

2027 Core Call for Applications

New Changes and Key Requirements

- TRDRP is transitioning to a new model for grant competitions that will efficiently focus research funds on topics of critical importance to the statewide tobacco control programs. This year, a limited number of open calls for applications will be offered: predoctoral awards, postdoctoral awards, pilot and full Community-Partnered Participatory Research Awards (CPPRA), and Smoke and Vape Free Scholars Initiative (SVSFI) Awards. This document describes application requirements for predoctoral and postdoctoral awards. Please visit our website to access the CPPRA and SVSFI Calls.
- TRDRP will now prioritize applications studying the causes and potential remedies for **tobacco-related cancer health disparities** over other tobacco-related cancer applications. As stated in the introduction and eligibility sections of this Call, letters of intent submitted for cancer research that meet the eligibility requirements but do not address health disparities may not be invited to full application.
- Applicants responding to this 2027 Call for Applications proposing research in basic and preclinical science studies of tobacco-related diseases must study one or more of the commercial tobacco products or usage patterns listed under Eligibility Criteria to be deemed eligible for TRDRP funding. Similarly, clinical, translational, or implementation studies must involve human subjects that have a history of commercial tobacco product use. Eligible studies must have outcomes that can inform interventions aimed at preventing initiation of commercial tobacco product use and/or be informative or beneficial for current and prior commercial tobacco product users.
- Submission of a Letter of Intent (LOI) is **required** for all award mechanisms. In an effort to focus limited resources on research with the highest likelihood of impacting current and former commercial tobacco product users, TRDRP will assess both the eligibility and the potential near-term impact of LOIs and will invite no more than 80 predoctoral and postdoctoral letters of intent to submit a full application. **Some eligible studies may not be invited to Full Application if the study goals do not directly impact California's tobacco control efforts, as outlined in the TEROC Plan and California Endgame Policy Platform found [here](#).** Eligible studies aiming to produce results that can immediately be used to inform California's efforts to end the tobacco/nicotine epidemic in California will be prioritized for invitation to full application.
- Postdoctoral Award applicants should fully justify Institutional Allowance costs in their budget. Costs should be broken out by year, including overall cost by category, an itemized sub-category list, and description of costs. See Appendix C for examples of how costs should be described.
- All application materials are required to be uploaded in formats accessible to individuals with disabilities, including those using assistive technologies. Applicants are required to prepare and review their application materials for accessibility, and ensure all submitted application materials comply with document-relevant Web Content Accessibility Guidelines (WCAG) 2.1 Level AA standards. Please contact your institution for information and resources on digital accessibility tools. Additional tips and links to useful accessibility resources may be found on the [UC Office of the President Electronic Accessibility website](#).
- Applicants are required to follow all instructions and submit ALL required forms to avoid administrative rejection. In particular, the current application templates for grant documentation must be used. See [SmartSimple](#) to download the latest templates. Reviewers will evaluate to what extent the application is appropriately formatted, on the correct template, and free from errors.
- Go to <https://www.trdrp.org/what-we-fund/> for instructions on how to apply and how to access the application submission system. Programmatic guidance for completing predoctoral and postdoctoral award applications may be found in [Appendix E](#) of this Call for Applications. Programmatic guidance for completing

applications for the Community-Partnered Participatory Research Awards (CPPRA) and Smoke- and Vape-free Scholars Initiative (SVFSI), may be found in those Calls on our website (<https://www.trdrp.org/what-we-fund/>).

NOTE: The term “tobacco” used in this document refers to all forms of commercial nicotine and tobacco products¹. TRDRP does not intend to impinge upon the sacred use of traditional or ceremonial tobacco in American Indian communities.

¹ Commercial tobacco is mass-produced and sold for profit by companies for recreational and habitual use in cigarettes, smokeless tobacco, pipe tobacco, cigars, hookahs, and other products. (Source: <https://keepitsacred.itcmi.org/>)

Highlights of the 2027 Call

The Tobacco-Related Disease Research Program (TRDRP) funds research that spans social, behavioral, and biomedical sciences and has the common objective of helping to reduce tobacco use, prevent addiction, discover cures for tobacco-related diseases, and shape policies that serve Californians most harmed by nicotine and commercial tobacco. The program receives funding from multiple sources: the taxes on commercial tobacco products sold in California, settlement funds from a lawsuit between California and the commercial tobacco industry, and individual contributions from private donors.

Commercial tobacco product use is on the decline in California and is projected to continue to decline in future years leading to a decline in the funding TRDRP receives to support research. In response, TRDRP is modifying the strategies for soliciting and funding research projects in an effort to focus declining funding on the most critical issues facing the users of commercial tobacco products. This document describes application requirements for predoctoral and postdoctoral awards. – demonstrating our continued commitment to training the next generation of researchers.

TRDRP strategic goals are described in the TRDRP [Five Year Strategic Plan](#), and are aligned with the [plan of the Tobacco Education and Research Oversight Committee \(TEROC\)](#), and the [CA Endgame Initiative](#), which seeks to end the sale and use of all commercial tobacco products in the state.

Despite having one of the lowest smoking rates in the country, smoking prevalence remains high among California populations that are also plagued by other negative effects of structural and social determinants of health. These “tobacco priority populations²” continue to experience poor health outcomes while providing the funding for TRDRP through the taxes they pay for commercial tobacco products. The challenge going forward is to eliminate the disparities in commercial tobacco product use and related diseases despite the reduction in tax-based revenue.

It is well established that smoking cigarettes is a major risk factor for many diseases such as cardiovascular disease, stroke, respiratory disease, and cancer. The causal links were identified many years ago and experts agree that the most effective way to reduce the risks for smoking-related diseases among people who smoke is smoking cessation³. However, the health risks associated with newer nicotine products on the market are less well-known. In fact, the potential for becoming addicted to nicotine varies widely by age of the user, mode of consumption, and the nicotine formulation in the product used. To focus our declining funds on these newer, less understood products that are increasing in popularity, in part due to claims of lower health risks, TRDRP now requires basic and preclinical science investigations of tobacco-related diseases to involve one or more of the commercial tobacco products or usage patterns listed under [Scientific Eligibility Criteria](#). Clinical, translational, or implementation studies must involve human subjects that have a history of commercial tobacco product use. Eligible studies must have outcomes that will inform prevention of initiation of commercial tobacco product use and/or be informative or beneficial for current and prior commercial tobacco product users.

² Priority populations in California are those that use tobacco at higher rates, experience greater secondhand smoke exposure, are disproportionately targeted by the industry, and/or have higher rates of tobacco-related disease. Applicants may identify priority populations by applying the criteria above or using other health disparity indicators.

³ National Cancer Institute. *Changes in Cigarette Related Disease Risks and Their Implications for Prevention and Control*. Tobacco Control Monograph No. 8. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute. NIH Pub. No. 97-4213, February 1997. U.S. Department of Health and Human Services. *The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Printed with corrections, January 2014. U.S. Department of Health and Human Services. *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2010.

Further, TRDRP requires investigators to plan how they will disseminate their research findings by communicating with and engaging community members. TRDRP defines community members as individuals with lived experience or meaningful connections to the population of interest who contribute perspectives, priorities, and insights from the broader community beyond the research team. It is imperative that research outcomes inform the primary stakeholders – the users of commercial tobacco products. In addition, disseminating TRDRP-funded research results helps inform the design of evidence-based policies at the state and local level in California.

Research priorities.

All applications must address one or more of TRDRP's research priorities. Please see [Appendix A](#) for details.

1. Research questions in support of the CA Endgame Initiative <https://trdrp.org/about/ca-endgame-resources.html>
2. Social and behavioral prevention and treatment
3. State and local tobacco control policy research
4. Tobacco-related diseases
 - a. Cancer health disparities (*causes or potential remedies*)
 - b. Cardiovascular and cerebrovascular diseases
 - c. Oral diseases and dental health
 - d. Pulmonary biology and lung diseases
 - e. Other tobacco-related health effects
5. Environmental exposure and toxicology
6. Neuroscience of nicotine addiction and treatment
7. Maternal and Fetal Impacts of Smoking

Scientific Eligibility Criteria.

The following criteria will be used to assess eligibility.

1. Basic and preclinical science studies of tobacco-related diseases must study one or more of the following commercial tobacco products or usage patterns.
 - a. products exempted from the California flavored tobacco ban (i.e. hookah, loose leaf tobacco and premium cigars)
 - b. non-combusted nicotine products (e.g. vapes)
 - c. oral nicotine products
 - d. heated tobacco products
 - e. addictive nicotine analogs (e.g. nicotinamide and 6-methyl nicotine)
 - f. synthetic cooling agents (e.g., WS-3 and WS-23)
 - g. inhaled tobacco/nicotine co-used with other substances of abuse, including inhaled cannabis/THC (e.g., blunts or vapes)
2. Clinical, translational, or implementation studies must involve human subjects and/or human subject samples with a history of commercial tobacco product use. Such studies should also produce outcomes that will inform the prevention of commercial tobacco product use and/or be informative or beneficial for current and former commercial tobacco product users.
3. Health behavior and health policy research must focus on commercial tobacco/nicotine product use prevention, cessation, or product regulation.
4. Research on policies governing inhaled cannabis and their potential to erode California's smoke-free laws is also responsive to this Call.

Letters of Intent (LOIs) that are not responsive to this Call for Applications will not be invited to submit a Full Application. **Please note that research into the health effects of cigarettes alone, including the sole use of cigarette smoke extract in in vitro studies, is not considered responsive to this Call.**

Sex as a biological variable.

Consistent with the practices of the National Institutes of Health (NIH), TRDRP requires applicants proposing experiments with biological endpoints to determine whether the sex of an animal model or human subject should be considered a biological variable in designing their experiments. Applicants should review the following paper to make that determination: <https://www.sciencedirect.com/science/article/pii/S0031938417302585>

The following points are taken verbatim from the article:

1. First, before conducting research, find out whether there are known sex differences in the area of study by adding the terms *sex*, *gender*, *male*, and *female* to your literature search. In addition to PubMed, use the GenderMed database.
2. Second, randomize and balance the sexes in the study and control groups. If you are testing a pharmaceutical, consult the FDA snapshot page, which provides information about sex differences in drug metabolism and effects for recently approved drugs.
3. Third, if sex differences are suspected, e.g., from the literature search, conduct pilot studies to determine whether powering the study to detect sex differences is warranted.
4. Fourth, in the analyses of the data, regardless of whether the study was powered to detect sex differences, disaggregate the data to see if there are differences that are hidden when data from males and females are pooled. Analyze key relationships for males and females separately.

Applicants should clearly state the method that was used to determine whether sex should be used as a biological variable in their study.

Cannabis use and tobacco-related diseases.

The use of inhaled (combusted or aerosolized) cannabis and its influence on tobacco use behavior, including nicotine addiction, still requires additional research, especially among tobacco priority populations. Further, the health impacts of the combined use of inhaled cannabis and nicotine products are not well known. Research on the biological and population level impact of the use of inhaled cannabis is needed to inform effective public health policies. For this reason, TRDRP funds research that includes cannabis as it relates to tobacco use, tobacco policy, or tobacco-related disease.

NOTE: To avoid conflicts with federal and state regulations, investigators are strongly encouraged to refer to their institutional policy on conducting cannabis research before designing studies involving cannabis. Applicable federal rules may include the federal Controlled Substances Act, applicable Drug Enforcement Agency (DEA), and Food and Drug Administration (FDA) policies and regulations. California state rules require researchers to obtain approval from the Research Advisory Panel of California before conducting research in California that involves use of Schedule I or Schedule II controlled substances (see guidance on the [RAPC website](#)). Also, if research using cannabis is proposed applicants are required to describe the status of their DEA registration for the use of a Schedule I drug.

Out-of-State Expenses.

Due to the mandate that Proposition 56 research dollars must be used within California, a close review of out-of-state budget justification requests will be made. Only a very limited number of projects with out-of-state expenses can be funded.

Letter of Intent (LOI) process.

TRDRP encourages applicants to contact TRDRP staff with questions regarding eligibility requirements before submitting an LOI or application. All LOIs for the 2027 TRDRP Call for Applications will be reviewed after the LOI deadline of Thursday, August 20, 2026 at 12:00 NOON Pacific Time (PT). Applicants will be notified whether they are eligible to submit a full application by Tuesday September 8, 2026.

