of this policy, the NIH seeks to prevent, correct, and eliminate unacceptable behavior that is inconsistent with the values and culture of respect and inclusion at the NIH. Retaliatory treatment towards any federal employee or non-federal worker for reporting allegations of inappropriate conduct or harassment, or for participating as a witness in an administrative inquiry or Equal Employment Opportunity (EEO) complaint process, is prohibited.” The chapter also includes detailed reporting procedures for targets and/or witnesses of inappropriate conduct, including sexual harassment, as well as requirements for managers and supervisors. Personal relationships (including romantic and/or sexual) between individuals in inherently unequal positions, where one party has real or perceived authority over the other in their professional roles, may be inappropriate in the workplace and are strongly discouraged. The Personal Relationships in the Workplace policy statement clarified the expectation that if such a relationship exists or develops, it must be disclosed.

In January 2019, NIH administered a Workplace Climate and Harassment Survey to all NIH employees, trainees, and contractors and focused on experiences of harassment in the previous 12 months. Overall, the response rate to the survey was quite high at 44 percent responding overall and 56.2 percent of NIH Federal employees participating. Interim findings from the survey indicated that 26.9 percent of women experienced sexual harassment in the previous 12 months, with higher incidences among women of certain groups including bisexual, gay, lesbian; trainees and younger individuals aged 18-44; and those with disabilities. Moreover, nearly half, 44.8 percent, of individuals who do not identify as cis-gender experienced sexual harassment in the previous 12 months. The [interim report](#) from the survey is available online.

Finally, NIH developed and implemented a brand new anti-harassment, Prevention of Sexual Harassment (POSH), and Notification and Federal Employee Antidiscrimination and Retaliation (NoFEAR) Act [online training course](#). This new training course contains high-quality, engaging content that requires users to respond to queries related to a number of case studies. All NIH staff were required to complete the training by November 15, 2019.

NIH as a Research Funding Agency

Approximately 83 percent of the NIH budget is used to support research at institutions around the United States. NIH has taken actions to address the culture of sexual harassment at NIH-funded institutions. In February 2018, [NIH leadership provided an update](#) on NIH’s efforts to address sexual harassment. The actions detailed in that statement included demonstrating accountability and transparency, clarifying NIH’s expectations, providing clear channels of communication to NIH, and listening to targets of sexual harassment and including their perspectives into future actions. Following issuance of the statement, NIH Director, Dr. Francis Collins, sent an email all NIH-funded institutions to clarify NIH’s expectations and ask for assistance in addressing the culture of sexual harassment. In May 2018, NIH released a [notice](#) clarifying NIH’s policy related to changing the PI and/or other key personnel on a grant for any reason, including being placed on administrative leave during or after an institutional investigation for inappropriate behavior. This notice refers grantee institutions to the [NIH Grants Policy Statement 8.1.2.6](#), which indicates that a reduction in effort of 25 percent or more by any PI or senior

personnel on a grant requires prior NIH approval. The requirement for NIH approval for a change in status applies regardless of whether the applicant organization designates a replacement.

In 2019, NIH created an [email address](#) and a [webform](#) to allow anyone to submit information related to a potential case of sexual harassment. Since creation of these tools, NIH has reviewed more than 100 incidents and inquiries. In several instances, these reviews have led to PI replacement/removal from grants and NIH peer review in addition to institutional disciplinary actions.

Lastly, Dr. Noni Byrnes, Director of NIH Center for Scientific Review, published a [blog post](#) explaining a reviewer's circumstances, including issues related to sexual harassment, can influence the integrity and impartiality of the peer review process. The blog post clarified that serving on peer review committees is neither a right nor a requirement, and in some instances, NIH may exercise its discretion to exclude individuals from serving as peer reviewers.

[NIH Participation on the National Science and Technology Council Joint Committee on Research Environments](#)

In May 2019, the White House National Science and Technology Council (NSTC) launched the Joint Committee on Research Environments (JCORE). JCORE, which is spearheaded by the NSTC Committee on Science and the Committee on Science and Technology Enterprise, is made up of four subcommittees, including the Subcommittee on Safe and Inclusive Research Environments (SIRE). SIRE is the primary coordinating body for Federal Agencies to share practices, challenges, and activities to combat harassment of all types in the research environment. SIRE is co-chaired by Dr. Carrie Wolinetz, NIH Associate Director for Science Policy and Acting NIH Chief of Staff; Ms. Rhonda Davis, Head, NSF Office of Diversity and Inclusion; and Dr. Stacy Aguilera-Peterson, Policy Advisor at the White House Office of Science and Technology Policy. The Subcommittee focuses on advancing proactive prevention of the conditions and characteristics that lead to a climate in which harassment in research environments is tolerated. The Subcommittee aims to foster an American research enterprise which serves as the epitome of our values, where researchers join, remain, and thrive in research because the environment accepts them, values their ideas, treats individuals as equals, is supportive, and promotes bold thinking, rigorous and civil debate, and collegiality.

B. Narrative from a Target of Sexual Harassment – Psychological Abuse and Institutional Betrayal

I left academia. I have not looked back. Many people have told me that I shouldn't let one person, my former graduate advisor, ruin science and academia for me. While the psychological abuse and sexual harassment I experienced from my adviser certainly contributed, he is not solely responsible for ruining science and academia for me. The culture that permeates academic institutions and the way my former institution treated me has made me utterly repulsed at the thought of ever going back.

I endured an immensely inappropriate and unprofessional environment for years. I believed that in the event I initiated an investigation into my adviser and his behavior, he would likely respond with what I now know has been called "DARVO:" Deny, Attack, and Reverse Victim and Offender. Accordingly, I felt a supportive department would be crucial to my ability to graduate. However, I did not feel that my department would fully support me if I came forward, and so, I resolved to wait until after I had earned my degree. Eventually, I was so miserable I could not take being in my adviser's lab anymore. In fact, when I finally decided to tell a university official what was happening, my thought process was: "I am already so miserable I can't function, and an investigation will also definitely be miserable, but at least it might be a different kind of misery and a different misery might somehow be more bearable."

What happened after I came forward confirmed many of my fears including that my department and institution were not well prepared to deal with the situation I was in. On the surface, it might appear that my institution handled my situation appropriately: the investigation found a policy violation, my adviser was given sanctions, and I graduated. However, there is so much more to situations like mine than what's on the surface, and what's below matters.

Even after the University investigated and determined that my graduate adviser had violated its sexual harassment policies, I heard my department chair minimize my and other labmates' experiences in a meeting with the entire department: graduate students, post-docs, and faculty. I listened to someone who was neither present during the harassment nor involved in the investigation use his position of power as a leader of the department to make unfounded implications and statements. For example, the department chair implied that the contexts in which my advisor spoke made what he said less egregious. However, there is no context in which an adviser commenting on his beliefs about a student's sexual performance is not revolting, much less any more appropriate. The department chair also made the all-too-common, but hurtful comment to remember how few targets there were. In the words of a colleague: "I'm not sure what [the department chair] is implying by saying that we should remember that 'it only happened to two students, in a couple of years,' but I did not ask for this. I did not consent to be made to feel insignificant and powerless. I am not so special that my qualities led to a drastic character change in an otherwise blameless and upstanding individual."

In light of these and other failings, I spoke to the provost, a dean, an associate dean, and a department chair. I divulged deeply personal and painful information to all of them. It made me feel small all over again, but I hoped that it would encourage these leaders to make needed changes. One of these institutional leaders said that "there were difficult personalities" involved, implying that it might be hard for him to enact change. I don't remember much from my conversation with that particular leader, but I will never forget my complete disappointment at his acceptance of letting these "difficult personalities" have so much control over whether changes to ensure the basic safety of students were made. I

certainly didn't have the luxury or privilege of avoiding "difficult personalities" during my time at his institution.

I have since followed up with some of these people to ask what actions have been taken to prevent a repeat of my experience. Perhaps steps have been taken, but I have yet to be informed by any of these institutional leaders of any concrete actions. I also asked the provost and dean for an apology for the unprofessional and demeaning comments made by the department chair at the department meeting. Students at the meeting were also rightfully upset by what they heard, and in response, the department held another meeting. I was told by students that at this second meeting the department chair said something along the lines of "I am sorry if you felt..." Meaningful apologies, however, include admitting some responsibility, e.g., saying "I am sorry I made you feel..." Unfortunately, given the University's lack of visible action since that second meeting, that faux apology seemed to be sufficient for them to move on despite all the hurt the department chair's statements caused. The department never extended this non-apology to me, and my requests to the provost and dean for an apology have not even been met with the simple courtesy of an acknowledgment that I asked for one.

