



**NIH CounterACT U54 Research Centers of Excellence
Technical Assistance Webinar for Application Preparation
Friday, July 17th, at 1 PM ET**

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Purpose of this Webinar

1. *To provide potential applicants with information about the U54 Center Funding Announcement PAR-15-146.*
2. *To provide key expectations for competitive applications.*

Disclaimer: There is no guarantee that your participation in this webinar will have an effect on the likelihood your application will be funded. However, we are providing tips and guidance on writing a more competitive application based on our collective experience within the CounterACT program and the separate and independent NIH peer-review process.

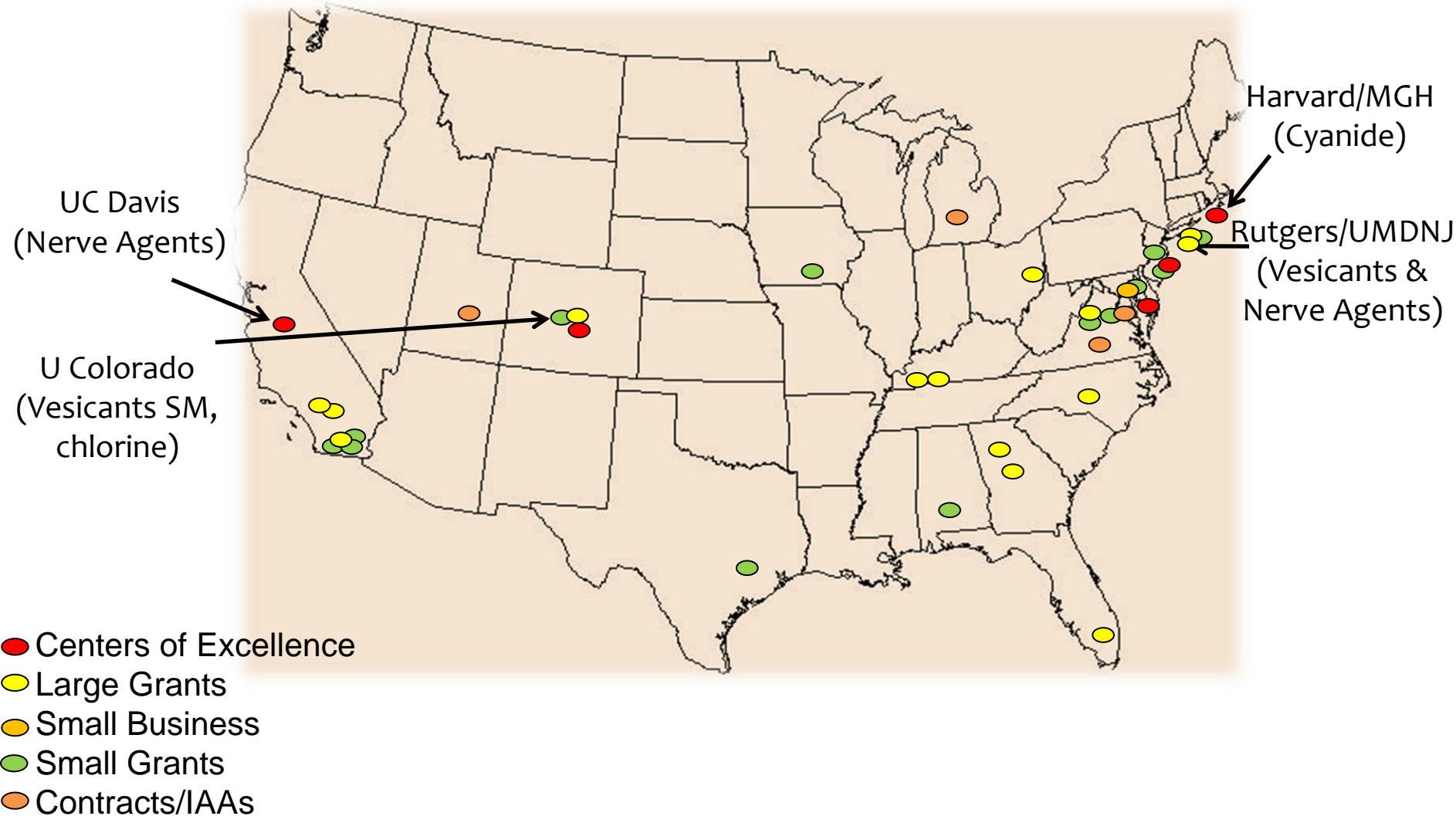
Eligibility for Funding

- 1. New and Renewal applications accepted***
- 2. Academic, Commercial, Federal laboratories accepted***
- 3. Special budget restrictions for Federal laboratories***
- 4. Foreign components, as defined in the NIH Grants Policy Statement, are allowed; however the primary applicant must be from the United States. (contact NIH to check)***