In an effort to focus limited resources on research with the highest likelihood of impacting current and former commercial tobacco product users, TRDRP will assess both eligibility and impact of submitted LOIs and will invite no more than 80 letters of intent to submit a full application. **This year, some eligible studies may not be invited to Full Application if the study goals do not directly impact California’s tobacco control efforts, as outlined in the TERO Plan and California Endgame Policy Platform found [here](#).** Eligible studies aiming to produce results that can immediately be used to inform California’s efforts to end the tobacco/nicotine epidemic in California will be prioritized for invitation to full application.

KEY DATES

Activity	Date
<i>Calls open</i>	Wednesday, July 1, 2026
<i>Applicant Webinars</i> (Register at https://www.trdrp.org/what-we-fund/)	Community-Partnered Participatory Research Award (CPPRA): Predoctoral and Postdoctoral Award Mechanisms: Smoke- and Vape-Free Scholars Initiative
<i>LOI submission deadline</i>	Thursday, August 20, 2026, 12 p.m. (noon) PT
<i>Invitation to Full Application Announced</i>	Tuesday September 8, 2026
<i>Due date for new applications and resubmissions</i>	Thursday, October 29, 2026, 12 p.m. (noon) PT
<i>Applicants notified</i>	April 2027
<i>Awards start</i>	July 1, 2027

To get started:

1. Determine your eligibility for funding ([Scientific Eligibility Criteria](#); [Appendix D](#)).
2. Explore our research priorities (All applications must address one or more, see [Appendix A](#)).
3. Review the two award mechanisms ([Appendix B](#)) and the [KEY DATES](#).
4. Familiarize yourself with our [SmartSimple Submission Instructions](#) and [Applicant Guidance and Template Instructions \(Appendix E\)](#).
5. Register and join an applicant webinar. This will be a live session and no recording will be available. Slides will be posted on our [website](#) afterward:
 - [Community-Partnered Participatory Research Award \(CPPRA\)](#) - Tuesday July 14 10 am- 11 am PST
 - [Core Award Mechanisms](#) - Thursday July 16 10 am- 11 pm PST
 - [Smoke- and Vape-Free Scholars Initiative \(SVFSI\)](#) - Wednesday July 15 1pm- 2pm PST
6. Contact a TRDRP Program Officer (trdrp.org/about/staff.html) if you have questions.
7. Use RGPO’s SmartSimple system (<https://rgpogrant.ucop.edu>) to prepare, submit and track your LOI and application online.

Applicants should review the [Call for Applications](#) and [SmartSimple Submission Instructions](#), and complete all necessary materials using the appropriate templates and forms. Template instructions may be found in

[Appendix E](#) of the Core Call for Applications. **Failure to comply with provided instructions or failure to submit completed forms may result in administrative rejection of the application.**

2027 Call for Applications: Open Award Mechanisms (See [Appendix B](#) for details)

Award Mechanism	Purpose of Award	Max Direct Costs/Year	Max Duration (years)
Postdoctoral Award	Support postdoctoral research training under a designated mentor to conduct high impact research within one or more stated research priorities.	See Appendix B	3
Predoctoral Award	Support doctoral student research training with a designated mentor within one or more stated research priorities.	See Appendix B	3
Community-Partnered Participatory Research <u>Pilot</u> Award	Support partnered research addressing tobacco-related health disparities with a strong rationale and potential to inform a tobacco prevention or treatment intervention in the future.	\$500,000 (\$250,000/Co-PI)	2
Community-Partnered Participatory Research <u>Full</u> Award	Support partnered research addressing tobacco-related health disparities focused on the development, testing, or evaluation of a tobacco prevention or treatment intervention.	\$600,000 (\$300,000/Co-PI)	3
Smoke- and Vape-free Scholars Initiative	Funded awards will support mentorship and training activities that include enabling undergraduate, post-bac and master’s-level students from CSU/CCCs to conduct tobacco-related research projects in a mentor’s laboratory or team, while also engaging in local tobacco control activities and participating in other educational activities.	See RFP	4
Student Research Award Supplement	Supplements are available to support California residents and trainees on funded grants. Please see the TRDRP website for more details.	\$20,000	2
Cornelius Hopper Disparities Supplement	Supplements are available to support California residents and trainees on funded grants. Please see the TRDRP website for more details.	\$20,000	2

TRDRP CONTACTS

Questions regarding scientific issues or TRDRP policies should be directed to the appropriate TRDRP staff member:

TRDRP Director

Tracy Richmond McKnight, PhD
(510) 987-9811, Tracy.Richmond-McKnight@ucop.edu

TRDRP Project Analyst

Jennifer Jackson, BS
(510) 987-9888, Jennifer.Jackson@ucop.edu

Program Officers	Social & Behavioral Treatment & Prevention	State & Local Tobacco Control Policy	Tobacco-Related Diseases ⁴	Environmental Exposure & Toxicology	Neuroscience of Nicotine Addiction & Treatment	Predocctoral/ Postdoctoral Applicants & Grantees	California Commercial Tobacco Endgame Initiative
Marjannie Akintunde, PhD Marjannie.Akintunde@ucop.edu			✓	✓		✓	
Danyetta Anderson, PhD Danyetta.Anderson@ucop.edu	✓		✓				
Joanne D'Silva, PhD Joanne.D'Silva@ucop.edu	✓	✓					✓
Ginny Delaney, PhD Ginny.Delaney@ucop.edu			✓				
Maggie Kulik, PhD Maggie.Kulik@ucop.edu	✓	✓					✓
Becky Theilmann, PhD Becky.Theilmann@ucop.edu			✓		✓	✓	
Rebecca Williams, PhD Rebecca.Williams@ucop.edu	✓	✓					
Tashelle Wright, PhD Tashelle.Wright@ucop.edu	✓	✓				✓	✓

Inquiries regarding LOI/application forms and instructions should be directed to:

Research Grants Program Office (RGPO)

RGPOGrants@ucop.edu

⁴ These include Cancer Health Disparities, Cardiovascular & Cerebrovascular Disease, Pulmonary Biology & Lung Disease, Oral Disease and Dental Health, as well as Other Tobacco-Related Health Effects as described in [Appendix A](#).

APPENDIX A: RESEARCH PRIORITIES

The Tobacco-Related Disease Research Program (TRDRP) funds research that spans social, behavioral and biomedical sciences and has the common objective of improving the health and well-being of all Californians. Despite having one of the lowest smoking rates in the country, smoking prevalence remains high among California populations that are also plagued by other negative effects of structural and social determinants of health. A primary goal of TRDRP is to reduce the negative impact of tobacco use within these “tobacco priority populations²”. To address this goal, applicants should focus on diseases that are causally linked to tobacco use and on studies that can discern and reduce tobacco-related health disparities. In addition, culturally-informed behavioral research is needed to better understand use patterns and barriers to quitting commercial tobacco products in order to develop more effective cessation strategies, particularly for tobacco priority populations. Research outcomes should be useful for informing policymakers and the general public about the physical harm of tobacco product use and tobacco and nicotine industry marketing practices. Clear communication of evidence-based research to policymakers and the public helps inform the design of effective policy interventions. TRDRP requires investigators to plan how they will disseminate their research findings by communicating with and engaging community members. TRDRP defines community members as individuals with lived experience or meaningful connections to the population of interest who contribute perspectives, priorities, and insights from the broader community beyond the research team. These approaches are directly aligned with the TRDRP [Five Year Strategic Plan](#), the [plan of the Tobacco Education and Research Oversight Committee \(TEROC\)](#), and the [CA Endgame Initiative](#), which seeks to end the sale and use of all commercial tobacco products in the state.

The tobacco and nicotine industry continues to launch new products, for example, [oral nicotine pouches](#), introduced as recently as 2022. While individual products may experience fluctuations in use over time, new commercial tobacco products remain remarkably popular, especially among adolescents and some populations that are disproportionately affected by commercial tobacco product use. Yet, the effects of nicotine itself, flavorings, synthetic cooling agents, and other additives used in these products are not well understood. TRDRP will continue to fund research analyzing the addictive, toxicological, health, and social behavioral effects of these products and their constituents. Studies using cell or animal models, human subjects, and/or Big Data strategies to integrate multiple types of data are needed to fully understand the effects of these products. To create the base of scientific evidence to effectively end the sale and use of all commercial tobacco products, TRDRP also remains committed to supporting research on prevention and cessation of the use of flavored nicotine products, including menthol and synthetic cooling agents such as WS-23 and WS-3, and on the impact or effectiveness of state and local policies banning the sale of flavored tobacco products.

The use of inhaled (combusted or aerosolized) cannabis and its influence on tobacco use behavior, including nicotine addiction, still requires additional research, especially among tobacco priority populations. Further, the health impacts of the combined use of inhaled cannabis and nicotine products are not well known. Research on the biological and population-level impact of the use of inhaled cannabis is needed to inform effective public health policies. For this reason, TRDRP funds research that includes cannabis as it relates to tobacco use, tobacco policy, or tobacco-related disease.

Research into the basic mechanisms, diagnosis, prevention and treatment of tobacco-related diseases remains critical to help alleviate the suffering caused by tobacco use. Despite the overall decline in cancer death rates, including lung cancer, in the last two decades (see “[Trends in Lung Cancer and Cigarette Smoking: California Compared to the Rest of the United States](#)”), disparities in cancer incidence and death rates persist among different demographic groups. Similarly, disparities in diagnosis and mortality exist for other tobacco-related diseases, such as heart disease, stroke, and chronic obstructive pulmonary disease (COPD). These disparities

underscore the need for impactful research on the effective dissemination of disease prevention strategies and the implementation of evidence-based interventions that can reduce disease burden in communities that are disproportionately affected by commercial tobacco use and the associated tobacco-related diseases. For instance, personal health care decisions, such as whether or how often to see a physician or whether to participate in clinical trials, are often influenced by policies governing health care insurance coverage and practice recommendations provided by health care providers. Studies have shown that changes in some current policy and practice recommendations may result in improved disease surveillance and/or survival in affected communities. Therefore, TRDRP also supports research that aims to design strategies to bring innovative healthcare solutions for tobacco-related diseases and nicotine addiction to all Californians.

All applications must address one or more TRDRP research priorities, as detailed below.

NOTE: While submission of projects focused on co-use of tobacco with other substances of abuse are welcome, studies that only address non-tobacco substances are not eligible under this Call. Please note that studies focused on tobacco-related diseases that do not incorporate nicotine and/or other constituents of commercial tobacco products are not responsive to this Call for Applications. For full [Scientific Eligibility Criteria](#), please see the [Introduction](#).

1. Research in support of the *California Endgame Initiative*

In addition to the objectives outlined in the TEROC 2025-26 Plan, TRDRP encourages research that informs or evaluates the following Endgame Initiative goals and other California tobacco control goals:

1. Countering the tobacco and nicotine industry's influence and tactics that are aimed at ensuring easy availability of their existing products and the creation of new ones. Examples of goals include:
 - a. reducing tobacco retail licensing;
 - b. implementing and equitably enforcing local and state flavor bans;
 - c. reducing economic impacts of tobacco sales restrictions on small businesses;
 - d. avoiding unintended consequences of tobacco-free policies, such as criminalization or discriminatory enforcement;
 - e. deglamorizing tobacco use especially in social and entertainment media;
 - f. preventing cannabis use from undercutting past and future tobacco control progress.
2. Using intersectional approaches to counter the structural, political, and social factors that lead to health disparities, and that promote and sustain tobacco use and disease in California. Examples of goals include:
 - a. identifying incentives and disincentives to reduce the tobacco and nicotine industry's influences;
 - b. promoting social norm change around the use of commercial tobacco without impinging upon the sacred use of tobacco;
 - c. integrating tobacco-free living elements into community planning, economic development, and redevelopment;
 - d. reducing exposure to secondhand smoke/aerosol, tobacco smoke/aerosol residue (thirdhand smoke), and tobacco product waste.
3. Providing evidence-based tobacco use prevention and cessation strategies for California's many schools and communities, while mindful of the heterogeneity of communities and how different forms of disadvantage interact. Examples of goals include:
 - a. reducing the availability of tobacco products;
 - b. providing culturally, linguistically, and age-appropriate cessation services;

- c. ensuring access to cessation pharmacotherapy and behavioral counseling particularly for youth and communities disproportionately burdened by commercial tobacco;
- d. achieving Medi-Cal reimbursement of all forms of cessation treatment.