The sexual harassment and psychological abuse I experienced from my graduate advisor was traumatic, but the response of my institution (or lack thereof, in many cases) is also deeply traumatic. I've struggled explaining to people, including those at my institution, how comments that seem to be in poor taste or a bad joke or even simply innocuous can add up to so much more. Perhaps one inappropriate comment from an advisor to a student about the student's appearance can be laughed off, but when those comments are made frequently enough that it feels like the work and effort don't matter, every comment hurts, even the ones that seem like funny, harmless banter to others. This is especially true in the context of an ongoing experience that includes grossly inappropriate comments that frequently occur in settings with few to no witnesses. I recently read about someone describing her experience as a "death by a thousand paper cuts," which seems particularly apt to me. I spent years facing someone who attacked my sense of self, so when I finally came forward about my graduate advisor, I was looking to my institution to help give me some feeling of my humanity back, to help heal those thousand paper cuts I was subjected to by one of its professors. Instead, many of the institution's actions — such as its leaders not responding to an email, acknowledging my simple request, or implying I was exaggerating or lying about some events— felt like pouring and rubbing salt into those thousand paper cuts.

Targets of harassment have long acted courageously. It's time for institutions, and the leaders within them, to do the same.

C. Narrative from a Target of Sexual Harassment – Institutional Betrayal and Lack of Transparency*

“Professional Misconduct

The first time I experienced sexual misconduct in the STEM environment I thought that it was my fault. I had been at a party in our department and drinking alcohol, just like most of the other attendees, but I was a graduate student. I thought that it was my fault for letting my inhibitions go when the party dwindled and I went with the other graduate students back to the campus apartment of my peer who ultimately assaulted me. I was horrified and told other people, and spoke anonymously about it in a blog entry. The assaulter confronted me the next day in my lab. I was mid-dilution series when he blocked the door in our tissue culture room and screamed that I was a “fucking cunt” for sullyng his reputation by accusing him of sexual harassment. Up until the assault, he thought I was having a good time. How dare I accuse him when I had been drinking and leading him on? If I didn’t stop “running my mouth,” he was going to *make me* shut up. He threatened to kill me. At that point other colleagues had noticed and he fled the scene. These colleagues were very concerned, and with their support, I reported it to the department chair, according to the school policy. The department chair, also my assaulter’s PI, assured me that the entire matter was being handled with the utmost seriousness, and he would never be permitted to be around me at any future professional function on campus.

A year later, the department chair kicked him out of his lab for anger issues and shortly afterward moved to a different institution. Immediately, my assaulter began coming to loiter on my floor of the building we worked in. I reported it to campus police, who asked me why I hadn’t reported it a year prior when the original incident occurred. I explained that I had reported it to my department chair, and they said that this did not count since he hadn’t documented it, and as far as they were concerned, that was the same as me not reporting it at all. That was the beginning of my understanding how deeply and profoundly the system would fail me. I followed the school’s policy at the time, and yet I was the one who was blamed for the institutional failures that were unable to protect me and the other women in my department.

My assaulter, now on his third PhD lab because of serial problems with explosive rage, ended up graduating early because the program wanted to be rid of him and there was no departmental or institutional will to expel him or hold him accountable for any of his behavior. I expressed this opinion publicly and he threatened to sue me. An assistant dean got involved and required me to sign a “settlement” in which I agreed not to disparage my own assaulter in exchange for him dropping the lawsuit. I experienced profound depression and seriously considered leaving graduate school within six months of getting my doctorate because I didn’t think I could take any more. My work suffered and I blamed myself for not handling the situation well. My core confidence was permanently shaken. If my institution didn’t believe me enough to take any action whatsoever, how could I possibly believe in myself? My PI supported me, but if he, a tenured professor with an endowed position, couldn’t help me, did I even deserve to be here getting this PhD in the first place?

Institutional Misconduct

I did successfully earn my PhD in 2009 and secured a postdoctoral fellowship at the largest university in my home state, just a short drive from where I grew up. I thought that this would be a fresh start in a new environment. I quickly learned that my new PI behaved erratically. Sometimes he could be charming or kind, but other times he could become enraged with no apparent provocation. I personally witnessed him

* Excerpted from “A personal narrative of sexual misconduct in STEM”. Source: <https://medium.com/@angierasmussen/a-personal-narrative-of-sexual-misconduct-in-stem-ab184c45d890>

fire multiple people at lab meetings, sometimes with little provocation. He could be brutally cruel and had a talent for identifying weaknesses and vulnerabilities and using them to humiliate and control his employees. He mocked people for their relationships, their physical appearance, and their competence. The abusive behavior was worse when he was drinking, which was often. I had to enter therapy in order to cope with the stress of working for him. Although in hindsight, much of my PI's behavior was appalling, the behavior was so openly tolerated that it was normalized. It seemed that, to the university, his behavior was tolerable as long as he kept the indirect costs flowing in.

In 2015, the university quietly began investigating my PI for a complaint of sexual harassment. To my knowledge, nobody in the lab was informed of this until we went in for interviews with the university investigator. The investigator asked about my PI's behavior but told me that the initiating complaint was demonstrably false. Two days before Christmas, the department chair, accompanied by multiple institutional attorneys, convened an emergency meeting with the lab to announce that my PI was on indefinite administrative leave pending a hearing to begin formal disciplinary processes, and that they would be notifying funding agencies that he could no longer function as PI. However, I was cautioned that I was not allowed to speak to him or anyone else, and would not disclose the specific allegations were against him. Furthermore, while it was apparent that the likely outcome was that we would all lose our jobs, they told us explicitly that they were not able to support us in obtaining new positions because they were not allowed to discuss details of the case. I challenged their authority to enforce confidentiality, as the university is a public institution and cannot tell its employees who they can speak to about something as serious and personal as their livelihoods outside of work. Because nothing about the process was transparent, the only account any of us heard was from the PI himself, who echoed what the university investigator said. He alleged that the university was taking this opportunity to get rid of him while transferring the work to more compliant PIs, preserving the millions in indirect costs that those grants brought into the university. As a result, many of us defended him, which turned out to have lasting consequences for our reputations and livelihoods.

As it turned out, there was quite a bit more to the allegations. In June 2016, a [Buzzfeed article by Azeen Ghorayshi](#) came out disclosing the investigation's findings and the allegations for which he was being disciplined. As the [Seattle Times reported](#), "A University of Washington researcher whose cutting-edge work has put the UW on the forefront of Ebola and flu research has been removed from his lab after two university investigations found he sexually harassed women who worked there and asked employees to solicit a prostitute for him." According to the [investigative report](#), he had sexually harassed his administrative staff for years, including using university resources to solicit prostitutes and obtain illegal drugs including cocaine and opioids. He hired women as administrators to perform sexual services and personal chores for him and paid lavish salaries well in excess of their qualifications (and exceeding those of some senior scientists in the lab, [including myself](#)). He sexually assaulted at least one of these women: "On two occasions, it found, Katze got drunk and was physical with Jane, including once at a conference in 2014. Jane said that Katze 'put his hands all over her and that he ripped her pants,' the investigation states." He used government funds inappropriately, including to finance a relationship with one of the administrators he hired, [effectively to act as his girlfriend](#): "He also bought her gifts, including vacations. From the beginning, the investigator noted, Katze held the job and gifts over Mary's head, making it clear they were dependent on her continuing to act as his girlfriend."

Furthermore, there was a long pattern of this behavior. Ghorayshi reported [that he had been reprimanded for watching pornography in his office in 2008](#), a year before I started my postdoc. Numerous complaints of bullying, harassment, and retaliation had been filed over the years, resulting in no meaningful discipline whatsoever. As [reported in Buzzfeed](#), "The university had received at least seven

previous complaints about Katze's behavior, including claims that he was frequently intoxicated in the lab, watched porn on his university computer, belittled his employees, and retaliated against lab members who challenged him. A UW spokesperson said the school dealt with allegations against Katze, over the years, with 'letters to him, admonishments, etcetera.' But his employment was never suspended or terminated." There was also [evidence of financial misconduct dating back to 2007](#), as reported by Ghorayshi: "Katze had been accused of financial improprieties in 2007, when an employee sent an email to the School of Medicine's dean's office saying that Katze had approved outrageous fees for work unnecessarily outsourced to a company whose board he sat on. According to the UW spokesperson, the university did not investigate those allegations." It was clear to me that the university was incentivized by Michael's lucrative revenue stream of indirect costs to willfully ignore flagrantly fraudulent, illegal behavior for decades.

Unfortunately, this was also clear to the university. Shortly after the BuzzFeed piece came out, I was contacted by the department chair who claimed that I had been overpaid by the university and demanded that I return nearly \$10,000 to the department. They threatened to damage my credit and potentially sue me. I had to appeal to the state before they acknowledged that I was not overpaid, attributing it without apology to an accounting error made by payroll. At this time I had already moved on and was in a position financially to fight for my rights, but that was not the case for many other lab members. The most vulnerable members of the lab were the most profoundly harmed. Technicians and support staff, particularly older women who had spent the bulk of their careers with the lab, were not retained. In my opinion, these dedicated employees, who had done nothing wrong other than work for my PI, were effectively abandoned by the institution that they had served for decades and struggled to find new roles. This betrayal is far more painful and traumatic to me than that perpetrated by my PI himself. I confronted the PI after the BuzzFeed piece came out and told him to never contact me again. Unsurprisingly, he was unrepentant and didn't deign to respond, which I found characteristic of the narcissism cultivated by years of being a "superstar" PI indulged by his institution. I have still not recovered from the trauma inflicted upon his lab by the institution itself, nor have the people who were most harmed. Even after my PI was stripped of tenure and fired in 2017, there has been no outreach from the university or attempts to provide any kind of support or restorative justice. I was tremendously proud of working at the marquis university of my home state, and even now would still love to be part of that community. It breaks my heart that the institution failed all of my colleagues so irrevocably and profoundly, and that there still has been no acknowledgement of the human toll exacted by reducing an entire laboratory of more than 30 people to acceptable collateral damage. This experience taught me that there are many, many ways of being deeply harmed by a harasser without being harassed directly. The most damaging harm — harm done to a community rather than an individual — requires institutional complicity.