CounterACT Program Goals

- 1. Generate new knowledge by conducting basic research on chemical threats and therapeutic targets.**
- 2. Facilitate pipeline maturation by conducting translational research on promising therapeutics that would be ready for advanced development by other federal, academic, and commercial entities.**

The CounterACT Research Network



Definition of Chemical Threats

1. **Department of Homeland Security (DHS) Chemical Threat Risk Assessment (CTRA) list, which is designated For Official Use Only.**
2. **The list includes:**
 - a) **chemical warfare agents (e.g., sarin)**
 - b) **toxic industrial chemicals (e.g., cyanide), pesticides (e.g., parathion), and other chemicals**
3. **It is critical that you contact NIH to determine if the chemical(s) you propose to work with is a priority for the NIH**

Chemical “Toxidromes”

Over 100 Chemicals grouped by mechanism and toxicity (examples*)

Anticoagulants (brodifacoum)

Blood agents (hydrogen & potassium cyanide, hydrogen sulfide)

Cholinergic warfare (sarin, soman)

Cholinergic pesticides (parathion, aldicarb)

Convulsant (picrotoxin, TETS, strychnine)

Hemolytic/Metabolic (arsenic trioxide, thallium sulfate, arsine)

Opioids (diacetyl morphine)

Lower pulmonary (chlorine, phosphine)

Upper pulmonary (ammonia, sulfur dioxide, hydrogen fluoride)

Vesicants (sulfur and nitrogen mustard, phosgene oxime)

****these are only examples; contact NIH to determine if your chemical(s) is a priority***

Scientific Scope

1. *Basic mechanistic research to identify targets*
2. *Screening assays for therapy development*
3. *Natural history animal models of lethality and serious morbidity*
4. *Screening and Identification of candidate therapeutics*
5. *Proof-of-principle data on in vitro and in vivo efficacy*
6. *Advanced efficacy studies with appropriate animal models*
7. *Preliminary and advanced preclinical research including safety and pharmacokinetic studies with candidate therapeutics*

Key Considerations for Centers

- 1. Centers should include more than basic research only**
- 2. If propose screening, they should also propose to find hits and lead compounds**
- 3. Animal Models**
 - 1. Should be based on known effects in humans**
 - 2. Should be based on intended use of the drug in humans (e.g. timing and route of administration, human equivalent doses)**