Examples of relevant research topics:

- How can California tobacco prevention and control efforts be maintained amid declining tax funds due to a decrease in the use of tobacco products?
- How does the elimination of flavored tobacco product sales impact community retail activities overall?
- How can or did retailers transition from selling tobacco products after a ban was instituted? How can or did retailers change their inventory to compensate for the loss of tobacco sales, if at all? Which resources from the city/county/local jurisdiction were helpful? What would be helpful to support retailers through this transition in other jurisdictions? Which unintended consequences are retailers most concerned about?
- What can be learned from the evaluation of activity around the compliance and enforcement of the elimination of sales of flavored tobacco products?
- What are the healthcare and environmental cost impacts attributable to state and local tobacco product restriction policies?
- In which instance(s) does cessation support accompany new tobacco prevention and control policies? Does it contribute to the success/failure/acceptance/rejection of these policies?
- Which health communication strategies and message frames best increase the success of prevention efforts and cessation interventions, improve understanding of health impacts of tobacco use, or facilitate other tobacco prevention and control messages (e.g., framing around public health benefits, economic benefits, environmental benefits, or social justice) for the different audiences in the state (e.g., general public, tobacco priority populations, policymakers, retailers)?

2. Social and behavioral prevention and treatment

TRDRP supports research projects and collaborations from California institutions of higher learning and community-based organizations with capacity to conduct research that aims to prevent or reduce tobacco product use and the negative impacts of tobacco-related diseases among California’s tobacco priority groups. Applicants are encouraged to address the social, structural, and addictive factors contributing to tobacco product use and related disease, as well as educational and clinical interventions to reduce the deleterious effects from the use of all forms of nicotine delivery system across all age groups. Research from the social, behavioral, and public health sciences that provides evidence to battle nicotine addiction, and the marketing practices of the tobacco and nicotine industry is needed. Partners in community settings including schools, clinics, tribes, tribal organizations, community nonprofit organizations, and multi-unit housing sites are prime collaborators for this research effort.

The program also aims to solicit proposals for research that will have a major impact in developing, implementing, or testing strategies to prevent, reduce, or eliminate disparities in tobacco product use or tobacco-related morbidity and mortality.

Research that allows for intersectional approaches in data gathering, analysis and interpretation is critical for producing research findings that reflect the lived experience of individuals affected by tobacco use. Research that is embedded in California communities, reflects the lived experiences of community members, and fosters community scientist training that is focused on tobacco prevention and control will ensure more rapid advances in this impact-driven scientific area. As such, TRDRP continues to solicit projects across the full spectrum of community engagement through Core Award mechanisms and [Community-Partnered Participatory Research](#)

[Award \(CPPRA\) mechanisms](#) to support collaborative community-partnered investigative teams in the conduct of research that addresses issues prioritized by the community.

Examples of relevant research topics:

- Health behavior change interventions that promote cessation of tobacco and nicotine product use among all age groups including, but not limited to: multiple tobacco product use, flavored tobacco product use, synthetic nicotine products (e.g., nicotine pouches), heated tobacco, tobacco-cannabis co-use, and/or poly-substance use that includes tobacco;
- Development and testing of new theoretical frameworks that advance our understanding of the benefits/limitations of culturally tailored tobacco prevention and treatment interventions compared to general population-based interventions with consideration of intersectional issues and structural determinants of health;
- Research that elucidates the role of structural, commercial, and social determinants of health in shaping the experience of priority populations facing the tobacco epidemic in California;
- Innovative use of virtual technologies to expand the reach and access of evidence-based or practice-informed tobacco prevention and cessation interventions, particularly for hard-to-reach users of tobacco and nicotine products;
- Research that broadly develops surveillance tools to track social, behavioral, and commercial changes related to tobacco and nicotine industry marketing strategies and the tobacco retail environment, including tobacco product characteristics such as addition of non-menthol cooling agents;
- Implementation science research that can directly inform innovation in the provision of tobacco prevention and cessation services for Medi-Cal enrollees and Californians with health insurance coverage;
- Research that addresses practices, interventions, and policies in healthcare and public health settings to improve behavioral outcomes related to tobacco, such as quit attempts, abstinence rates, and initiation;
- Machine learning methods and other artificial intelligence technologies that utilize economies of scale in health care;
- Investigation of how the complex history of past and present-day experiences of targeted marketing by the tobacco industry has shaped usage patterns in specific tobacco priority populations;
- The development of cessation interventions designed with knowledge of the influences of the industry, particularly multilevel efforts to reduce affordability, accessibility, appeal, and addictiveness of tobacco products;
- Studies addressing reducing other health inequities with tobacco products, such as between types of workers with high exposure to tobacco product use and marketing, people living with mental health disorders, and people living with substance use disorders;
- Please also refer to the [TEROC](#) plan for more examples of priority topics of research.

3. State and local tobacco control policy research

TRDRP supports critical health policy research needed to inform the state’s tobacco control activities and improve the care for Californians with tobacco-related diseases. Research is needed to advance the ability of state agencies, legislative and regulatory bodies, and local governments throughout California to evaluate, understand, and implement science-informed tobacco control policy. In particular, research on the potential economic and other impacts of ending the sale and use of commercial tobacco products is needed in support of the *CA Endgame Initiative*. See [Appendix A, Section 1 above](#).

Examples of relevant research topics:

- Evaluation of state and local tobacco regulations and their impacts on the community, public health, and the local economy such as:
 - the elimination of flavored tobacco product sales;
 - intended and unintended consequences of state and local tobacco laws, including issues related to compliance and equitable enforcement;
 - changes to the tobacco and vapor retail environment in response to recent laws, such as the advent of products with non-menthol cooling agent additives;
- Evaluations of how cannabis control policy interacts with and potentially undermines tobacco control policy;
- Development and evaluation of evidence-informed policy approaches that support stronger local smoke-free ordinances and protect youth from tobacco and cannabis marketing;
- Examination of effective communication approaches to inform policy in support of the CA Endgame Initiative.
- Analyses of the impact of the industry's incorporation of digital engagement, gaming, and incentives in tobacco product design, such as in "smart vapes."

4. Tobacco-Related Diseases

TRDRP supports innovative, timely and high impact research that addresses basic, translational, or clinical aspects of tobacco-related diseases. Research into the mechanisms, diagnosis, prevention, and treatment of diseases resulting from the use of commercial tobacco products, with a focus on tobacco priority populations, is of critical importance to reducing the negative impact of tobacco product use. See the introductory section on Scientific Eligibility Criteria for guidance on TRDRP's refined eligibility criteria.

a. Cancer Health Disparities:

In the face of declining revenue for research on tobacco-related diseases and the need to provide an evidence base for improving the lives of current and former tobacco-product users, TRDRP will now prioritize applications studying the causes and potential remedies for tobacco-related cancer health disparities over other tobacco-related cancer applications. As stated in the introduction and eligibility sections of this Call, letters of intent submitted for cancer research that meet the eligibility requirements but do not address health disparities may not be invited to full application.

- Clinical and/or pre-clinical studies on the carcinogenic potential of tobacco products that are preferentially used by certain age groups or other tobacco priority populations.
- Implementation strategies aimed at improving evidence-based tobacco treatment, such as the utilization of biomarker evaluation, in cancer care settings that serve tobacco priority populations.
- Mechanistic insights informing prevention strategies in patients who engage in co-use of cannabis and tobacco during cancer treatment.
- The impact of menthol and/or non-menthol synthetic cooling agents (such as WS-3 and WS-23) on cellular processes such as proliferation, cell cycle checkpoint mechanisms, and senescence.
- Studies of epigenetic changes induced by tobacco product exposure (first-, second-, or thirdhand) combined with changes induced by chronic stress or other social determinants of health.

b. Cardiovascular (CVD) and cerebrovascular diseases example research topics:

- Studies of biological samples from users of new and emerging tobacco products to determine whether subclinical markers of CVD and cerebrovascular accident (CVA) are altered.
- Interrogation of longitudinal health studies of priority populations such as the Jackson Heart Study to better understand the intersection of social determinants of health, tobacco use and heart disease.
- The intersection of the effects of tobacco product use with chronic stressors and other social determinants of health on cardiovascular health or stroke risk.
- The extent to which interventions that promote positive psychosocial assets (optimism, resilience, purpose in life) may promote both tobacco cessation and improved cardiovascular or cerebrovascular health.

c. Oral diseases and dental health example research topics:

- Innovative, cost effective, and accessible approaches to early detection of oral disease in smokers.
- Research into interventions to reduce oral cancer incidence and mortality among commercial tobacco product users from tobacco priority populations. Note: *Research on Oral Cavity and Pharyngeal Cancers should focus on disease types that are strongly correlated with tobacco product use (e.g., Human Papilloma Virus-negative cancers).*
- Motivational interviewing in the dental clinic to encourage commercial tobacco product cessation.
- The effect of new and emerging tobacco products on tobacco-related conditions such as dental caries, periodontitis, or tooth loss.

d. Pulmonary biology and lung disease example research topics:

- Molecular changes in various lung cell culture models or in animals or humans exposed to e-cigarette aerosol indicating the role of nicotine, flavorants or non-menthol synthetic cooling agents.
- Cellular interactions or molecular pathways that drive the inflammatory response in the lungs of tobacco users.
- The mechanisms (molecular, genetic, social) that drive differences in COPD susceptibility and progression in current and former commercial tobacco users.
- The role of new and emerging tobacco products in the development and exacerbation of asthma, emphysema, COPD, or idiopathic pulmonary fibrosis.
- Impact of tobacco product use on the general lung health of youth or individuals in other tobacco priority populations.

e. Other research topics pertaining to tobacco-related health effects:

- Eye diseases including, but not limited to, age-related macular degeneration, diabetic retinopathy, and glaucoma;
- Type 2 diabetes and associated serious health complications, such as poor blood flow leading to amputation and peripheral neuropathy; and
- Communicable diseases, such as influenza and COVID-19.

5. Environmental Exposure and Toxicology

TRDRP will support innovative and high impact projects that use environmental research and health communication strategies to prevent exposure to all commercial tobacco products, secondhand (SHS) and thirdhand (THS) smoke, chemical residue interactions, and tobacco product waste (TPW) bioaccumulation. TRDRP will continue to support toxicology studies of new and emerging tobacco products alone or in combination with cannabis.

Examples of relevant research topics:

- Integrate approaches to prevent environmental exposure to all tobacco and nicotine products, SHS and THS in multi-unit housing, all indoor public spaces, or other settings.
- Devise strategies to mitigate environmental exposure to commercial tobacco product(s) and TPW.
- THS and SHS impacts on occupational work environment.
- THS and SHS impacts on structural determinants of health.
- Discern environmental determinants of smoking behavior.
- Measure SHS, THS and TPW chemical exposure levels, chemical composition of dust and aerosol particle composition and chemical interactions using technologies and model systems.
- Identify biomarkers to distinguish commercial tobacco product use and cannabis product co-use as an alternative to self-report of usage in surveillance studies.
- Determine potential toxicological, health and behavioral effects of exposure to non-menthol synthetic cooling agents (e.g., WS-3 and WS-23), nicotine alkaloids (nicotyrine) and synthetic nicotine (metatine and meta-nicotine) across the lifespan.
- Enable prediction of human health effects of tobacco and nicotine products by identifying causal links of dose-response toxicity assessments on human biological pathways and conduct validation studies using primary human cell models.
- Identify potential health impacts of exposure to tobacco and nicotine product toxicants.
- Conduct epidemiologically based exposure research to identify and characterize the tobacco control needs of various geographical communities and tobacco priority populations.
- Identify innovative methodologies to assess and reduce the environmental impact of new nicotine product waste and bioaccumulation in various locations throughout California, particularly areas where the use of such products exceeds the median level in the state.
- Evaluate the impact of environmental endpoints of TPW including microplastics on the environment and ecosystems such as soil, aquatic systems, waste management systems and storm drains.
- Determine the environmental burden of E-cigarette product waste components such as batteries, and metallic components.

6. Neuroscience of Nicotine Addiction and Treatment

TRDRP supports innovative research that addresses the biology of nicotine addiction and treatment, with the objective of understanding and reducing commercial tobacco product use, particularly in populations that consistently have the highest smoking rates.

Examples of relevant research topics:

- Use of multidisciplinary approaches (genetic, molecular, cellular, neuroimaging, neuropsychological, cognitive, behavioral and/or developmental) to identify genetic variants and neurological biomarkers associated with nicotine dependence, metabolism and treatment responses.
- Identify potential age-related differences in progression toward nicotine addiction, nicotine withdrawal, and nicotine behavioral adaptation.
- Develop therapeutic strategies for nicotine overdose, strategies to prevent/overcome nicotine relapse after cessation, strategies to improve smoking cessation rates among heavy smokers, and therapeutic strategies for youth with nicotine dependence.
- Discern potential health effects of flavorants or tobacco products containing non-menthol synthetic cooling agents (e.g., WS-3 and WS-23), nicotine alkaloids (nicotyrine) and synthetic nicotine (metatine and meta-nicotine) on neurological health and behavior.