Programmatic Misconduct

After the disastrous collapse of the lab where I did my postdoc, I was recruited as non-tenure track faculty to the institution where I went to graduate school. I was able to bring with me funding for ongoing projects I had led in my previous lab to preserve the research. One of these funding sources was a subaward on a large contract with a non-HHS federal funding agency. During a programmatic site visit, I was sexually harassed by a program officer who repeatedly propositioned me and made sexist and racist comments. When I declined his advances, he retaliated by attempting to cancel the multi-million dollar contract. This was not only traumatic for me as the one who endured the behavior itself, but also damaging to over twenty people at two institutions funded by the contract and a tremendous waste of government resources.

Fortunately, I had documented the harassment. The prime institution complained on my behalf, the contract was re-instated, and my harasser was eventually fired. However, this only occurred after the prime institution threatened a lawsuit and I spoke with administrators, deans, and attorneys at both my institution and the prime institution. This resulted in multiple discussions with the general counsel of the funding agency, during which I learned that my harasser had been previously reported for similar behavior on multiple occasions and the agency's internal investigation determined that he should be fired. I was genuinely surprised that the general counsel of this agency was empathetic and repeatedly assured me that he believed me, which up to this point had been uncommon in my experience with institutional attorneys charged with investigating complaints of misconduct. I was very grateful for his transparency and candor, which empowered me to make decisions about how to proceed without the added stress of possible retaliation for reporting my harassment. However, while I believe that the general counsel's kind, justice-seeking perspective is essential for conducting such investigations in a victim-centered way, I was disappointed to learn that the agency's policies were not as compassionate. In order for that agency to proceed with disciplinary action, I had to agree to allow my harasser to cross-examine me in person if he chose to appeal the termination. I am certain that this policy has a deterrent effect for many complainants. Though he did not appeal, I couldn't help but think how he might not have even been in a position to harass me if meaningful action had been taken for previous complaints about his behavior. Why wasn't action taken previously? While I do not know the contents of these prior reports, I wonder if he was allowed to remain because those victims didn't document the behavior thoroughly enough, or were reluctant to put themselves in a position where they could be attacked in person by their abuser. The process for getting a just outcome is extraordinarily difficult when the burden is overwhelmingly placed on victims to document their own abuse, tell the story of the abuse over and over again to officials with no obligation to maintain confidentiality or training in victim advocacy or support, and avail themselves to be confronted by their harasser in person. If not for my unfortunately extensive experience with academic misconduct and retaliation, this outcome may have been different and my harasser might still be in a position to abuse his power with others.

For years, I wondered if I was a magnet for this behavior or if I simply had terrible taste in research environments and mentors. However, after nearly two decades, I've realized that I am not uniquely susceptible or particularly unlucky, but that misconduct is so prevalent that such experiences are common to the majority of women, people of color (especially women of color), and/or members of the LGBTQIA community. Furthermore, a major reason why targets of misconduct often feel so alone and helpless is that they are failed by the system at every level: the reporting process is deeply flawed, investigations are not impartial, institutions are not incentivized to center victims or provide restorative justice, and funding agencies do not act decisively to discipline abusers in a way that minimizes collateral damage. Academia remains dominated by a hierarchical culture that protects abusers and values financial and reputational liability over the lives and careers of the abused. I cannot quantify the pain and loss I've suffered from the experiences I shared here, nor measure the harm that has been done to my career for speaking up. The costs to the scientific research community as a whole from the millions of other targets are devastatingly vast.

Those of us who have survived misconduct and our allies have been burdened with this long enough. Transforming the way professional misconduct is addressed in biomedical research will not just bring sorely needed justice, parity, and inclusion, but will transform countless lives and careers. The NIH is in a position to show real leadership by acting on the recommendations made by the Advisory Committee to the Director Working Group on Changing the Culture to End Sexual Harassment. I urge NIH leadership to take this opportunity to implement meaningful, revolutionary change."

D. Presenters at Working Group Meetings

Stephanie Abbuhl, MD, FACEP

Stephanie Abbuhl, MD, is Professor and Vice Chair of Faculty Affairs in the department of Emergency Medicine at the University of Pennsylvania's Perelman School of Medicine. She is board certified in both emergency medicine and internal medicine and completed the ELAM (Executive Leadership in Academic Medicine) fellowship in 2004-2005. Dr. Abbuhl played a key role in the evolution of Emergency Medicine into a full academic department at Penn and, over the years, has served in several leadership positions including Interim Chair, Medical Director for 14 years, Fellowship Director, and Vice Chair since 2004. She has continued to actively practice and teach emergency medicine at Penn Med for over 30 years. Dr. Abbuhl's primary research interests include establishing evidence-based best practices for faculty development (men and women) and investigating gender issues surrounding career advancement in medicine and science. She has also done research in Emergency Medicine, primarily on operational issues. She has over 100 publications to her credit and serves as a peer reviewer for emergency medicine and internal medicine journals. Dr. Abbuhl's honors include: AOA (1980); the Bryce Collier Prize for Compassion in Medicine (1980); the American Medical Women's Association Award (1980); Excellence in Teaching Award (1992); Philadelphia Magazine's "Top Doc" award (1994, 1996); the Lenore Rowe Williams Award from the University of Pennsylvania (2003); and the Emergency Medicine Residency Mentorship Award (2003, 2010, 2012). In addition, Dr. Abbuhl received the 2012 AAMC Group on Women in Medicine and Science Leadership Development Award, a national honor in recognition of her research and programmatic work on faculty development and promoting women's biomedical careers. She also won the 2013 Trustees' Council of Penn Women-Provost Award at Penn for her leadership in advancing women faculty at the University of Pennsylvania. Most recently, in 2015, Dr. Abbuhl was honored to receive the Arthur K. Asbury Outstanding Faculty Mentor Award, one of the annual Penn Medicine Awards of Excellence.

Since 2001, Dr. Abbuhl has been the Executive Director of FOCUS on Health & Leadership for Women, a unique faculty development program funded by the Dean to recruit, retain and advance women faculty and to promote women's health research. In 2004, the FOCUS program received the AAMC's Women in Medicine Leadership Development Award. Dr. Abbuhl's experience with numerous innovative FOCUS initiatives led to a joint-PI collaboration with Dr. Jeanne Ann Grisso on a unique RO1-funded study, the NIH-TAC (Transforming Academic Culture) Trial, to examine causal factors and interventions that promote women's careers in science and medicine. This 4-year trial, the first of its kind, implemented a 3-tiered intervention in a cluster-randomized design across an entire school of medicine, aimed at improving the academic productivity and job satisfaction of women faculty. Since 2013, along with a team of multidisciplinary Penn colleagues, Dr. Abbuhl has developed a Penn Pathways career-leadership program for men and women assistant professors in the STEM fields at the request of the Penn Vice-Provost for the Faculty.

Frazier Benya, PhD

Dr. Frazier Benya is a Senior Program Officer with the Committee on Women in Science, Engineering, and Medicine (CWSEM) at the National Academies of Sciences, Engineering, and Medicine. Dr. Benya's work focuses on ensuring that science, engineering, and medicine are ethical and socially responsible, both in their practice and in who gets to participate in the work. She recently served as the study director for the National Academies consensus study report Sexual Harassment of Women: Climate,

Culture, and Consequences in Academic Sciences, Engineering, and Medicine. Before joining the CWSEM staff, Dr. Benya worked with the National Academy of Engineering from 2011 to 2017, during which time she managed projects for its Center for Engineering Ethics and Society and co-lead the effort to expand and enhance the NAE Online Ethics Center (OEC) for Engineering and Science website. Her work with the NAE focused on improving and enhancing engineering ethics education and on analyzing the pathways engineers take from education to the workforce.

Dr. Benya holds a B.A with honors in Science, Technology and Society from the University of Puget Sound, and a M.A. in Bioethics and Ph.D. in History of Science, Technology, and Medicine from the University of Minnesota. Her Ph.D. focused on the history of bioethics and scientific social responsibility during the 1960s and 1970s that led to the creation of the first federal bioethics commission in 1974. Her M.A. examined different types of institutional methodologies for considering the social implications of science with a focus on those that integrate scientific research with ethics research in the United States and Canada. Dr. Benya was elected a Fellow of the American Association for the Advancement of Sciences in 2017.