Time/Dose Windows of Opportunity

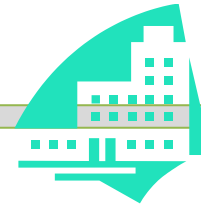
Chemical Exposure



Transport to Hospital



In Hospital



Home



Pre-treatment

Pre-Hospital Treatment

In-Hospital and Follow Up Treatment

Safe drugs with no side effects

Safe drugs that work fast

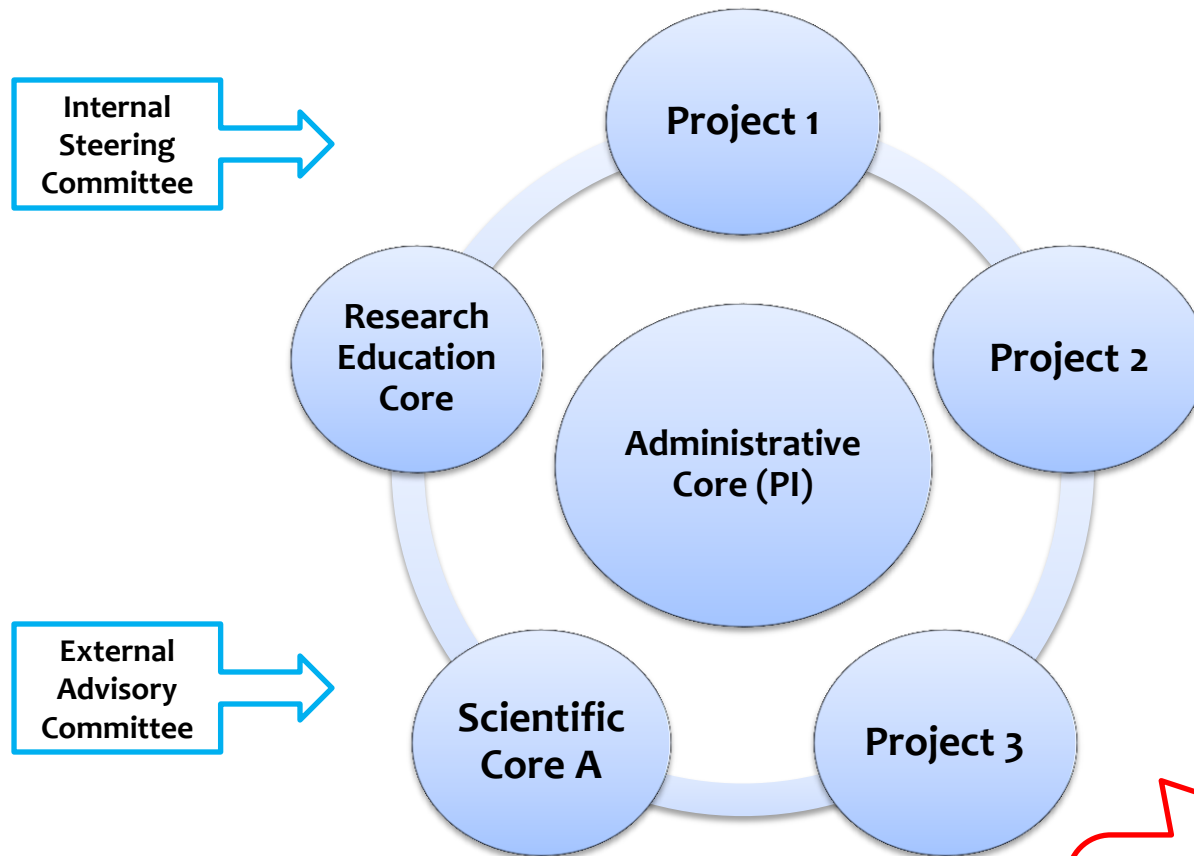
Drugs that can prevent long-term effects

Pretreatment is not a priority, but it can be proposed *in addition* to post-exposure treatments.

Application Instructions

- 1. Be sure to follow specific instructions in the Funding Opportunity Announcement, and start early since these are complex applications.**
- 2. Collaborations are common in Center applications. Be sure to include a budget for all proposed research, including work done at collaborating facilities. Also a letter of support from all collaborating institutions is required.**
- 3. For Resubmission applications: Be sure the level of progress matches the previous NIH level of investment. Centers applying for a third funding cycle should have at least one product being transitioned to advance development by another agency or entity (not NIH).**
- 4. For Revision applications: Be sure to address all points in the Summary Statement, item by item.**

Structure of the CounterACT Research Center of Excellence



Projects should be synergistic and linked by a unifying central goal. For example, one type of effect but several chemical threats, or one chemical and several effects.