- Determine the neurological mechanisms underlying nicotine and/or dual use with cannabinoids including the involvement of reward circuits in relation to social cues/lifestyle rituals, indicators of stress, and psychiatric disorders.
- Probe the potential mechanisms for nicotine to alter neuronal cells and brain circuits and/or induce behavioral changes by engaging nicotine receptors in different regions of the brain and non-nicotinic or unknown off-target sites implicated in nicotine use.
- Translate innovative research findings of tobacco and nicotine impacts on the brain and behavior to improve cessation treatment outcomes.
- Assess how the increasing potency of tobacco and cannabis products—such as products with high nicotine concentrations in vapes and cannabis with elevated THC (tetrahydrocannabinol) levels—affects patterns of use, the development of dependence, and health outcomes over time.

APPENDIX B: DETAILS ON GRANT AWARD Mechanisms

Note: This year, a limited number of open calls for applications will be offered. Only those listed below are open for application.

Postdoctoral Award

Purpose: For postdoctoral investigators to conduct hypothesis-driven research in a mentored training environment. The research project should contribute to the advancement of one or more stated TRDRP research priorities. A highly innovative project with clear potential for impact is a key component of this award type. The objective of this integrated program of research and training is to support the applicant's own research project and to enhance their development into a productive and independent scientific professional within the tobacco-related disease research field.

Eligibility: Any tobacco related topic may be submitted under the Postdoctoral Award mechanism. Please note the changes in the "[Scientific Eligibility Criteria](#)" section.

Letter of Intent Requirement: A Letter of Intent is required for the Postdoctoral Award mechanism. It will be used to assess the application eligibility and potential impact of the proposed research on California's tobacco control efforts as outlined in the most recent TERO Plan and California Endgame Policy Platform linked [here](#).

Award Overview:

- **Maximum stipend amount per year:** Up to \$70,000
- **Maximum duration:** 3 consecutive years
- **Allowable direct costs:**
 - **Stipend:** Postdoctoral stipend must adhere to NIH experience scale, or the rates set by their institution with institutional documentation of the alternate payment scale.
 - **Institutional Allowance:** The applicant may request an institutional allowance to help defray the cost of expenses such as health insurance, medical liability or other special insurance, research supplies, equipment, courses and educational materials, project related travel, and travel to scientific meetings. TRDRP will cover up to **\$38,000** per year for these costs. The institutional allowance is a fixed amount, and the institution is not required to account for these expenses on an actual cost basis. Postdoctoral Award applicants should fully justify Institutional Allowance costs in their budget. Costs should be broken out by year, including overall cost by category, an itemized sub-category list, and description of costs. See Appendix C for examples of how costs should be described.
 - **Travel to TRDRP Conference:** All applicants should budget a separate one-time \$750 expense under year 1 for "Travel – TRDRP Meeting" to attend the TRDRP conference. This \$750 expense is not part of the institution allowance.
- **Indirect Costs:** Not allowed.

A Note on Stipends and Employee Benefits: Since TRDRP Postdoctoral Awards are not provided as a condition of employment with either TRDRP or the sponsoring institution, institutions may not seek funds, or charge individual awards, for costs that normally would be associated with employee benefits (e.g., FICA, workman's compensation, life insurance, union dues, and unemployment insurance).

Requirements:

- The proposal must reflect the postdoctoral applicant’s own research project that builds upon their prior experience and furthers their development as a productive, independent research scientist.
- A minimum 75 percent time commitment on the part of the postdoctoral trainee is required.
- The candidate must be recognized by the applicant institution as a postdoctoral trainee no later than the award start date. Eligibility ends when a postdoctoral trainee moves into a non-mentored staff or faculty-level role, even if this occurs before the funding period concludes.
- When a postdoctoral trainee application involves multiple mentors, one must be identified as the primary mentor for programmatic purposes. This individual should be designated as the research advisor, while others should be listed as mentors.
- The applicant is responsible for preparing the application and for uploading and submitting all required research-related documents as part of the application package. As a demonstration of the quality of the mentoring environment, the research advisor and mentors are encouraged to support the trainee by providing guidance and feedback during the application process. The application must describe an original research project and not replicate the aims of any existing grants or applications held by the research advisor or mentors, whether funded by TRDRP or another source.
- A letter of support from the research advisor and a minimum of two additional references are required. Letters should address the candidate’s previous training and potential for future leadership of an independent research program. The commitment of the research advisor and the department to fostering the candidate’s career development should also be reflected in the letters. If an applicant has additional mentors, they are not obligated to submit letters of support; however, such letters may strengthen the application.
- The primary research advisor and postdoctoral applicant must complete an Individual Development Plan (IDP) using the provided template. The IDP is an informal document to aid in establishing mutually agreed upon research and professional goals for the applicant and approaches for achieving those goals. The IDP is not the formal training plan but should contain the source material for the formal Training Plan described below. The IDP should be uploaded as part of the Appendix. See <https://trdrp.org/trainee-corner/apply-and-manage.html> for details.
- The primary research advisor, in collaboration with the postdoctoral applicant, is required to develop a formal Training Plan that is tailored to the applicant's specific research and professional development needs as described in the IDP. The Training Plan should describe activities that will take place during the course of the project designed to further the professional development of the applicant. It is allowable for details on the IDP and Training Plan to overlap but the two documents must not be identical as they differ in scope and required information. Input from the broader mentoring team (i.e., mentors) may also be included when appropriate. The postdoctoral applicant and primary research advisor are both required to submit a biosketch. Applicants may also include biosketches for mentors if they play a significant role in the training or research plan.
- U.S. citizenship is not a requirement.

Review criteria:

Criteria-1 (40 percent scoring weight)

- **Responsiveness to the needs of California’s Tobacco Control Community:** If the proposed research is completed would the outcomes be informative or beneficial for current and prior commercial tobacco product users? Do clinical, translational, or implementation studies inform prevention and/or involve human subjects that have a history of commercial tobacco product use? How strongly does the proposed

research align with California's tobacco control efforts, as outlined in the TERO Plan and California Endgame Policy Platform found [here](#).

- **Approach:** Are the conceptual framework, design (including composition of study population and strength of recruitment plan), methods and analyses adequately developed, well-integrated and appropriate to the aims of the project? Has the applicant adequately considered whether the sex of an animal model or human subject should be considered a biological variable in designing their experiments? Has the appropriate statistical analysis been integrated into the research plan? Does the applicant acknowledge potential problem areas and consider alternative strategies? Will the proposed research training experience significantly contribute to the development of the applicant's stated career path?
- **Community Engagement Plan:** TRDRP defines community members as individuals with lived experience or meaningful connections to the population of interest who contribute perspectives, priorities, and insights from the broader community beyond the research team. Does the applicant propose a sound approach to engaging communities affected by tobacco use in either a collaborative partnership or by proactively informing about the nature and significance of the research and research outcomes? Does the applicant propose an activity that is appropriate to their proposed tobacco-related research topic, their proposed career path, and community needs? To what extent does the dissemination of relevant results go beyond the research community and include channels and tools targeting clinicians, public health practitioners, advocates, policymakers and the general public?

Criteria-2 (40 percent scoring weight)

- **Training Plan and Individual Development Plan:** Is the training plan tailored to the needs of the applicant as indicated in the IDP? Does it clearly outline a timeline of activities, responsibilities, expectations, and assessment of completed goals for both the applicant and mentor over the duration of the award? Does the proposed training plan support the applicant's career goals as indicated in the IDP? Does it include effective ancillary activities that will enhance the training of the applicant? Are additional experiences planned that will supplement the trainee's knowledge of their research field? Are there any didactic or interactive activities planned for increasing the trainee's knowledge base in tobacco research and tobacco control or any of the stated TRDRP research priorities? If gaps in the applicant's curriculum or research experiences exist, does the proposed training plan address these gaps? Is the Individual Development Plan (IDP, found in the application Appendix) well developed? Do the career goals and professional development needs clearly link to the activities described in the Training Plan? Is there evidence of mentor-mentee engagement in development of the IDP?
- **Qualifications of the applicant:** Does the applicant present a strong academic background and research experiences (e.g., peer-reviewed publications, presentations, health assessments, agency reports, and/or other gray literature) appropriate for their career stage to support success in completing the aims within this proposal? What is the potential for the applicant to have a successful career in tobacco-related research in either an academic, governmental, or non-governmental setting? Does their publication record indicate an appropriate contribution for their career level?

Criteria-3 (20 percent scoring weight)

- **Mentor's qualifications and commitment:** Do the mentor's qualifications and track record of mentoring individuals at a similar career stage align with the needs of the applicant? Does the mentoring team have appropriate experience to support the applicant in conducting the proposed tobacco-related disease research? Has the mentor helped the principal investigator to produce an application that is appropriately formatted, on the correct template, and free from errors?

- **Environment:** Does the institutional environment in which the work will be done contribute to the probability of success? Do the proposed studies benefit from unique features of the scientific environment, or subject populations or employ useful collaborative arrangements? Is there evidence of institutional support and commitment?

Other considerations

- **Protection of human subjects from research risk:** If human subjects are involved, protections from research risk relating to their participation in the proposed research will be assessed.
- **Inclusion of women, minorities and children in research:** If human subjects are involved, are there adequate plans to include women, subjects from all racial and ethnic groups (and subgroups) and children, as appropriate for the scientific objectives of the research? Are plans for the recruitment and retention of human subjects adequate?
- **Care and use of vertebrate animals in research:** If vertebrate animals are involved in the project, plans for their care and use will be assessed.
- **Biohazards:** Are appropriate assurances in place to ensure safe handling of biohazards, including nicotine?

Predoctoral Award

Purpose: Conduct mentored training of predoctoral students engaged in hypothesis-driven research that is focused on contributing to the advancement of one or more stated TRDRP research priorities. A highly innovative project with clear potential for impact is a key component of this award type. The objective of this integrated program of research and training is to support the applicant’s own research project to enhance the individual’s potential to develop into a productive, independent researcher or to establish an alternative career related to tobacco-related disease research.

Eligibility: Any tobacco related topic may be submitted under the Predoctoral Award mechanism. Please note the changes in the "[Scientific Eligibility Criteria](#)" section.

Letter of Intent Requirement: A Letter of Intent is required for the Predoctoral Award mechanism. It will be used to assess the application eligibility and potential impact of the proposed research on California’s tobacco control efforts as outlined in the most recent TERO Plan and California Endgame Policy Platform linked [here](#).

Award Overview:

- **Maximum stipend amount per year:** Up to \$60,000
- **Maximum duration:** 3 consecutive years
- **Allowable direct costs:**
 - **Stipend:** Predoctoral stipend must adhere to NIH experience scale, or the rates set by their institution with institutional documentation of the alternate payment scale.
 - **Tuition and Fees:** Predoctoral students may budget for full tuition and fee costs up to \$50,000 per year. Documentation of the institution’s tuition and fees structure should be included in the budget justification.
 - **Institution Allowance:** The applicant may request an institutional allowance to help defray the cost of expenses such as health insurance, medical liability or other special insurance, research supplies, equipment, courses and educational materials, project related travel, and travel to scientific meetings. These costs will be covered up to **\$4,400** per year. The institutional allowance is a fixed amount, and the institution is not required to account for these expenses on an actual cost basis.

- **Travel to TRDRP Conference:** All applicants should budget a separate one-time \$750 expense under year 1 for "Travel – TRDRP Meeting" to attend the TRDRP conference. This \$750 expense is not part of the institution allowance.
- **Indirect Costs:** Not allowed.

A Note on Stipends and Employee Benefits: Since TRDRP Predoctoral Awards are not provided as a condition of employment with either TRDRP or the sponsoring institution, institutions may not seek funds, or charge individual awards, for costs that normally would be associated with employee benefits (e.g., FICA, workman's compensation, life insurance, union dues, and unemployment insurance).