Noni Byrnes, PhD

Dr. Noni Byrnes is the Director of the NIH Center for Scientific Review (CSR). She previously served as the Director of the Division of Basic and Integrative Biological Sciences (DBIB) within CSR, which comprises six Integrated Review Groups (IRGs): Biological Chemistry and Macromolecular Biophysics (BCMB), Bioengineering Sciences and Technologies (BST), Cell Biology (CB), Genes, Genomes and Genetics (GGG), Interdisciplinary Molecular Sciences and Training (IMST) and Oncology-1 – Basic Translational(OBT). Between 2006 and 2011, she served as the Chief of the CB IRG. She received her Ph.D. in analytical chemistry from Emory University, where her research focused on the development of bioanalytical separations and fluorescence spectroscopic methods. She was then employed by Procter & Gamble (P&G) Pharmaceuticals as a staff scientist in the Bioanalytical Drug Development Section. Dr. Byrnes joined CSR in late 2000 as a Scientific Review Officer in the BCMB IRG. From 2004 to 2006, she also served as the Coordinator of CSR's Review Internship Program.

Jenn Garcia-Alonso

Jenn Garcia-Alonso is responsible for creating and managing the execution of BCG's gender-diversity strategy across the firm's four regions. She leads the global Women@BCG team, charged with strengthening the recruiting, retention, and satisfaction of BCG's women and tracking results to ensure progress and accountability. In addition, she collaborates with external partners including Catalyst, Women in the World, and TEDWomen.

In her work with clients, Jenn advises on issues such as culture and transformation relating to gender-diversity advancement.

Judith Greenberg, PhD

Judith H. Greenberg, Ph.D., became the deputy director of NIGMS in January 2015.

In this position, Greenberg advises the NIGMS director on the Institute's \$2.6 billion budget, which supports basic research that increases understanding of biological processes and lays the foundation for advances in disease diagnosis, treatment and prevention.

NIGMS supports more than 3,000 investigators and 4,000 research grants—around 11 percent of the total number of research grants funded by NIH—as well as a substantial amount of research training and programs designed to enhance the diversity of the biomedical research workforce and develop research capacities throughout the country.

Greenberg, a developmental biologist by training, was appointed as director of the NIGMS Division of Genetics and Developmental Biology in 1988. She also served as the Institute's acting director twice, from May 2002 to November 2003 and from July 2011 to August 2013.

Greenberg oversaw the development of the Institute's strategic plan issued in 2008 and its strategic plan for training issued in 2011.

Greenberg has a strong interest in bioethics issues, research training and career development, and she has advised NIH on topics that include human embryonic stem cells, gene therapy and biomedical career advancement for women. Additionally, she served as principal leader of the NIH Director's Pioneer Award program from 2004 to 2012 and of the NIH Director's New Innovator Award program from its inception in 2007 to 2012. She was also the project officer for the NIGMS Human Genetic Cell Repository, a key resource for genetic research, from 1984 to 2011.

Prior to joining NIGMS as a program administrator in 1981, Greenberg conducted research in the intramural program of what is now NIH's National Institute of Dental and Craniofacial Research. Her focus was on cell migration and differentiation in early embryonic development.

Greenberg's honors include a Public Health Service Special Recognition Award in 1991 and a Presidential Meritorious Executive Rank Award in 1999. Her leadership of the Pioneer and New Innovator Award programs was recognized with NIH Director's Awards in 2006 and 2008, respectively. In 2013, she was recognized with the inaugural NIGMS Distinguished Service Award.

Greenberg earned a B.S. in biology from the University of Pittsburgh, an M.A. in biology from Boston University and a Ph.D. in developmental biology from Bryn Mawr College in Bryn Mawr, Penn.

Melvin Greer

Melvin Greer is Chief Data Scientist, Americas, Intel Corporation. He is responsible for building Intel's data science platform through graph analytics, machine learning and cognitive computing to accelerate transformation of data into a strategic asset for Public Sector and commercial enterprises. His systems and software engineering experience has resulted in patented inventions in Cloud Computing, Synthetic Biology and IoT Bio-sensors for edge analytics. He functions as a principal investigator in advanced research studies, including Nanotechnology, Additive Manufacturing and Gamification. He significantly advances the body of knowledge in basic research and critical, highly advanced engineering and scientific disciplines. Mr. Greer is a member of the American Association for the Advancement of Science (AAAS) and U.S. National Academy of Science, Engineering and Medicine, GUIRR.

Melvin is one of the 2018 LinkedIn Top 10 Voices in data science and analytics. He also received the Washington Exec inaugural Pinnacle Award as the 2018 Artificial Intelligence Executive of the Year. Melvin received the 2017 BDPA Lifetime Achievement Award and the 2012 BEYA Technologist of the Year Award which recognize his outstanding technical contributions that have had a material impact and high value to society as a whole. Melvin Greer has been appointed Fellow of the National Cybersecurity Institute where he assists government, industry, military, and academic sectors meet the challenges in

cyber security policy, technology and education. Melvin is Professor, Master of Science in Data Science program at Southern Methodist University (SMU) and Adjunct Faculty, Advanced Academic Program at Johns Hopkins University, where he teaches the Masters of Science course “Practical Applications of Artificial Intelligence”.

In addition to his professional and investment roles, he is Founder and Managing Director of the Greer Institute for Leadership and Innovation, focused on research and deployment of a 21st Century Leadership Model. Mr. Greer is a frequent speaker at conferences and universities and is an accomplished author; his fifth book “Practical Cloud Security a Cross Industry View” is his most recently published book. Melvin is a Board of Trustee at Capitol Technology University where he oversees and aligns its strategic direction, educational policy, finances and operations with the mission of the university.

As a popular educator and board member at a number of Historical Black Colleges and Universities, Greer is leading science, technology, mathematical and engineering (STEM) research initiatives, directly trying to shape a more diverse generation of up-and-coming technical talent. Greer received his Bachelor of Science degree in Computer Information Systems and Technology and his Master of Science in Information Systems from American University, Wash. D.C. He also completed the Executive Leadership Program at the Cornell University, Johnson Graduate School and the Entrepreneurial Finance program at MIT Sloan School of Management.

Michael Lauer, MD

Michael Lauer, M.D., is the Deputy Director for Extramural Research at the NIH, where he serves as the principal scientific leader and advisor to the Director of the NIH on all matters relating to the substance, quality, and effectiveness of the NIH extramural research program and administration. He received education and training at Rensselaer Polytechnic Institute, Albany Medical College, Harvard Medical School, Harvard School of Public Health, and the NHLBI's Framingham Heart Study. He spent 14 years at Cleveland Clinic as Professor of Medicine, Epidemiology, and Biostatistics. During his tenure at the Clinic, he led a federally funded internationally renowned clinical epidemiology program that applied big data from large-scale electronic health platforms to questions regarding the diagnosis and management of cardiovascular disease. From 2007 to 2015 he served as a Division Director at the National Heart, Lung, and Blood Institute (NHLBI), where promoted efforts to leverage big data infrastructure to enable high-efficiency population and clinical research and efforts to adopt a research funding culture that reflected data-driven policy. He has received numerous awards including the NIH Equal Employment Opportunity Award of the Year and the Arthur S. Flemming Award for Exceptional Federal Service in recognition of his efforts to grow a culture of learning and accountability.

BethAnn McLaughlin, PhD

Dr. BethAnn McLaughlin built her academic career studying mitochondrial and redox stress signaling in neurological injury and disease. She has received major research funding from the NIH, the Department of Defense, the Dan Marino Foundation, the American Heart Association and Intelligence Advanced Research Projects Activity (IARPA). Her career was sidetracked in 2014 when she experienced retaliation after being a witness in a Title IX investigation. Dr. McLaughlin created the website, and subsequent nonprofit organization, MeTooSTEM and shared the "2018 MIT Media Lab Disobedience Award" with Tarana Burke and Sherry Marts for her leadership in raising awareness of "Me Too" issues in STEM institutions.

Julie Segre, PhD

Dr. Julie Segre received her B.A. summa cum laude in mathematics from Amherst College, where she now serves on the board of trustees. She received her Ph.D. in 1996 from the Massachusetts Institute of Technology in the laboratory of Eric Lander, Ph.D., and the newly formed genome center. Dr. Segre then performed postdoctoral training with Elaine Fuchs, Ph.D., an expert in skin biology, at the University of Chicago.

Dr. Segre joined the National Human Genome Research Institute of NIH in 2000 and was promoted to a senior investigator with tenure in 2007. Dr. Segre's laboratory utilizes high-throughput sequencing and develops algorithms to study the microbial diversity of human skin in both health and disease states, with a focus on eczema and other microbial-associated infections. Dr. Segre published the first topographical maps of human skin bacterial and fungal diversity. Dr. Segre's laboratory also develops genomic tools to track hospital-acquired infections of multi-drug resistant organisms, including the NIH's recent *Klebsiella pneumoniae* outbreak.

Dr. Segre's research is based on active collaborations with the NIH Intramural Sequencing Center and the clinical departments of Infection Control, Microbiology, and Dermatology. Dr. Segre is a leader in the NIH Roadmap Human Microbiome Project, communicating with multiple media sources to promote the concept of humans as ecological landscapes. Together with the NIH epidemiologist, Tara Palmore, M.D., Segre received the 2013 Service to America Medal, considered among the most prestigious for a federal employee, for their work to establish the clinical utility of microbial genomics.