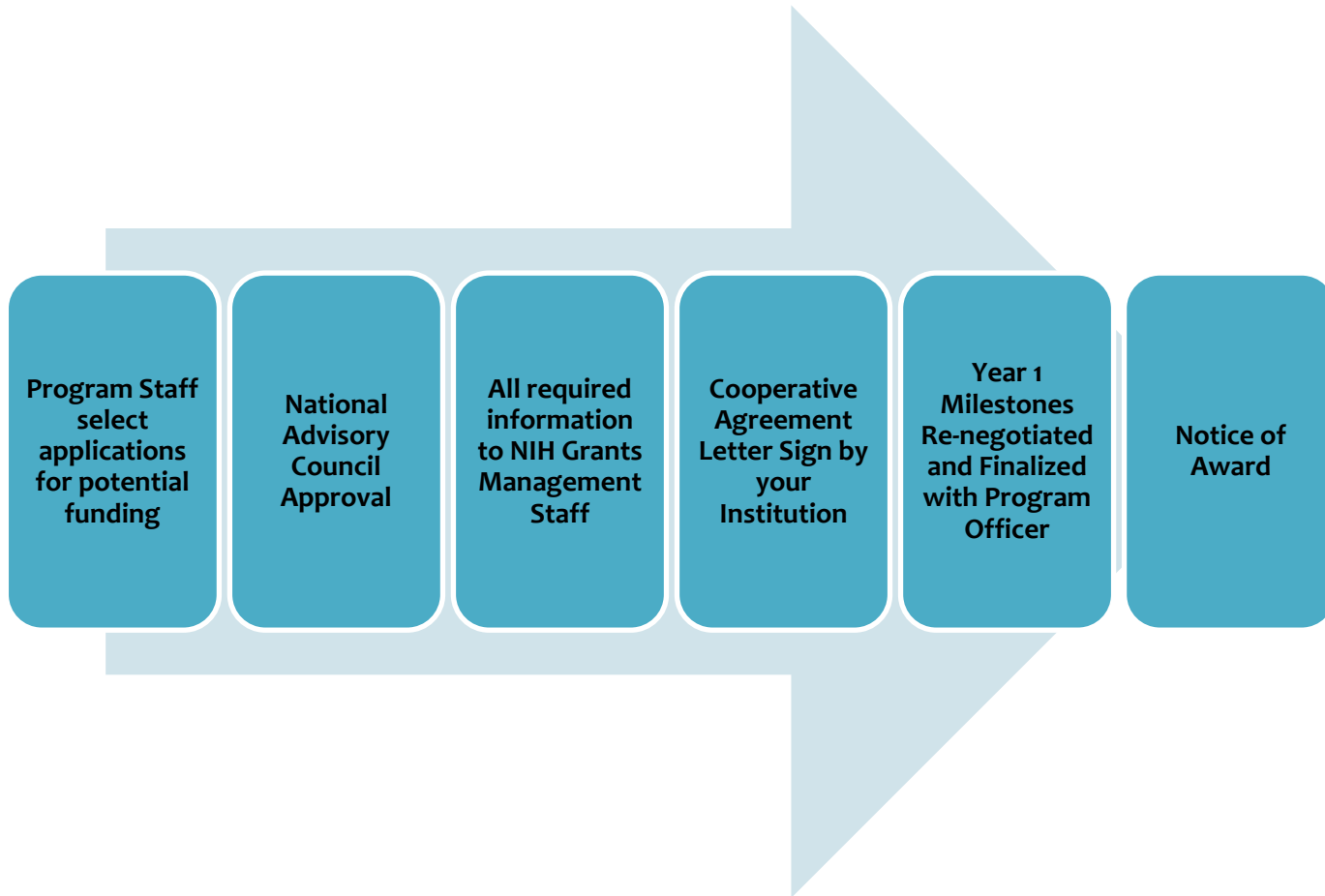
Common Budget submission errors

1. **Costs in budget differ from justification**
2. **Salaries exceeds the NIH salary cap**
3. **Calendar months effort does not equate to the requested salary**
4. **Miscalculation of F&A**
5. **Used a modular budget when a categorical budget was appropriate**
6. **Waiting until the last minute to contact NIH on budget clarification questions**

Review Criteria – some common issues

- 1. Applicants should remind reviewers in the application that they have contacted the NIH and have confirmed that the chemical threat proposed is acceptable.**
- 2. Innovation: Some research under this program may involve standard methodologies applied toward novel therapeutic approaches (e.g. PK or routine safety studies). Therefore in some cases the innovation in scientific approach should be highlighted, rather than specific methodologies.**
- 3. Applicants must demonstrate that all investigators will contribute to, and share in, the responsibilities of fulfilling the Center objectives.**
- 4. It must be demonstrated that each Scientific Core facility (up to two) will be utilized by at least two of the subprojects.**

Award Administration



Milestones

- Discreet goals that create go/no-go decision points in the project that include quantitative success criteria. See www.ninds.nih.gov/counteract for examples.
- **Bad Example:**
 - 01 Milestone #1: Screen compounds to determine hits with biological activity.
- **Good Example:**
 - 01 Milestone #1: Identify at least three compounds with requisite biological activity (“hits”). Criteria for success: Requisite biological activity is: (a) EC₅₀ in the in vitro GABA receptor binding assay of <10 nm, and (b) LC₅₀ cytotoxicity in the CACT-293 cell line at no less than 5-fold above EC₅₀.
- For each proposed year, there should be overall Center milestones, and milestones for each sub-project that support Center milestones. Scientific Cores do not require milestones.

Grants Management

1. **Get a copy and Read the Notice of Award (NoA)**
2. **Read the terms and conditions on the NoA**
 1. *It has your milestones – only those on the NoA are official*
 2. *It has any restrictions on use of the award*
3. **Manage the award appropriately**
4. **Submit closeout documents in a timely manner**
5. **Ask questions**

END