Requirements:

- The proposal must reflect the predoctoral applicant's own research project and is expected to clearly enhance the individual's potential to develop into a productive, independent research scientist.
- Awardees are required to commit at least 75 percent of their effort each year to activities supported by this award.
- The candidate must be enrolled in a doctoral program at the time of application submission. Eligibility ends if the candidate successfully defends their dissertation and completes their degree requirements before the funding period concludes.
- When a predoctoral trainee application involves multiple mentors, one must be identified as the primary mentor for programmatic purposes. This individual will be designated as the dissertation advisor, while others are listed as research advisors.
- The predoctoral trainee is responsible for preparing the application and for uploading and submitting all required research-related documents as part of the application package. As a demonstration of the quality of the mentoring environment, the dissertation advisor and research advisors are encouraged to support the trainee by providing guidance and feedback during the application process. The application must describe an original research project and not replicate the aims of any existing grants or applications held by the research advisor or mentors, whether funded by TRDRP or another source.
- A letter of support from the dissertation advisor and a minimum of two additional references are required. Letters should address the candidate's training and potential for independence in their chosen area of scientific research. The commitment of the dissertation advisor and the department to fostering the candidate's career development should also be reflected in the letters. If an applicant has additional mentors (referred to as research advisors), they are not obligated to submit letters of support; however, such letters may strengthen the application.
- The dissertation advisor and predoctoral applicant must complete an Individual Development Plan (IDP) using the provided template. The IDP is an informal document to aid in establishing mutually agreed upon research and professional goals for the applicant and approaches for achieving those goals. The IDP is not the formal training plan but should contain the source material for the formal Training Plan described below. The IDP should be uploaded as part of the Appendix. See <https://trdrp.org/trainee-corner/apply-and-manage.html> for details.
- The dissertation advisor, in collaboration with the predoctoral applicant, is required to develop a training plan that is tailored to the applicant's specific research and professional development needs as described in the IDP. The Training Plan should describe activities that will take place during the course of the project designed to further the professional development of the applicant. It is allowable for details on the IDP and Training Plan to overlap but the two documents must not be identical as they differ in scope and required information. Input from the broader mentoring team (i.e., research advisors) may also be included when appropriate.

- The predoctoral applicant and dissertation advisor are both required to submit a biosketch. Applicants may also include biosketches for research advisors if they play a significant role in the training or research plan.
- U.S. citizenship is not a requirement.

Review criteria:

Criteria-1 (50 percent scoring weight)

- **Training plan and Individual Development Plan:** Is the training plan tailored to the needs of the applicant as indicated in the IDP? Does it clearly outline a timeline of activities, responsibilities, expectations, and assessment of completed goals for both the applicant and mentor over the duration of the award? Does the proposed training plan support the applicant's indicated career goals as indicated in the IDP? Does it include effective ancillary activities that will enhance the training of the applicant? Are additional experiences planned that will supplement the trainee's knowledge of their research field? Are there any didactic or interactive activities planned for increasing the trainee's knowledge base in tobacco research and tobacco control or any of the stated TRDRP research priorities? If gaps in the applicant's research experience, training, or skill development exist, does the proposed training plan address these gaps? Is the Individual Development Plan (IDP, found in the application Appendix) well developed? Do the career goals and professional development needs clearly link to the activities described in the Training Plan? Is there evidence of mentor-mentee engagement in development of the IDP?
- **Qualifications of the applicant:** Does the applicant present a strong academic background and research products (e.g., peer-reviewed publications, presentations, health assessments, agency reports, and/or other gray literature) appropriate for their career stage and academic environment to support success in completing the aims within this proposal? Does the applicant present non-traditional educational experiences and/or unique lived experiences that may contribute to their professional development as an independent researcher or public health professional? What is the potential for the applicant to have a successful career in tobacco-related research in either academic, governmental, or non-governmental setting?

Criteria-2 (30 percent scoring weight)

- **Mentor's qualifications and commitment:** Do the mentor's qualifications and track record of mentoring individuals at a similar career stage align with the needs of the applicant? Does the mentoring team have appropriate experience to support the applicant in conducting the proposed tobacco-related disease research? Has the mentor helped the principal investigator to produce an application that is appropriately formatted, on the correct template, and free from errors?
- **Environment:** Does the institutional environment in which the work will be done contribute to the probability of success? Do the proposed studies benefit from unique features of the scientific environment, or subject populations or employ useful collaborative arrangements? Is there evidence of institutional support and commitment?

Criteria-3 (20 percent scoring weight)

- **Responsiveness to the needs of California's Tobacco Control Community:** If the proposed research is completed would the outcomes be informative or beneficial for current and prior commercial tobacco product users? Do clinical, translational, or implementation studies inform prevention and/or involve human subjects that have a history of commercial tobacco product use? How strongly does the proposed research align with California's tobacco control efforts, as outlined in the TERO Plan and California Endgame Policy Platform found [here](#).

- **Approach:** Are the conceptual framework, design (including composition of study population and strength of recruitment plan), methods and analyses adequately developed, well-integrated and appropriate to the aims of the project? Has the applicant adequately considered whether the sex of an animal model or human subject should be considered a biological variable in designing their experiments? Has appropriate statistical analysis been integrated into the research plan? Does the applicant acknowledge potential problem areas and consider alternative strategies? Will the proposed research training experience significantly contribute to the development of the candidate’s stated career path?
- **Community engagement:** TRDRP defines community members as individuals with lived experience or meaningful connections to the population of interest who contribute perspectives, priorities, and insights from the broader community beyond the research team. Does the trainee propose a sound approach to engaging communities affected by tobacco use in either a collaborative partnership or by proactively informing about the nature and significance of the research and research outcomes? Does the applicant propose an activity that is complementary to their proposed tobacco-related research topic and career stage? Are there adequate resources for the applicant to carry out the proposed activities?

Other considerations

- **Protection of human subjects from research risk:** If human subjects are involved, protections from research risk relating to their participation in the proposed research will be assessed.
- **Inclusion of women, minorities and children in research:** If human subjects are involved, are there adequate plans to include women, subjects from all racial and ethnic groups (and subgroups) and children, as appropriate for the scientific goals of the research? Are plans for the recruitment and retention of human subjects adequate?
- **Care and use of vertebrate animals in research:** If vertebrate animals are involved in the project, plans for their care and use will be assessed.
- **Biohazards:** Are appropriate assurances in place to ensure safe handling of biohazards, including nicotine?

Pilot Community-Partnered Participatory Research Award (Pilot CPPRA)

****Please Note: the CPPRA mechanism has a separate Request for Applications (RFA), which must be read and adhered to by applicant teams. The separate RFA can be found on TRDRP’s website under [What We Fund](#).****

Purpose: The goal of the Pilot CPPRA is to provide initial support for partnered research addressing tobacco-related health disparities with a strong rationale and potential to inform a tobacco prevention or treatment intervention in the future. The Pilot CPPRA provides up to 2 years of support for the initial phase of a project, including testing the acceptability and feasibility of methods, strengthening collaborative relationships, developing tools and methods for a later intervention, collecting preliminary data, and demonstrating proof-of-principle to support the feasibility of a new paradigm or research hypothesis.

Eligibility: There are multiple eligibility criteria required for this award mechanism which are explained in the standalone CPPRA Request for Applications.

Letter of Intent Requirement: A Letter of Intent (LOI) is required for the Pilot CPPRA mechanism. Please see the “Letter of Intent Instructions” section in the [CPPRA RFA](#) and the [Letter of Intent](#) section in the Core RFP.

Award Overview:

- **Maximum award amount per year:** \$500,000 per year (Direct Costs)
 - **Community Co-PI budget max:** \$250,000 per year
 - **Academic Co-PI budget max:** \$250,000 per year
- **Maximum Duration:** 2 years
- **Allowable direct costs:** Salaries, trainee/internship costs, fringe benefits, supplies, participant incentives, subcontracts*, costs to develop print and digital intervention materials, equipment (costing more than \$5,000), travel, publishing costs, and other dissemination activities.
- **Travel:**
 - **Project-related travel:** As needed in each Co-PI budget (must be fully justified)
 - **Travel to TRDRP conference (Mandatory):** \$750 for the Community Co-PI; \$750 for the Academic Co-PI
 - **Scientific conference travel:** maximum of \$2,000 per year for the Community Co-PI; maximum of \$2,000 per year for the Academic Co-PI
- **Indirect costs:** Full indirect costs are allowed to non-UC institutions. Indirect costs to UC campuses are capped at **40** percent, or 25 percent for projects conducted off-campus.

*All out-of-state subcontracts and collaborations must be well-justified; please note that funding for out-of-state expenses is extremely limited and TRDRP does not encourage such expenses.

Award requirements: The nuanced requirements for the CPPRA mechanism and expectations for Community and Academic Co-PIs are explicated in the standalone CPPRA RFA.

Review criteria: Detailed review criteria are described in the CPPRA RFA.

For more details, read the Community-Partnered Participatory Research Award Request for Applications <https://www.trdrp.org/what-we-fund/>.

Full Community-Partnered Participatory Research Award (Full CPPRA)

****Please Note: the CPPRA mechanism has a separate Request for Applications (RFA), which must be read and adhered to by applicant teams. The separate RFA can be found on TRDRP's website under [What We Fund](#)****

Purpose: The goal of the Full CPPRA is to support partnered research addressing tobacco-related health disparities focused on the development, testing, or evaluation of a tobacco prevention or treatment intervention. The Full CPPRA provides up to 3 years of support for demonstration, measurement, efficacy, and effectiveness studies as well as implementation studies or randomized controlled trials.

Eligibility: There are multiple eligibility criteria required for this award mechanism which are explained in the standalone CPPRA Request for Application.

Letter of Intent Requirement: A Letter of Intent (LOI) is required for the Full CPPRA mechanism. Please see “Letter of Intent Instructions” section in the [CPPRA RFA](#) and the [Letter of Intent](#) section in the Core RFP.

Award Overview:

- **Maximum award amount per year:** \$600,000 per year (Direct Costs)
 - **Community Co-PI budget max:** \$300,000 per year
 - **Academic Co-PI budget max:** \$300,000 per year
- **Maximum duration:** 3 years

- **Allowable direct costs:** Salaries, trainee/internship costs, fringe benefits, supplies, participant incentives, subcontracts*, equipment (costing more than \$5,000), travel, publishing costs and other dissemination activities.
- **Travel:**
 - **Project-related travel: As needed in each Co-PI budget (must be fully justified)**
 - **Travel to TRDRP conference (Mandatory): \$750 for the Community Co-PI; \$750 for the Academic Co-PI**
 - **Scientific conference travel: maximum of \$2,000 per year for the Community Co-PI; maximum of \$2,000 per year for the Academic Co-PI**
- **Indirect costs:** Full indirect costs are allowed to non-UC institutions. Indirect costs to UC campuses are capped at 40 percent, or 25 percent for projects conducted off-campus.

*All out-of-state subcontracts and collaborations must be well-justified; please note that funding for out-of-state expenses is extremely limited and TRDRP does not encourage such expenses.

Award requirements: The nuanced requirements for the CPPRA mechanism and expectations for Community and Academic Co-PIs are described in detail in the standalone CPPRA RFA.

Review criteria: Detailed review criteria are described in the CPPRA RFA.

For more details, read the Community-Partnered Participatory Research Award Request for Applications <https://www.trdrp.org/what-we-fund/>.

Smoke- and Vape-Free Scholars Initiative (SVFSI)

****Please Note: the SVFSI grant type has a separate Request for Applications (RFA), which must be read and adhered to by applicant teams. The separate RFA can be found on TRDRP's website under [What We Fund](#)****

Purpose: This award will help develop a pipeline of dedicated tobacco control researchers and advocates. Funded awards will support California State Universities and California Community Colleges, in partnership with doctorate-granting institutions, to administer mentorship and training programs for any undergraduate, post-baccalaureate, and master's degree students, and particularly those from tobacco priority populations, to conduct mentored tobacco-related research, while also participating in local tobacco control projects and other educational activities.

Eligibility: The multiple eligibility criteria for this grant type are described in detail in the standalone SVFSI RFA.

Letter of Intent Requirement: A Letter of Intent (LOI) is required for this grant type.

Maximum award amount offered: Program Awards: \$1,150,000 total direct costs for 4 years.

Indirect costs: Full indirect costs are allowed to non-UC institutions. Indirect costs to UC campuses are capped at **40** percent, or 25 percent for projects conducted off-campus.

*All out-of-state sub-contracts and collaborations must be well-justified. Please note that funding is extremely limited for out-of-state expenses. TRDRP does not encourage such expenses.

Award requirements: The nuanced requirements for the SVFSI grant type and expectations for applicants are described in detail in the standalone SVFSI RFA.

For more details read the Smoke- and Vape-Free Scholars Initiative Call for Applications <https://www.trdrp.org/what-we-fund/>.

Cornelius Hopper and Student Research Supplements

Supplements are available to support California residents and trainees on funded grants. To be considered for funding, an application for a Cornelius Hopper Disparities Supplement must be submitted as part of a scientific progress report for an active, non-mentored TRDRP grant. There must be at least one year remaining on the TRDRP parent award to ensure the best conditions and results for prospective trainees.