Kelly Ten Hagen, PhD

Dr. Kelly Ten Hagen is a Senior Investigator and Chief of the Developmental Glycobiology Section within the National Institute of Dental and Craniofacial Research (NIDCR) at the NIH. She received a BS from Cornell University (with distinction and honors) and earned a PhD in genetics at Stanford University. She served as a research assistant professor at the University of Rochester and then as a senior research fellow at the National Institute of Diabetes and Digestive and Kidney Diseases. She was appointed Chief of the Developmental Glycobiology Section at the NIDCR and promoted to Senior Investigator in 2012. Dr. Ten Hagen's lab studies the factors that regulate protein glycosylation and how this conserved protein modification influences organ development and function, to better understand how aberrations contribute to disease.

Dr. Ten Hagen has served as an editorial board member for The Journal of Biological Chemistry and currently serves on the Board of Directors for the Society for Glycobiology and as a Council Member for the American Society for Biochemistry and Molecular Biology (ASBMB). She is a founding member of the Women in Biochemistry and Molecular Biology Committee within the ASBMB. Dr. Ten Hagen is also a Fellow of the American Association for the Advancement of Science (AAAS). At the NIH, she currently serves on the NIDCR Division of Intramural Research Executive Leadership Committee, the NIH Central Tenure Committee, the Woman Scientists Advisors Committee, the NIDCR Committee on Diversity and Inclusion, the NIH Anti-Harassment Committee and as a Class Dean for the NIH Oxford Cambridge Scholars Program. She received two NIH Director's Awards in 2019 for her efforts to address harassment in the workplace and to promote the recruitment and retention of women in science. Dr. Ten Hagen shared the 2019 Equity, Diversity and Inclusion Award of the year (with Dr. Julie Segre) for their efforts to combat harassment in the workplace.

Hannah Valantine, MD

Dr. Hannah Valantine received her M.B.B.S. degree (Bachelor of Medicine, Bachelor of Surgery; the United Kingdom's equivalent to an M.D.) from St. George's Hospital, London University in 1978. After that, she moved to the University of Hong Kong Medical School for specialty training in elective surgery before returning to the U.K. She was awarded a diploma of membership by the Royal College of Physicians (M.R.C.P.) in 1981. In addition, she completed postgraduate training and numerous fellowships, serving as senior house officer in Cardiology at Brompton Hospital and Registrar in Cardiology and General Medicine at Hammersmith Hospital. In 1985, Dr. Valantine moved to the United States for postdoctoral training in cardiology at Stanford University, and in 1988, she received a Doctor of Science (DSc), Medicine, from London University. Dr. Valantine became a Clinical Assistant Professor in the Cardiology Division at Stanford and rose through the academic ranks to become a full Professor of Medicine in the Division of Cardiovascular Medicine and Director of Heart Transplantation Research. She came to the NHLBI in 2014 to continue her research while also serving as the first NIH Chief Officer of Scientific Workforce Diversity. Dr. Valantine has received numerous awards throughout her career including a Best Doctor in America honor in 2002. She has authored more than 160 primary research articles and reviews and previously served on the editorial boards of the journals *Graft* and *Ethnicity & Disease*. Dr. Valantine is a member of the American College of Cardiology, the American Society of Transplant Physicians, and the American Heart Association, and past President of the American Heart Association Western States Affiliate.

Carrie Wolinetz, PhD

Dr. Carrie D. Wolinetz is the Acting Chief of Staff, as well as the Associate Director for Science Policy and Director of the Office of Science Policy (OSP) at NIH. As leader of OSP, she advises the NIH Director on science policy matters of significance to the agency, the research community, and the public, on a wide range of issues including human subjects protections, biosecurity, emerging biotechnologies ranging from stem cells to gene editing, data sharing, regenerative medicine, the organization and management of NIH, and the innovation policies related to NIH-funded research.

Prior to joining NIH, Dr. Wolinetz worked on biomedical research policy issues as the Deputy Director for Federal Affairs at the Association of American Universities (AAU) and the Director of Scientific Affairs and Public Relations at the Federation of American Societies for Experimental Biology (FASEB). She also served as the President of United for Medical Research, a leading NIH advocacy coalition. Outside of NIH, Dr. Wolinetz teaches as an Adjunct Assistant Professor at Georgetown University in the School of Foreign Service's program on Science, Technology & International Affairs.

She has a BS in animal science from Cornell University, and she received her PhD in animal science from The Pennsylvania State University, where her area of research was reproductive physiology.

E. Summary of In-Person Working Group Meetings

February 5-6, 2019

The Working Group convened for the first time on February 5 and 6, 2019. The purpose of this meeting was to gain a better understanding of the prevalence of sexual harassment and other inappropriate behaviors, the culture of sexual harassment, as well as best practices associated with preventing sexual harassment. Guest speakers were invited to the meeting to participate in the following sessions (See: [Appendix F](#)): “Proven Interventions for Changing Culture”, “Framework for Addressing Allegations and

Findings of Sexual Harassment”, “NIH Actions to Address Findings of Sexual Harassment”, “Addressing the Culture within NIH”, “Perspectives from #MeTooSTEM on NIH Working Group Recommendations”, “Preventing Sexual Harassment in Higher Education”, and “Evidence Related to Gender Equity in Biomedical Research”.

May 17, 2019

The Working Group convened on May 17, 2019 to develop [interim recommendations](#) to be presented at the NIH Advisory Committee to the Director Meeting on June 13, 2019. The Working Group developed four interim recommendations:

1. Treat professional misconduct as seriously as research misconduct.
2. Require all principal investigators (PIs) to attest, when submitting NIH grant applications and progress reports, that they have not violated and will not violate their institutional code of conduct.
3. Establish mechanisms for restorative justice for targets of harassment and to recapture lost talent.
4. Develop novel approaches to address investigator independence from their mentors.

Once the interim recommendations were identified, the Working Group formed smaller subgroups to fully develop the recommendations. Deliberations continued via email and teleconferences to finalize the interim recommendations and report.

August 19-20, 2019

The Working Group met in August 2019 to agree on a final, comprehensive list of recommendations (including the interim recommendation presented to the ACD in June 2019). The meeting consisted of brainstorming sessions to develop a comprehensive list of approaches to address the culture of sexual harassment – including both short- and long-term recommendations. During the brainstorming sessions, four key themes emerged (See: [Section VI](#)). The Working Group then assembled into smaller groups to draft the full recommendations for each theme. Following the meeting, Working Group members devoted significant effort to drafting and refining themes and recommendations.

October 7-8, 2019

The purpose of this meeting was to share with the full Working Group the themes and recommendations developed by the smaller groups, eliminate redundant recommendations, restructure the report, and identify any gaps.

F. Meeting Agendas

NIH ACD Working Group on Changing the Culture to End Sexual Harassment: Kickoff Meeting

February 5-6, 2019

The Cloisters (Building 60)

National Institutes of Health

Bethesda, MD

DAY 1: TUESDAY, FEBRUARY 5

7:40AM: Shuttle Departure, Bethesda Marriott

8:30AM: Welcome

- **Francis Collins, MD, PhD**, Director, National Institutes of Health

8:45am: Opening Remarks

- **Francis Cuss, MB, BChir, FRCP**, National Institutes of Health Advisory Committee to the Director
- **Kristina Johnson, PhD**, The State University of New York
- **Carrie Wolinetz, PhD**, National Institutes of Health

9:15am: Working Group Member Introductions

9:45am: Panel Presentation: Proven Interventions for Changing Culture

- **Moderator: Francis Cuss, MB, BChir, FRCP**
- **Stephanie Abbuhl, MD, FACEP**, University of Pennsylvania
- **Melvin Greer**, Intel Corporation
- **Hannah Valentine, MD**, National Institutes of Health

10:15am: BREAK

10:30am Panel Discussion

- **Moderator: Francis Cuss, MB, BChir, FRCP**
- **Stephanie Abbuhl, MD, FACEP**, University of Pennsylvania
- **Melvin Greer**, Intel Corporation
- **Hannah Valentine**, National Institutes of Health

11:30am: Framework for Addressing Allegations and Findings of Sexual Harassment

- **Carrie Wolinetz, PhD**

11:45am: NIH Actions to Address Findings of Sexual Harassment

- **Mike Lauer, MD**, National Institutes of Health

12:00pm: Discussion

12:30pm: LUNCH

- 1:30pm: Addressing the Culture within NIH
- **Kelly Ten Hagen, PhD**, National Institutes of Health
 - **Julie Segre, PhD**, National Institutes of Health
- 1:45pm: Discussion
- 2:00pm: Perspectives from #MeTooSTEM on NIH Working Group Recommendations
- **Beth Ann McLaughlin, PhD**, Vanderbilt University
- 2:15pm: Discussion
- 2:45pm: BREAK
- 3:00pm: Day 1 Wrap-Up and Discussion
- 5:00PM: Adjourn
- 6:00pm: No-Host Dinner at Cooper's Mill, Bethesda Marriott

DAY 2: WEDNESDAY, FEBRUARY 6

- 7:40am: Shuttle Departure, Bethesda Marriott
- 8:30am: Recap of Day 1 and Discussion
- **Francis Cuss, MB, BChir, FRCP**, National Institutes of Health Advisory Committee to the Director
 - **Kristina Johnson, PhD**, The State University of New York
 - **Carrie Wolinetz, PhD**, National Institutes of Health
- 10:45am: BREAK
- 11:00am: Preventing Sexual Harassment in Higher Education
- **Frazier Benya, PhD**, National Academies of Science, Engineering, and Medicine
- 11:30am: Discussion
- 12:00pm: LUNCH
- 1:00pm: Panel Presentation: Evidence Related to Gender Equity in Biomedical Research
- **Moderator: Kristina Johnson, PhD**
 - **Judith Greenberg, PhD**, National Institutes of Health
 - **Noni Byrnes, PhD**, National Institutes of Health
 - **Jenn Garcia-Alonso**, Boston Consulting Group
- 1:30pm: Discussion
- 2:00pm: Meeting Wrap-Up Discussion
- 3:25pm: Closing Remarks
- **Carrie Wolinetz, PhD**
- 3:30pm: Adjourn

NIH ACD Working Group on Changing the Culture to End Sexual Harassment

May 17, 2019

Natcher Conference Center (Building 45), Room D

National Institutes of Health

Bethesda, MD

FRIDAY, MAY 17, 2019

7:10am: Shuttle Departure, Bethesda Marriott

8:00am: Opening Remarks

- **Francis Cuss, MB, BChir, FRCP**, National Institutes of Health Advisory Committee to the Director
- **Kristina Johnson, PhD**, The State University of New York
- **Carrie Wolinetz, PhD**, National Institutes of Health

8:15am: Listening Session Recap

8:45am: Discussion of Interim Findings and Recommendations

10:15am: BREAK

10:30am Discussion of Interim Findings and Recommendations

12:00pm: LUNCH

1:00pm: Discussion of Interim Findings and Recommendations

2:00pm: Discussion Presentation for June ACD Meeting

2:45pm: Meeting Recap and Next Steps

- **Francis Cuss, MB, BChir, FRCP**, National Institutes of Health Advisory Committee to the Director
- **Kristina Johnson, PhD**, The State University of New York
- **Carrie Wolinetz, PhD**, National Institutes of Health

3:00pm: ADJOURN

NIH ACD Working Group on Changing the Culture to End Sexual Harassment

August 19-20, 2019

The Cloisters (Building 60)

National Institutes of Health

Bethesda, MD

DAY 1: MONDAY, AUGUST 19

7:55AM: Shuttle Departure, Bethesda Marriott

8:45AM: Framing the Day and Future Plans

- *Discuss plans for the day and future plans for finalizing the report ahead of the December ACD meeting*

9:15AM: Discussion – Interim recommendations

- *Full WG discussion of interim recommendations presented at the June ACD meeting*

10:15AM: BREAK

10:30AM: Create report framework and outline of key findings and recommendations

- *Review report outline and begin to fill in findings and recommendations*

12:30PM: LUNCH

1:00PM: Create report framework and outline of key findings and recommendations

- *Review report outline and begin to fill in findings and recommendations*

2:00PM: Assign recommendations to key findings and form break out groups

- *Organize recommendations by assigning them to key findings, within the framework of the outline. Volunteer for small groups to begin fleshing out and writing the findings and recommendations.*

2:30PM: BREAK

2:45PM: Work in small groups to draft findings and recommendations

- *Within small groups, begin outlining and writing findings and recommendations. Identify any data needs.*

5:00PM: Adjourn

6:00PM: No-Host Dinner at Cooper's Mill, Bethesda Marriott

DAY 2: TUESDAY, AUGUST 20

7:55AM: Shuttle Departure, Bethesda Marriott

8:30AM: Recap of Day 1 and Discussion

- *Discuss the effectiveness of day 1, determine how to proceed for day 2, making changes as needed.*

8:45AM: Continue working in break out groups

- *Within small groups, continue outlining and writing findings and recommendations. Identify any data needs. Breaks and lunch should be taken as needed. Boxed lunches from Corner Bakery will be delivered at noon*

1:30PM: Break out groups present findings to full WG

- *The WG will reconvene, and small groups will present their progress for discussion.*

2:45PM: Meeting Wrap-Up and Next Steps

3:00PM: Adjourn

NIH ACD Working Group on Changing the Culture to End Sexual Harassment

October 7-8, 2019

Rockledge 1, Suite 750

6705 Rockledge Dr.

Bethesda, MD, 20817

DAY 1: MONDAY, OCTOBER 7, 2019

7:50AM: Shuttle Departure, Bethesda Marriott Suites

8:30AM: Framing the Day and Future Plans

- *Discuss plans for the day and future plans for finalizing the report and the presentation ahead of the December ACD meeting*

9:45AM: Discussion – Draft Report

- *Full WG discussion of the draft report to gain clarification from and provide feedback to each of the subgroups*

10:15AM: BREAK

10:30AM: Continue Discussion – Draft Report

- *Full WG discussion of the draft report to gain clarification from and provide feedback to each of the subgroups*

12:30PM: LUNCH

1:00PM: Continue Discussion – Draft Report

- *Full WG discussion of the draft report to gain clarification from and provide feedback to each of the subgroups*

2:45PM: BREAK

3:00PM: Work in small groups to revise findings and recommendations

- *Within small groups, make any necessary revisions to the report.*

4:00PM: Begin working on Executive Summary and Conclusion

- *Full WG together or split into 2 groups to outline and draft the Executive Summary and Conclusion Sections*

5:00PM: Adjourn

DAY 2: TUESDAY, OCTOBER 8

8:00AM: Shuttle Departure, Bethesda Marriott Suites

8:30AM: Recap of Day 1 and Framing Day 2

- *Discuss the effectiveness of day 1, determine how to proceed for day 2, making changes as needed.*

8:45AM: WG to outline PowerPoint Presentation

- *The WG will discuss the format of the PowerPoint presentation, including an outline and level of detail.*

10:00AM: Break out groups present findings to full WG

- *Within small groups, begin drafting PowerPoint slides. Breaks and lunch should be taken as needed. Boxed lunches from PotBelly will be delivered at noon*

1:30PM: Full WG to review draft PowerPoint presentation

- *The WG will reconvene, and small groups will present their progress for discussion.*

3:00PM: Meeting wrap up and next steps

G. Sample Reference Release – UC Davis*

AUTHORIZATION TO RELEASE INFORMATION

As an applicant for the position of _____ with the **University of California, Davis** (the University), I am required to furnish information for use in determining my qualifications. For this purpose, I authorize the release of information (described below) requested by the University concerning any misconduct related to teaching, research and service (and clinical care if applicable). I understand the University will not request information authorized by this release unless I am a finalist for an academic appointment with tenure or security of employment.

If I have been found to have violated my current or previous institution's policies governing faculty conduct, in including policies prohibiting sexual harassment, sexual assault, and/or other forms of harassment or discrimination, this signed form allows my current or prior institution(s) to share that information.

The University considers sexual misconduct and other forms of harassment or discrimination[†] with students or trainees to be related to teaching; with staff or colleagues to be related to service; and (if applicable) with patients to be related to clinical care. This authorization includes release of information of a confidential or privileged nature, or any data or materials which have been sealed or agreed to be withheld pursuant to any prior agreement or court proceeding involving disciplinary matters. Should an institution provide information on a finding of misconduct, I will be informed and allowed to provide information in response.

I hereby release, discharge, and exonerate the University, its agents and representatives and any person furnishing information to the University, from any and all liability of every nature and kind arising out of the furnishing and inspection of such documents, records and other information. This release shall be binding on my legal representatives and successors.

This authorization is valid for 365 days from the date of signature. A photocopy of this release is to be considered as valid as an original.