Please see <https://www.trdrp.org/what-we-fund/> for details.

APPENDIX C: COST AND EXPENSE GUIDELINES

1) Personnel

- The Budget Summary line item for Personnel should reflect the total cost of all individuals identified as supported by the grant and their level of effort. In the personnel section of the application, be sure to name all individuals to be supported by the grant and provide their percent effort (months devoted to the project). All paid individuals must also be listed on the budget.
- Follow the NIH Guidelines and Calculation scheme for determining Months Devoted to Project, available at the links below:
 - NIH Guidelines: http://grants.nih.gov/grants/policy/person_months_faqs.htm
 - NIH Calculation Scheme: <https://grants.nih.gov/faqs#/search/448/calculate%20person%20months>
- Provide a justification for all budgeted personnel, identifying each individual by name, role on the project, and proposed effort. When computing salary for key personnel, use only the base salary at the applicant organization, excluding any supplementary income (e.g., clinical or consulting incomes). The program does not enforce a salary cap, as long as the overall budget adheres to the costs & expenses guidelines and the amount requested stays within the allowable costs.
- TRDRP does not reimburse for the University of California Retirement Plan (UCRP) interest assessment (RPNI) costs. These charges are not allowable and should not be included under Personnel or any other budget category.

2) Student Tuition Fees, Graduate Student Stipends

- For non-fellowship awards: Graduate students may be paid as personnel and may also receive tuition remission and compensation in line with the relevant collective bargaining agreement. Stipends may not exceed \$60,000 per student per project year, and applies to any graduate student paid hourly or as salary. Stipend may be budgeted as salary (and included in the MTDC cost calculation) if the institution pays these expenses through a personnel line item. Tuition remission will be considered compensation and should not offset other financial aid. Undergraduate stipends and tuition and fee remission will be considered on a case-by-case basis.
- Please provide documentation of current institution rates and/or scales for requested tuition & fees and stipends.

3) Other Project Expenses

- Include expected costs for supplies and other research expenses not itemized elsewhere. Please pay special attention to expenses that include or exclude associated indirect costs by selecting from options in the drop-down menus in the “Included in IDC” and “Not Included in IDC” sub-categories. Cost should be broken out by year, include overall cost by category, an itemized sub-category list, and description of costs.

Examples of justifications that meet these requirements are as follows:

- General lab supplies, chemicals, and biochemicals and chemicals (Year 1: \$16,123; Year 2: 15,884; and Year 3: 12,810) – This cost includes purchasing routine lab supplies such as plasticware and glassware for various preparations and disposable items, including pipettes, filter units, conical tubes, gloves, etc. Research cigarettes will be needed for the studies. The use of biochemicals, proteins, extracellular matrix substances, and molecular biology enzymes, markers for various protein and nucleic acid studies will be needed throughout the study. Materials to run various agarose and polyacrylamide gels are required. CO₂, dry ice, liquid nitrogen, oxygen, and various small instruments are necessary for the daily procedures performed in a molecular biology laboratory. Chemicals used throughout the various studies will be required to produce various solutions.
- Cell isolation and culture (Year 1-3: \$3000/year) - The project will employ the culture of cardiac myocytes from the various mouse models. This cost will cover collagenase, LiberaseTM, trypsin, serum, antibiotics, media, and other various chemicals and supplies related to these studies.
- Office Supplies / Computer (Year 1-3: \$5,000/year) - Costs are required to purchase office supplies and computer software for statistical analysis.
- Key Informant Interviews (Year 1: \$2000) – Interviews will be conducted with 25 community members, pre- and post-curriculum development. Participants will receive a \$50 gift card per interview. (20 participants) × (\$50 per interview) × (2 interviews) = \$2000.
- Community Advisory Board (CAB) compensation (Year 1-2; \$4000/year) – The project will be guided by a CAB consisting of 10 members who will provide ongoing input on project design, implementation, and interpretation of findings. The CAB will meet quarterly, and each member will receive a \$100 honorarium per meeting to recognize their time and expertise. (10 CAB members) * (\$100 honorarium per meeting) X (4 meetings per year) = \$4000 per year.
- Pooled expenses (e.g. insurance surcharges such as GAEL, system wide networking surcharges, and other pooled training and facilities expenses) may be allowed as a direct cost at the discretion of the Program with certification of all of the following: 1) the project will be directly supported by the pooled expenses, 2) the pooled expenses have been specifically excluded from the indirect cost rate negotiation, and 3) the pooled expenses have been allocated consistently over time within the organization. Please explain any requested pooled expenses in the budget justification.
- Participant Support Costs are direct costs for items such as stipends for subsistence allowances, travel allowances, and registration fees paid to or on behalf of participants or trainees (but not employees) in connection with conferences, or training projects. If allowable, these costs are excluded from Modified Total Direct Costs (MTDC). Participant Incentives encourage an individual to participate as a research subject and may include payments, gift cards, dependent care costs, parking fees and transportation reimbursement. These costs are allowable and included in MTDC. Please ensure any Participant Incentives are described clearly in the budget justification.

4) Equipment (Unit Cost over \$5,000)

- For all Awards, each requested equipment item must be >\$5,000 and explained in the budget justification. A quote may be requested during the pre-funding period prior to the issuance of an award.

5) Travel

- Please provide itemized details as to the number of travelers and mode of travel for each travel category relevant to your project.
- **Travel – TRDRP Meeting:** TRDRP may organize an event requiring your travel to the Oakland area within the funded grant period. Funds up to \$750 should be set aside for attending the Research Grants Program Office (RGPO) Meeting during the first year of the grant. All applicants, including fellowship applicants, should budget a one-time \$750 expense under year 1 in a travel budget line labeled: "Travel - TRDRP Meeting".
- **Travel - Project Related:** Project-related travel expenses are allowable only for travel directly related to the execution of the proposed research activities. Label such expenses as "Travel – Project Related." These expenses must be fully justified in the budget justification.
- **Travel - Scientific Meetings:** Scientific conference travel is limited to \$2,000 per year (excluding a mandatory allocation of \$750 in one year of the project for travel to the TRDRP Conference under Travel-TRDRP Meeting). The same limit applies to Fellowship recipients. Label such expenses as "Travel-Scientific Meetings" and explain in budget justification.

6) Service Contracts and Consultants

- Both categories require additional description (Budget Justification). Provide hours/rate for consultant effort on the project if applicable.

7) Subcontracts

- Detailed contractual budgets must be included as a subcontractor budget in the database, and letters of collaboration from each subcontract must be included in the Appendix. A subcontract is not allowed to have another subcontract.
- In the case of University of California applicants, subcontracts need to be categorized and broken out as one of two types, University of California-to-University of California (UC to UC) sub agreements or transfers; or, Other. A subcontract is not allowed to have another subcontract. Requires additional description (Budget Justification).

6) INDIRECT (F&A) COSTS

- **Indirect cost policy:** Indirect costs are NOT allowed for Postdoctoral Fellowship Awards, Predoctoral Fellowship Awards, Student Research Supplement Awards, Cornelius Hopper Diversity Award Supplements, Dissemination Projects, or Scientific Conference Awards. For other awards, Non-UC institutions are entitled to full F&A of the Modified Total Direct Cost base (MTDC); UC institutional F&A is capped at 40% MTDC (25% for off-campus projects).

- **Modified Total Direct Costs (MTDC)** include salaries and wages, fringe benefits, materials and supplies, services, travel, and up to the first \$25,000 of each subgrant or subcontract (regardless of the period covered by the subgrant or subcontract) to an outside institution. MTDC does not include (indirect costs are not allowed on): capital expenditures, charges for patient care, scholarships and fellowships (including postdoctoral stipends), tuition remission and graduate student stipends, participant support costs, rental costs of space, equipment purchases more than \$5,000 per item, the portion of each subgrant and subcontract in excess of the first \$25,000, and the total cost of any subcontract from one UC to another UC campus. On a non-fellowship award, you may apply indirect costs to graduate student salary (under salary only, not as stipend) but not to tuition & fees.
- For all eligible projects that allow grantees to recover the full amount of their federally negotiated indirect cost rate agreement, grantees must also accept the full federally recognized F&A rate for all award subcontractors (except for subcontracts to another UC institution, where F&A is capped by the statewide rate agreement as described in the RFP). If a grantee or subcontractor does not have a federally negotiated F&A rate at the time of the proposal submission, the grantee and/or subcontractor may estimate what the federally negotiated rate will be at the time of award and include this rate in the proposed budget, or may request a “De Minimis” F&A rate of 25% MTDC. A higher indirect rate that has been accepted for state or local government contract may be approved at the discretion of the Program Director and the Research Grants Program Office Executive Director.
- **Indirect Costs on Subcontracts**
 - The award recipient institution will pay indirect costs to the subcontractor.
 - For non-UC subcontracted partners, TRDRP will allow full F&A of the Modified Total Direct Cost (MTDC), as defined above.
 - F&A costs are not allowed for one UC institution's management of a subcontract to another UC institution.
 - The amount of the subcontracted partner’s F&A costs can be added to the direct costs cap of any award type. Thus, the direct costs portion of the grant to the recipient institution may exceed the award type cap by the amount of the F&A costs to the subcontracted partner’s institution.

APPENDIX D: OTHER APPLICATION-RELATED POLICIES, PRE & POST AWARD REQUIREMENTS

Submission Process

Submission of a Letter of Intent (LOI) is required to apply for all award mechanisms. The LOI must be submitted electronically. LOI submission instructions should be strictly followed as stated. LOIs will be programmatically reviewed for eligibility and alignment with TRDRP goals after the published deadline and applicants will be notified whether they are invited to submit a full application as to whether they are invited to submit a full application (see Key Dates for details). *See sections “Scientific Eligibility Criteria” and “Letter of Intent” (LOI) process for updates to this process. * All applicants should review the Call for Applications and [SmartSimple Submission Instructions](#) in their entirety and must complete all necessary materials using the appropriate templates and forms. Failure to comply with provided instructions or submission of incomplete forms may result in administrative rejection of the application.

Review Process and Funding Decisions

Applications will be grouped by priority area and undergo peer-review by experts from outside of California. The criteria for evaluating applications are described under each specific award mechanism section. TRDRP and its Scientific Advisory Committee will prioritize funding scientifically meritorious applications that are well-aligned with the priority areas described in this Call for Applications, which provide a balance across these priorities, and that are within the extent of funding that is available.

For more information about the funding process visit the [TRDRP website](#).

Resubmission Policy

A resubmission is an unfunded application that was submitted to TRDRP as a new application in the previous cycle (i.e. 2026) and resubmitted under the current Call for Applications (i.e. 2027). Resubmitted applications are allowed to include a 2-page resubmission statement immediately preceding the Research Plan. TRDRP will accept only a single resubmission of the same or very similar project. Any additional submissions of the same or similar topic are considered new applications and may not include a revision statement.

Applicants are still required to inform TRDRP of their intent to resubmit through an LOI submission and must note it as a resubmission (please refer to the LOI/Application instructions for the specific award type). All other applications are considered new applications.

Multiple Submissions Policy

Applicants may submit LOIs for no more than two projects as Principal Investigator or Co-Principal Investigator, provided that the proposed research topics and aims are significantly different for each project. No changes to PI or Co-PI may be made after LOI submission. In the event that more than 2 LOIs are submitted, the program reserves the right to decide which, if any, LOIs to consider for invitation to FA. Predoctoral and Postdoctoral applicants may submit an LOI for only one project.

TRDRP Eligibility Criteria

Investigators from California not-for-profit organizations are eligible for TRDRP funding, including but not limited to colleges, universities, hospitals, laboratories, research institutions, local health departments, community-based organizations, voluntary health agencies, health maintenance organizations and tobacco control organizations. Given their unique position in promoting health equity, for-profit community-based organizations are eligible to serve as Co-PIs on TRDRP partnered awards. The sponsoring institution, in accordance with its own policies and procedures, should designate the principal investigator (PI). The PI must supervise the research project and any trainees directly and in person. U.S. citizenship is not a requirement for eligibility.

California-based Community Organizations

TRDRP will accept applications from PIs at non-profit organizations or institutions, and, on a case-by-case basis, for-profit organizations and institutions provided that the organization can manage the grant and demonstrate sound financial stewardship. The organization must also meet our liability insurance requirements. If the application is recommended for funding, the centralized business units within the Research Grants Program Office (RGPO) will collect additional information, such as tax ID numbers and financial reports, to review the organization during the pre-funding process to ensure all financial management and project management eligibility criteria can be met.