Print Name

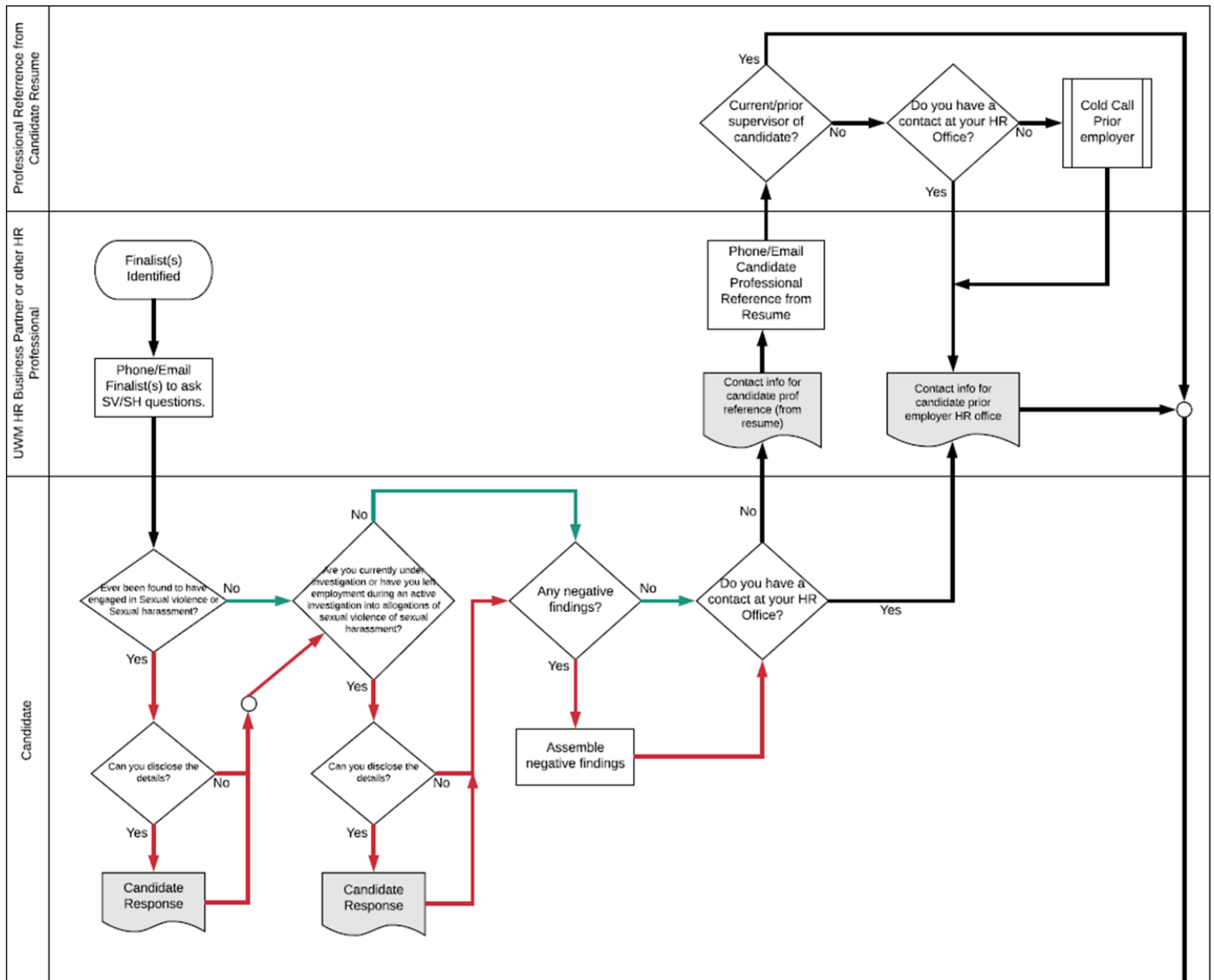
Signature Date

* **Source: University of California, Davis**

[†] Sexual Misconduct includes conduct prohibited by the University of California Sexual Violence and Sexual Harassment Policy including sexual assault, domestic violence, dating violence, stalking and sexual harassment. In addition, the UC Faculty Code of Conduct prohibits entering into a romantic or sexual relationship with any student for whom a faculty member has, or should reasonably expect to have in the future, academic responsibility (instructional, evaluative, or supervisory). The UC Faculty Code of Conduct also prohibits exercising academic responsibility (instructional, evaluative, or supervisory) for any student with whom a faculty member has a romantic or sexual relationship. The UC Faculty Code of Conduct outlines in further detail the types of conduct unacceptable of its faculty and other academic appointees.

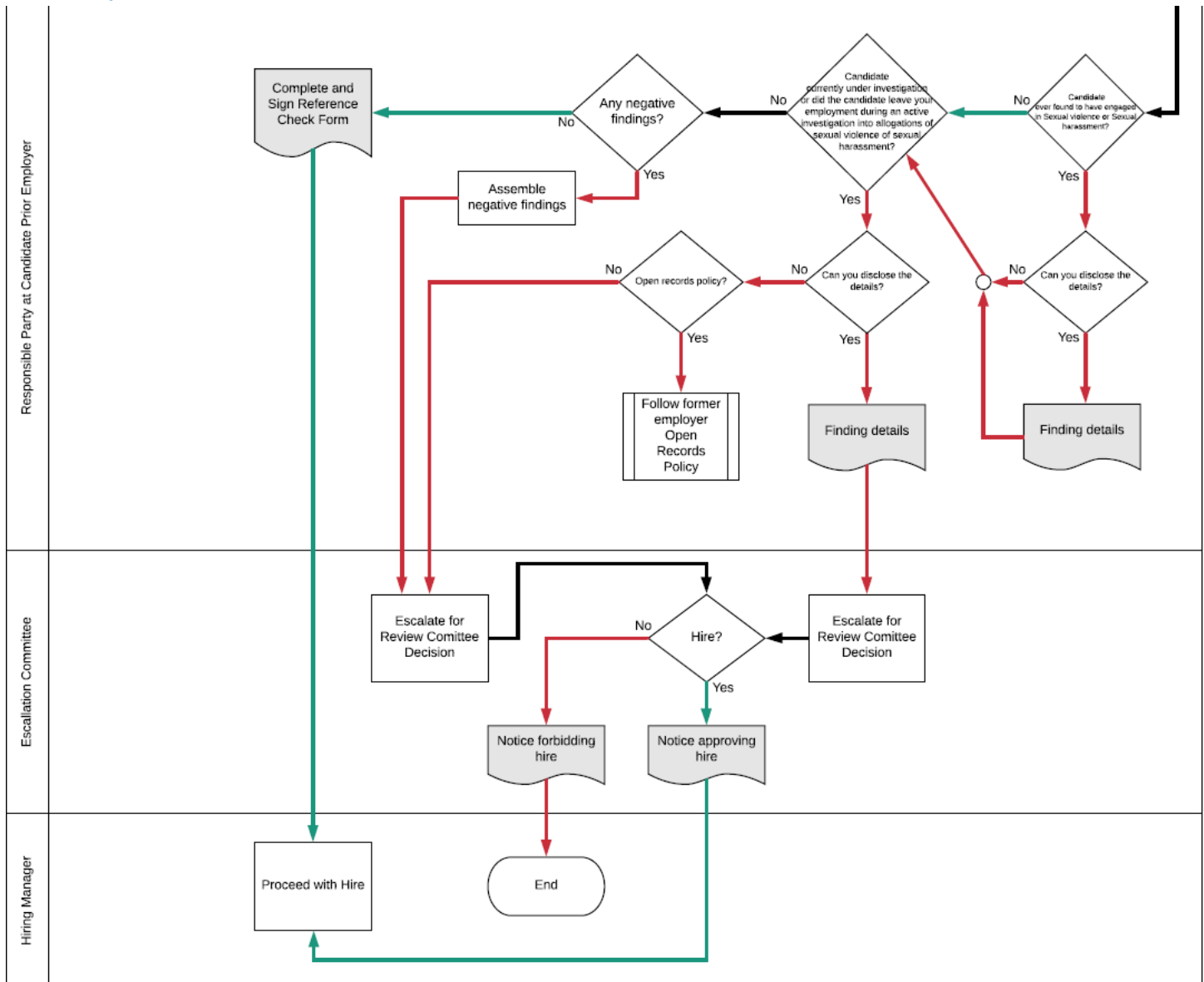
H. UW Reference Checks Resources

*Reference Check Human Resources Flow Chart**



* Source: University of Wisconsin

Reference Check Human Resources Flow Chart con't*



* Source: University of Wisconsin

AUTHORIZATION TO RELEASE INFORMATION

Please read the information on this form carefully and completely.

I have applied for employment with the University of Wisconsin-_____ (“University of Wisconsin”) and have provided information about my previous employment. I authorize the University of Wisconsin to conduct a reference check with my present and/or previous employer(s).

I understand that reference information may include, but not be limited to, verbal and written inquiries or information about my employment performance, professional demeanor, investigations, disciplinary history, rehire potential, dates of employment, and employment history.

My signature below authorizes my former or current employers and references to release information regarding my employment record with their organizations and to provide any additional information that may be necessary for my application for employment to the University of Wisconsin, whether the information is positive or negative.

I knowingly and voluntarily release all former and current employers, references, and the University of Wisconsin from any and all liability arising from their giving or receiving information about my employment history, my academic credentials or qualifications, and my suitability for employment with the University of Wisconsin.

A signed copy of this form may be photocopied, scanned or reproduced as a facsimile or PDF, and these copies will be as effective as a release or consent as the original which I sign.

Name: (please print) _____

Signature: _____ Date: _____

Phone: _____

Email Address: _____

* Source: University of Wisconsin

IX. References

- 1 National Academies of Sciences, E., and Medicine. *Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*. (The National Academies Press, 2018).
- 2 Ilies, R., Hauserman, N., Schwochau, S. & Stibal, J. Reported Incidence Rates of Work-Related Sexual Harassment in the United States: Using Meta-Analysis to Explain Reported Rate Disparities. *Personnel Psychology* **56**, 607-637 (2006).
- 3 Rosenthal, M. N., Smidt, A. M. & Freyd, J. J. Still Second Class: Sexual Harassment of Graduate Students. *Psychology of Women Quarterly* **40**, 364-377 (2018).
- 4 Clancy, K. B., Nelson, R. G., Rutherford, J. N. & Hinde, K. Survey of academic field experiences (SAFE): trainees report harassment and assault. *PLoS One* **9**, e102172 (2014).
- 5 Bergman, M. E., Langhout, R. D., Palmieri, P. A., Cortina, L. M. & Fitzgerald, L. F. The (un)reasonableness of reporting: antecedents and consequences of reporting sexual harassment. *J Appl Psychol* **87**, 230-242 (2002).
- 6 Schneider, K. T., Swan, S. & Fitzgerald, L. F. Job-related and psychological effects of sexual harassment in the workplace: empirical evidence from two organizations. *J Appl Psychol* **82**, 401-415 (1997).
- 7 Smith, C. P. & Freyd, J. J. Institutional Betrayal. *American Psychologist* **69**, 575-587 (2014).
- 8 Smith, C. P. & Freyd, J. J. Dangerous Safe Havens: Institutional Betrayal Exacerbates Sexual Trauma. *Journal of Traumatic Stress* **26**, 119-124 (2013).
- 9 Smith, C. P., Cunningham, S. A. & Freyd, J. J. Sexual Violence, Institutional Betrayal, and Psychological Outcomes for LGB College Students. *Translational Issues in Psychological Science* **2**, 351-360 (2016).
- 10 Buchanan, N. T. & Fitzgerald, L. F. Effects of racial and sexual harassment on work and the psychological well-being of African American women. *J Occup Health Psychol* **13**, 137-151 (2008).
- 11 Oswalt, S. B. & Wyatt, T. J. Sexual orientation and differences in mental health, stress, and academic performance in a national sample of U.S. college students. *J Homosex* **58**, 1255-1280 (2011).
- 12 Irwin, J. Discrimination Against Gay Men, Lesbians, and Transgender People Working in Education. *Journal of Gay & Lesbian Social Services* **14**, 65-77 (2002).
- 13 Hart, C. G., Crossley, A. D. & Correll, S. J. Leader Messaging and Attitudes towards Sexual Violence. *Socius: Sociological Research for a Dynamic World* **4**, 2378022311880861 (2018).
- 14 Freyd, J. & Birrell, P. *Blind to Betrayal: Why We Fool Ourselves We Aren't Being Fooled*. 1 edn, (Wiley, 2013).
- 15 Stern, R. *The Gaslight Effect: How to Spot and Survive the Hidden Manipulation Others Use to Control Your Life*. 1 edn, (Harmony, 2007).
- 16 Sweet, P. L. The Sociology of Gaslighting. *American Sociological Review* **84**, 851-875 (2019).
- 17 Holland, K. J., Cortina, L. M. & Freyd, J. J. Compelled disclosure of college sexual assault. *Am Psychol* **73**, 256-268 (2018).
- 18 Follingstad, D. R., Rutledge, L. L., Berg, B. J., Hause, E. S. & Polek, D. S. The role of emotional abuse in physically abusive relationships. *Journal of Family Violence* **5**, 107-120 (1990).
- 19 Follingstad, D. R. The impact of psychological aggression on women's mental health and behavior: the status of the field. *Trauma Violence Abuse* **10**, 271-289 (2009).
- 20 Edmondson, A. C. *The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth*. 1 edn, (Wiley, 2018).

- 21 Jagsi, R. *et al.* Gender differences in the salaries of physician researchers. *JAMA* **307**, 2410-2417 (2012).
- 22 Jagsi, R., Motomura, A. R., Griffith, K. A., Rangarajan, S. & Ubel, P. A. Sex differences in attainment of independent funding by career development awardees. *Ann Intern Med* **151**, 804-811 (2009).
- 23 Svider, P. F. *et al.* Gender differences in successful National Institutes of Health funding in ophthalmology. *J Surg Educ* **71**, 680-688 (2014).
- 24 Siller, H., Tauber, G., Komlenac, N. & Hochleitner, M. Gender differences and similarities in medical students' experiences of mistreatment by various groups of perpetrators. *BMC Med Educ* **17**, 134 (2017).
- 25 Ahern, K. Institutional Betrayal and Gaslighting: Why Whistle-Blowers Are So Traumatized. *J Perinat Neonatal Nurs* **32**, 59-65 (2018).
- 26 Babaria, P., Abedin, S., Berg, D. & Nunez-Smith, M. "I'm too used to it": a longitudinal qualitative study of third year female medical students' experiences of gendered encounters in medical education. *Soc Sci Med* **74**, 1013-1020 (2012).
- 27 Nevicka, B., De Hoogh, A. H. B., Den Hartog, D. N. & Belschak, F. D. Narcissistic Leaders and Their Victims: Followers Low on Self-Esteem and Low on Core Self-Evaluations Suffer Most. *Front Psychol* **9**, 422 (2018).
- 28 Peters, K. *et al.* The emotional sequelae of whistleblowing: findings from a qualitative study. *J Clin Nurs* **20**, 2907-2914 (2011).
- 29 Rehg, M., Miceli, M., Near, J. & Van Scotter, J. Antecedents and Outcomes of Retaliation Against Whistleblowers: Gender Differences and Power Relationships. *Organ Sci* **19**, 1770-1773 (2008).
- 30 Binder, R., Garcia, P., Johnson, B. & Fuentes-Afflick, E. Sexual Harassment in Medical Schools: The Challenge of Covert Retaliation as a Barrier to Reporting. *Acad Med* **93**, 1770-1773 (2018).
- 31 Nabe-Nielsen, K. *et al.* The role of poor sleep in the relation between workplace bullying/unwanted sexual attention and long-term sickness absence. *Int Arch Occup Environ Health* **89**, 967-979 (2016).
- 32 Boyle, K. M. & McKinzie, A. E. The Prevalence and Psychological Cost of Interpersonal Violence in Graduate and Law School. *J Interpers Violence*, 886260518816329 (2018).
- 33 Przedworski, J. M. *et al.* A Comparison of the Mental Health and Well-Being of Sexual Minority and Heterosexual First-Year Medical Students: A Report From the Medical Student CHANGE Study. *Acad Med* **90**, 652-659 (2015).
- 34 Mutambudzi, M. Association between workplace psychosocial factors and mental health in Black, Hispanic, and White women: Cross-sectional findings from the National Health Interview Survey. *Women Health* **57**, 1129-1144 (2017).
- 35 Hart, C. G. The Penalties For Self-Reporting Sexual Harassment. *Gend Soc* **33**, 534-559 (2019).
- 36 Hersch, J. *Sexual harassment in the workplace*, (2015).
- 37 Law, R., Dollard, M. F., Tuckey, M. R. & Dormann, C. Psychosocial safety climate as a lead indicator of workplace bullying and harassment, job resources, psychological health and employee engagement. *Accident Analysis & Prevention* **43**, 1782-1793 (2011).
- 38 Simon, C. *et al.* Implementation of a responsible conduct of research education program at Duke University School of Medicine. *Account Res* **26**, 288-310 (2019).
- 39 Robb, L. A. & Doverspike, D. Self-reported proclivity to harass as a moderator of the effectiveness of sexual harassment-prevention training. *Psychol Rep* **88**, 85-88 (2001).
- 40 Roehling, M. V. & Huang, J. Sexual Harassment Training Effectiveness: An Interdisciplinary Review and Call for Research. *Journal of Organizational Behavior* **39**, 134-150 (2018).
- 41 Correll, S. Reducing Gender Biases in Modern Workplaces: A Small Wins Approach to Organizational Change. *Gender & Society* **6**, 725-750 (2017).

- 42 Dobbin, F. & Kalev, A. The promise and peril of sexual harassment programs. *Proc Natl Acad Sci U S A* **116**, 12255-12260 (2019).
- 43 Berdahl, J. L. The sexual harassment of uppity women. *Journal of Applied Psychology* **92** (2007).
- 44 McLaughlin, H., Uggen, C. & Blackstone, A. Sexual Harassment, Workplace Authority, and the Paradox of Power. *American Sociological Review* **77**, 625-647 (2012).
- 45 Ovseiko, P. V., Chapple, A., Edmunds, L. D. & Ziebland, S. Advancing gender equality through the Athena SWAN Charter for Women in Science: an exploratory study of women's and men's perceptions. *Health Res Policy Syst* **15**, 12 (2017).
- 46 Ovseiko, P. V. *et al.* Creating a more supportive and inclusive university culture: a mixed-methods interdisciplinary comparative analysis of medial and social sciences at the University of Oxford. *Interdisciplinary Science Reviews* **44**, 166-191 (2019).
- 47 Caffrey, L. *et al.* Gender equity programmes in academic medicine: a realist evaluation approach to Athena SWAN processes. *BMJ Open* **6**, e012090 (2016).
- 48 Walker, G. E., Golde, C. M., Jones, L., Conklin Bueschel, A. & Hutchings, P. *The Formation of Scholars: Rethinking Doctoral Education for the Twenty-First Century.* (Jossey-Bass, 2008).