Condition of Award for UC Faculty on payroll at a non-UC entity

In accord with University of California policy, investigators who are University employees and who receive any part of their salary through the University must submit grant proposals through their campus contracts and grants office (“Policy on the Requirement to Submit Proposals and to Receive Awards for Grants and Contracts through the University”, Office of the President, December 15, 1994). Exceptions must be approved by the UC campus where the investigator is employed.

Human Material and Animal Subjects

Approvals for use of human material and animal research subjects are not required at the time of application. Applicants are encouraged to apply to the appropriate board or committee as soon as possible in order to expedite the start of the project. If all reasonable efforts are not made to obtain appropriate approvals in a timely fashion, funds may be reallocated to other potential grantees' proposed research projects.

Appeals of Funding Decisions:

RGPO strives to resolve issues raised throughout the grantmaking lifecycle from funding decisions to project closeout. Before submitting an appeal or grievance, applicants are encouraged to discuss their concerns with the appropriate program officer or program director.

The only basis on which an appeal regarding the funding decision of a grant application will be considered is in the case of an alleged error in, or violation of the peer review procedures and/or process. Appeals based on substantive disagreement with the peer review evaluation will not be considered. In such cases, applicants may resubmit applications in a subsequent grant cycle. Applicant appeals must be made to the program within 30 days of funding notification. If discussions with the program do not satisfactorily resolve an applicant's issue, either the applicant or the program may contact the RGPO Executive Director for resolution. If resolution is not achieved, or if the applicant believes that a violation has occurred that has not been adequately addressed through these efforts, a formal appeal may be filed with the Vice President of Research and Innovation.

Pre-Funding Requirements

Upon request, awardees must supply the following information or documents:

1. Supply approved indirect (F&A) rate agreements as of the grant's start date and any derived budget calculations.
2. Supply any missing application forms or materials, including detailed budgets and justifications for any subcontract(s).
3. IRB or IACUC applications, approvals, and/or certification of institutional monitoring of required research compliance assurance statements pertaining to the award.
4. Resolution of any scientific overlap issues with other grants or pending applications.
5. Resolution of any Review Committee and Program recommendations, including specific aims, award budget, or duration.
6. Modify the title and lay abstract, if requested.

Publications Acknowledgement and Open Access

All scientific publications and other products from a RGPO-funded research project must acknowledge the funding support from UC Office of the President, with reference to TRDRP and the assigned grant ID number.

RGPO is committed to disseminating research as widely as possible to promote the public benefit. All publications based on funding received from RGPO are subject to the University's Open Access Policy which went into effect on April 22, 2014. To assist the RGPO in disseminating and archiving the articles, the grantee institution and all researchers on the grant will deposit an electronic copy of all publications in the [UC Publication Management System](#), UC's open access repository promptly after publication. Notwithstanding the above, this policy does not in any way prescribe or limit the venue of publication. The full policy is available here: <https://www.ucop.edu/research-grants-program/grant-administration/rgpo-open-access-policy.html>

Grant Management Procedures and Policies

All TRDRP grant recipients must abide by other pre- and post-award requirements pertaining to Cost Share, Indirect Cost Rates, Monitoring & Payment of Subcontracts, Conflict of Interest, Disclosure of Violations, Return

of Interest, Equipment and Residual Supplies, Records Retention, Open Access, and Reporting as outlined in the Grants Administration Manual (GAM) available at the link below: https://www.ucop.edu/research-grants-program/files/documents/srp_forms/grant_administration_manual.pdf

Accessibility Requirements

All application materials are required to be uploaded in formats accessible to individuals with disabilities, including those using assistive technologies. Applicants are required to prepare and review their application materials for accessibility, and ensure all submitted application materials comply with document-relevant Web Content Accessibility Guidelines (WCAG) 2.1 Level AA standards. Please contact your institution for information and resources on digital accessibility tools. Additional tips and links to useful accessibility resources may be found on the [UC Office of the President Electronic Accessibility website](#).

APPENDIX E. APPLICANT GUIDANCE AND TEMPLATE INSTRUCTIONS FOR CORE AWARDS

The purpose of this appendix is to assist applicants in preparing application materials and addressing reviewer evaluation criteria (see 2024 Call Appendix B for the review criteria in each award mechanism). Applicants must read and follow all submission and application instructions in this document, [SmartSimple Submission Instructions](#) as well as the 2027 Call for Applications. In particular, the current application templates for grant documentation must be used. See [SmartSimple](#) to download the latest templates. Applications failing to use the correct templates will be administratively rejected.

Instructions for completing templates in the DOCUMENTATION tab of SmartSimple	37
Research Plan	37
Facilities (1 page per institution)	38
Community Engagement Plan (1 page).....	38
Training Plan.....	39
Vertebrate Animal Subjects (No page limit).....	40
Human Subjects Accrual (No page limit).....	41
Postdoctoral Award – Applicant Instructions.....	43
Predocctoral Award – Applicant Instructions	45

Instructions for completing templates in the DOCUMENTATION tab of SmartSimple.

Research Plan

(Required for Postdoctoral(10-page) and Predoctoral (6-page) Award Applicants)

Note: Submitted Research Plans will be truncated to the page limit indicated on the template by RGPO Staff prior to peer review. The page limits are indicated on the Research Plan Template in the Documentation tab of SmartSimple and in the [Smart Simple Submission Instructions](#).

The following are recommended as headings in the research plan to assist applicants in communicating clearly with peer reviewers:

1. **Revision Statement (IF APPLICABLE):** A revision statement is limited to two pages immediately preceding the Research Plan. The revision statement should summarize any substantial additions, deletions, and changes that have been made. It must also include responses to criticisms in the summary statement provided in response to the previous submission. These changes should be highlighted within the text of the Research Plan by appropriate bracketing, indenting, changing of typography, or use of color. The “Preliminary Studies” section should include any relevant work done since the prior version was submitted. If this is a new application, do not include this section.
2. **Specific Aims:** List the broad, long-term objectives and what the specific research in this proposal is intended to accomplish. State the hypotheses to be tested.
3. **Significance:** Briefly describe the state of your field and describe the gaps that the proposed project is intended to fill. Describe your long-term research plans. Provide an account of preliminary studies pertinent to the proposal or supporting scientific evidence for a Research Award, New Investigator Award, Postdoctoral or Predoctoral Award. Preliminary data submitted in New Investigator Award and Pilot Award applications will be subject to peer review.
4. **Responsiveness and Innovation:** Describe how the proposed research addresses one or more of the TRDRP research priorities. (Please see [Appendix A](#) of the 2027 Call for Applications for details). Describe how the proposed research represents more than an incremental advance upon published data. Describe how the research is innovative for instance,
 - a. adapts existing methods or technologies to new uses or to serve understudied populations,
 - b. proposes new paradigms, challenge existing paradigms or
 - c. is otherwise highly creative in one or more of the following ways: the concept or question, research methods, or technologies.
5. **Approach:** Describe the research design and the methods to be used to accomplish the specific aims and milestones of the project. Include how the data will be collected, analyzed, and interpreted. Describe any new methods and their advantage over existing methodologies. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims. Describe the inclusion of human subjects or the use of animal models, if applicable. For experiments with biological endpoints, please clearly state the method used to determine whether the sex of an animal model or human subject should be considered a biological variable in designing experiments. Point out any procedures, situations, or materials that may be hazardous to personnel and the precautions to be exercised. Any substantial collaboration with

individuals not included in the budget should be described and documented and a letter from each collaborator should be uploaded to the Appendix.

- 6. Literature Cited (No Page Limit for this Section):** If desired, you may choose to start this section on a new page. List relevant references. Each reference must include the title, names of all authors, book or journal, volume number, page numbers, and year of publication. The references should be limited to relevant and current literature. Be concise and select only those literature references pertinent to the proposed research.

Facilities (1 page per institution)

(Required for Postdoctoral and Predoctoral Award Applicants)

Briefly describe the facilities and resources (e.g., laboratory space, core facilities, major equipment, access to populations, statistical resources, animal care, and clinical resources for research awards or administrative space and equipment) that are needed and are available for successfully carrying out the proposed research. Make sure all of the research needs described in the research plan are addressed in this section. Describe resources to be supplied by subcontractors and those that are external to the institution.

Community Engagement Plan (1 page)

(Required for Postdoctoral and Predoctoral Award Applicants)

TRDRP’s vision is to eliminate commercial tobacco use and tobacco-related diseases and improve the health and well-being of all Californians. One important step toward achieving this vision is for TRDRP-funded researchers to communicate with communities most impacted by commercial tobacco use, so that members of those communities are themselves empowered to influence decisions and policies that promote their health and reduce negative impacts of tobacco in their communities.

Examples of community engagement activities include:

1. Educate the public about the health consequences of tobacco product use, tobacco related disease, and/or the social determinants of health.
2. Participate and foster the participation of research team members in programs focused on
 - a. Supporting individuals from tobacco priority populations;
 - b. Supporting the reduction of tobacco-related health disparities for all Californians;
 - c. Supporting state and local efforts to end the tobacco epidemic for all;
3. Seek, create and distribute materials, based on your research interests, for use by California public health, educational, or community organizations.

Describe how the research team will employ their scientific and research expertise to engage with groups and individuals in the public (i.e., non-experts in your field) throughout the period of the award. Do not limit your community engagement activities to disseminating the results of completed TRDRP-funded research. Trainees are encouraged to consider opportunities to learn directly from communities affected by the issue under study, such as

volunteering with community-serving organizations, engaging with advocacy or policy groups, or interacting with community resource centers. These experiences can provide valuable insight into community needs, lived experiences, available resources, and how research may ultimately contribute to addressing real-world challenges. Presenting research findings at professional or scientific conferences is considered scholarly dissemination rather than community engagement unless the activity directly involves or engages community members, community-serving organizations, or affected populations. Funds to support these activities may be included in the project budget.

Be sure to include physically distanced, contact-free, or virtual options to account for the current uncertainty around future public health restrictions.

Training Plan

(Required for Postdoctoral (4 page) and Predoctoral (6 page) Award Applicants)

The Applicant, in collaboration with the Mentor(s), must construct a detailed, well-rounded training plan. The training plan should demonstrate the anticipated value of the proposed mentored research and training in relationship to the trainee's unique research and career goals. The training plan should also indicate how the plan prepares the Applicant for the next stage of their career. A completed individual development plan (IDP, template provided) is required as part of the application materials and should contain source material for the Training Plan. See <https://trdrp.org/trainee-corner/apply-and-manage.html> for guidance on developing your IDP.

The training plan should include, but not be limited to, the following:

- (i) Description of the Applicant
 - a. Provide a brief description of the applicant's academic background and research interests that illustrates their path to their chosen research field and mentor.
 - b. the Applicant's long-term plans for a scientific career,
 - c. how the Applicant envisions the current project will prepare them for their next career stage;
- (ii) Description of the Mentor
 - a. how the Mentor's laboratory, research experience, and staff support the Applicant's proposed research and career goals
 - b. specific resources (e.g. equipment, laboratory space, computer time, subject populations, etc.) that will be provided to meet the needs of the proposed study and the career goals of the Applicant.
 - c. how the institution provides appropriate and sufficient opportunities for the Applicant to gain professional and scientific skills
- (iii) Applicant and Mentor Partnership
 - a. Outline a proposed training plan to address gaps in the applicant's academic and/or research experience;
 - b. Create a timeline of activities, responsibilities, expectations, and assessment of completed goals for both the Applicant and Mentor over the course of the award;
 - c. Identify scientific research methods including research design, experimental methods, and analytic techniques appropriate for proposed research;

- d. Explain what additional experiences, classes or scientific techniques will be planned to supplement the trainee's knowledge and support future independence, such as professional skills and building effective collaborations;
- e. Identify and indicate in timeline of activities for training on the ethical conduct of research (Required);
- f. Provide opportunities to present and publish research findings and to interact with members of the scientific community at meetings and workshops;
- g. Propose methods on how to disseminate research in a manner readily understandable by non-scientists;
- h. Describe the didactic or interactive activities planned for increasing the trainee's knowledge base in tobacco research and tobacco control or any of the stated TRDRP research priorities;

Mentor Training Experience (2 pages)

(Required for Postdoctoral and Predoctoral Award Applicants)

The mentor should provide a list of doctoral candidates or postdoctoral fellows successfully trained, their current position(s)/status (if known), and whether they are working in a tobacco-related disease or tobacco control area of research.

Vertebrate Animal Subjects (No page limit)

This form is required for all applications. If your research does not involve vertebrate animals, simply check the box to acknowledge receipt and completion of this form.

1. Provide a detailed description of the proposed use of animals in the work outlined in the Research Plan. Identify the species, strains, ages, sex, and numbers of animals to be used in the proposed work.
2. Justify the use of animals, the choice of species, and the numbers used. If animals are in short supply, costly, or to be used in large numbers, provide an additional rationale for their selection and numbers.
3. Provide information on the veterinary care of the animals involved.
4. Describe the procedures for ensuring that discomfort, distress, pain, and injury will be limited to that which is unavoidable in the conduct of scientifically sound research. Describe the use of analgesic, anesthetic, and tranquilizing drugs and/or comfortable restraining devices, where appropriate, to minimize discomfort, distress, pain, and injury.
5. Describe any method of euthanasia to be used and the reasons for its selection. State whether this method is consistent with the recommendations of the Panel on Euthanasia of the American Veterinary Medical Association. If it is not, present a justification for not following the recommendation.

Human Subjects Accrual (No page limit)

This form is required for all applications. If your research does not involve human subjects, simply check the box to acknowledge receipt and completion of this form.

1. Provide a detailed description of the proposed involvement of human subjects in the work outlined in the Research Plan.
2. Describe the characteristics of the subject population, including its anticipated number, age range, and health status. It is the policy of the University of California and TRDRP that research involving human subjects must include males, females, and members of racially/ethnically diverse groups in study populations. Applicants must describe how these groups will be included as research participants and identify the criteria for inclusion or exclusion of any subpopulation. If this requirement is not satisfied, the rationale must be clearly explained and justified. For example, adequate inclusion of certain groups as subjects in research studies may be impossible or inappropriate with respect to the purpose of the research, due to the health of the subjects, or for other legitimate scientific reasons. Summarize the gender and racial/ethnic composition of the subject population. Also explain the rationale for the involvement of special classes of subjects, if any, such as fetuses, pregnant people, children, human in vitro fertilization, prisoners or other institutionalized individuals, or others who are likely to be vulnerable. Applications without such documentation are ineligible for funding and will not be evaluated.
3. Identify the sources of research material obtained from individually identifiable living human subjects in the form of specimens, records, or data. Indicate whether the material or data will be obtained specifically for research purposes or whether use will be made of existing specimens, records, or data.
4. Describe the plans for recruiting subjects and the consent procedures to be followed, including: the circumstances under which consent will be sought and obtained; who will seek it; the nature of the information to be provided to the prospective subjects; and the method of documenting consent. State if the IRB has authorized a modification or waiver of the elements of consent or the requirement for documentation of consent.
5. Describe any potential risks (physical, psychological, social, legal, or other) and assess their likelihood and seriousness. Where appropriate, describe alternative treatments and procedures that might be advantageous to the subjects.
6. Describe the procedures for protecting against or minimizing any potential risks, including risks to confidentiality, and assess their likely effectiveness. Where appropriate, discuss provisions for ensuring necessary medical or professional intervention in the event of adverse effects of the subjects. Also, where appropriate, describe provisions for monitoring collected data to ensure the safety of subjects.
7. Discuss why the risks, if any, are reasonable in relation to the anticipated benefits to subjects and in relation to the importance of knowledge that may reasonably be expected to result. If a test article (such as an investigational new drug, device or biologic) is involved, name the test article and state whether the Investigational New Drug (IND) Application has been obtained.

Additional Documentation of Assurances for Human Subjects: In the Appendix, if available at the time of submission, include official documentation of approval by the IRBs of all participating institutions, showing application number and title, the Principal Investigator's name, and the inclusive approval dates; do not include supporting protocols. Approvals obtained under a different title, investigator, or organization are not acceptable, unless they cross-

reference the proposed project. If review is pending, final assurances should be forwarded to TRDRP as soon as possible, but no later than six months after the award start date. Funds will not be released until all assurances are received by TRDRP. If the research organization(s) where the work with human subjects will take place is different than the applicant organization, approvals from the IRBs of each will be required.

Postdoctoral Award – Applicant Instructions

Percent Scoring Weight	Criteria	Where in the app to address	Postdoctoral Award Guidance
Criteria 1 (40 %)	Responsiveness to the needs of California’s Tobacco Control Community	Research Plan	Describe how if the proposed research is completed the outcomes would be informative or beneficial for current and prior commercial tobacco product users. Explain how basic and preclinical science studies of tobacco-related diseases substantially incorporate nicotine and/or other constituents of commercial tobacco products into the research plan. Describe how clinical, translational, or implementation studies inform prevention and/or involve human subjects that have a history of commercial tobacco product use. How strongly does the proposed research align with California’s tobacco control efforts, as outlined in the TERC Plan and California Endgame Policy Platform found here .
	Approach	Research Plan	<p>Describe the research design and the methods to be used to accomplish the specific aims and milestones of the project. Describe how the conceptual framework, design (including composition of study population, strength of recruitment plan, and statistical analyses), methods, and analyses have been developed, and appropriately integrated to the aims of the project. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims. Describe how the proposed research training experience significantly contributes to the development of the candidate’s stated career path.</p> <p>If applicable, describe whether the sex of an animal model or human subject will be considered a biological variable in designing the experiments. For experiments with biological endpoints, please clearly state the method used to determine whether the sex of an animal model or human subject should be considered a biological variable in designing experiments. Point out any procedures, situations, or materials that may be hazardous to personnel and the precautions to be exercised. Any substantial collaboration with individuals not included in the budget should be described and documented with a letter from each collaborator uploaded to the Appendix.</p>
	Community Engagement Plan	Community Engagement Plan	Describe the approach to engaging communities affected by tobacco use in either a collaborative partnership or by proactively informing about the nature and significance of the research outcomes. Describe how the approach is connected to the proposed research, Applicant’s career path, and community needs. Describe to what extent dissemination of relevant results of funded research go beyond the research community and include channels and tools targeting clinicians, public health practitioners, advocates, policymakers, and the general public.

Percent Scoring Weight	Criteria	Where in the app to address	Postdoctoral Award Guidance
Criteria 2 (40%)	Training Plan	Training Plan; Individual Development Plan (IDP)	Describe the timeline of activities, responsibilities, expectations, and assessment of completed goals for Applicant, Research Advisor and Mentor(s) over the course of the award. Describe how the training plan supports the Applicant’s career goals as indicated in the Individual Development Plan (IDP, to be included in the application Appendix). Describe ancillary activities that will enhance the training of the applicant. Explain additional experiences planned that will supplement the trainee’s knowledge of their research field. Describe the didactic or interactive activities planned for increasing the trainee’s knowledge base in tobacco research and tobacco control or any of the stated TRDRP research priorities. If gaps in the applicant’s curriculum or research experience exist, describe the proposed mentoring plan to address these gaps. The IDP included as an Appendix should be well thought-out, of clear benefit the applicant, and should clearly link to the activities described in the Training Plan. In the IDP, describe how ongoing engagement with your mentor will support your professional growth.
	Qualifications of the Applicant	Applicant’s Biosketch; Letters of Reference	Describe the applicant’s academic background and research experiences (e.g., peer-reviewed publications, presentations, health assessments, agency reports, and/or other gray literature) which are appropriate for their career stage. Describe how such background and experiences will support the successful completion of the aims stated within this proposal. Describe the potential for the applicant to have a successful career in tobacco-related research in either academic, governmental, or non-governmental settings. Explain how their publication record is appropriate for their career level.
Criteria 3 (20%)	Mentor’s Qualifications and Commitment	Mentor’s Biosketch; Training Plan; Mentor Training Experience	Demonstrate the mentor’s qualifications through descriptions of the mentor, the department, the mentor’s biosketch, letters of support and training plan as well as the quality of the training resources and environment. Describe how the Mentor’s qualifications and track record align with the training needs of the applicant. Describe how the mentoring team has the experience to support the applicant in conducting tobacco-related disease research. Please note that if a Postdoctoral Award Applicant is planning to have more than one mentor, the main mentor’s role should be designated as “Research Advisor” in the Project Personnel List. An additional co-mentor can be designated as “Mentor”.
	Environment	Facilities; Letters of Reference	Describe how the institutional environment in which the work will be done contributes to the probability of success. Describe how the proposed studies benefit from unique features of the scientific environment, or subject populations, or employs collaborative arrangements. Provide evidence of institutional support and commitment, as appropriate.

Predocutorial Award – Applicant Instructions

Percent Scoring Weight	Criteria	Where in the app to address	Guidance
Criteria 1 (50%)	Training Plan	Training Plan; Letters of Reference; Individual Development Plan (IDP)	Describe the timeline of activities, responsibilities, expectations, and assessment of completed goals for Applicant and Mentor(s) over the course of the award. Describe how the training plan supports the Applicant’s career goals as indicated in the Individual Development Plan (IDP, to be included in the application Appendix). Describe ancillary activities that will enhance the training of the applicant. Explain additional experiences planned that will supplement the trainee’s knowledge of their research field. Describe the didactic or interactive activities planned for increasing the trainee’s knowledge base in tobacco research and tobacco control or any of the stated TRDRP research priorities. If gaps in the applicant’s research experience, training, or skill development exist, describe the proposed mentoring plan to address these gaps. The IDP included in the Appendix should be well thought-out and be of clear benefit to the applicant and should clearly link to the activities described in the Training Plan. In the IDP, describe how ongoing engagement with your Dissertation Advisor mentor will support your professional growth.
	Qualifications of the Applicant	Applicant’s Biosketch; Letters of Reference; Training Plan	Describe the applicant’s academic background and research experiences (e.g., peer-reviewed publications, presentations, health assessments, agency reports, and/or other gray literature) which are appropriate for their career stage. Describe how such background and experiences will support the successful completion of the aims stated within this proposal. Describe the potential for the applicant to have a successful career in tobacco-related research in either academic, governmental, or non-governmental settings. Explain how their publication record is appropriate for their career level.
	Mentor’s Qualifications and Commitment	Mentor’s Biosketch; Training Plan; Mentor Training Experience	Demonstrate the mentor’s qualifications through descriptions of the mentor, the department, the mentor’s biosketch, letters of support and training plan as well as the quality of the training resources and environment. Describe how the Mentor’s qualifications and track record align with the training needs of the applicant. Describe how the mentoring team has the experience to support the applicant in conducting tobacco-related disease research. Please note that if a Predocutorial Award Applicant is planning to have more than one mentor, the main mentor’s role should be designated as “Dissertation Advisor” in the Project Personnel List. An additional co-mentor can be designated as “Research Advisor”.
Criteria 2 (30%)	Environment	Facilities; Letters of Reference	Describe how the institutional environment in which the work will be done will contribute to the probability of success of the applicant. Explain how the proposed studies benefit from unique features of the scientific environment, or subject populations or employ useful collaborative arrangements. Provide evidence of institutional support and commitment, as appropriate.

Percent Scoring Weight	Criteria	Where in the app to address	Guidance
Criteria 3 (20%)	Responsiveness to the needs of California's Tobacco Control Community	Research Plan	Describe how if the proposed research is completed the outcomes would be informative or beneficial for current and prior commercial tobacco product users. Explain how basic and preclinical science studies of tobacco-related diseases substantially incorporate nicotine and/or other constituents of commercial tobacco products into the research plan. Describe how clinical, translational, or implementation studies inform prevention and/or involve human subjects that have a history of commercial tobacco product use. How strongly does the proposed research align with California's tobacco control efforts, as outlined in the TERO Plan and California Endgame Policy Platform found here.
	Approach	Research Plan	<p>Describe the research design and the methods to be used to accomplish the specific aims and milestones of the project. Describe how the conceptual framework, design (including composition of study population, strength of recruitment plan, and statistical analyses), methods, and analyses have been developed, and appropriately integrated to the aims of the project. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims. Describe how the proposed research training experience significantly contributes to the development of the candidate's stated career path.</p> <p>If applicable, describe whether the sex of an animal model or human subject will be considered a biological variable in designing the experiments. For experiments with biological endpoints, please clearly state the method used to determine whether the sex of an animal model or human subject should be considered a biological variable in designing experiments. Point out any procedures, situations, or materials that may be hazardous to personnel and the precautions to be exercised. Any substantial collaboration with individuals not included in the budget should be described and documented with a letter from each collaborator uploaded to the Appendix.</p> <p>Describe the research design and the methods to be used to accomplish the specific aims and milestones of the project. Describe how the conceptual framework, design (including composition of study population and strength of recruitment plan), methods, and analyses have been developed, and appropriately integrated to the aims of the project. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims. Describe how the proposed research training experience significantly contributes to the development of the candidate's stated career path.</p>