Why are we stressing this skill acquisition as key to your professional development:
- You asked for it
- Much of the career benefits of academia are dependent on this skill
- Learning this skill set as faculty is too late and jeopardizes your faculty status and promotion/tenure
- This is a specialized skill that incorporates many of the needed skills as a successful scientist
- Experience drives success so start early
- Your success in this endeavor determines the long-term success of this T32 training program
## Goals
- Personalized
- Comprehensive
- Product-oriented
- Resource use
- Award success
- Gold standard

## A Course and Workshop in Grant Writing Skill Development
### NIDA UAMS T32 Translational Training in Addiction Program

<table>
<thead>
<tr>
<th>Date</th>
<th>Presenter</th>
<th>Instruction Method</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 9, 2020</td>
<td>Clint Kilts, PhD</td>
<td>Lecture</td>
<td>The NIH extramural grant process: Selecting the appropriate grant mechanism and deciphering NIH grant announcements</td>
</tr>
<tr>
<td>January 23, 2020</td>
<td>Clint Kilts, PhD</td>
<td>Lecture</td>
<td>The NIH peer review process: lessons for proposal development</td>
</tr>
<tr>
<td>February 6, 2020</td>
<td>Clint Kilts, PhD</td>
<td>Lecture</td>
<td>Hypothesis formation and conceptual modeling</td>
</tr>
<tr>
<td>February 20, 2020</td>
<td>SciCom</td>
<td>Lecture</td>
<td>Significance, Innovation, and Rigor of the Prior Research</td>
</tr>
<tr>
<td>March 19, 2020</td>
<td>Paul Prather, PhD</td>
<td>Lecture</td>
<td>Methods and procedures</td>
</tr>
<tr>
<td>April 2, 2020</td>
<td>SciCom</td>
<td>Lecture</td>
<td>Scientific approach/Experimental design</td>
</tr>
<tr>
<td>April 16, 2020</td>
<td>SciCom</td>
<td>Lecture</td>
<td>Specific Aims</td>
</tr>
<tr>
<td>April 30, 2020</td>
<td>Melissa Zielinski, PhD</td>
<td>Lecture</td>
<td>Candidate statements, career goals and plan</td>
</tr>
<tr>
<td>May 14, 2020</td>
<td>SciCom</td>
<td>Lecture</td>
<td>The NIH Biosketch</td>
</tr>
<tr>
<td>May 28, 2020</td>
<td>Keith Bush, PhD</td>
<td>Lecture</td>
<td>Data analysis plan and calculating experimental power</td>
</tr>
<tr>
<td>June 11, 2020</td>
<td>Meg Gorvine, MS</td>
<td>Lecture/Demo results</td>
<td>Graphic design: Visualizing a conceptual model and pilot results</td>
</tr>
<tr>
<td>June 25, 2020</td>
<td>Faculty</td>
<td>Lecture</td>
<td>Abstract and narrative</td>
</tr>
<tr>
<td>July 9, 2020</td>
<td>Corey Hayes, PharmD PhD</td>
<td>Lecture</td>
<td>Writing successful community program grant proposals</td>
</tr>
</tbody>
</table>

### Elective lecture topics based on trainee survey responses
- SciCom/Faculty
- Lectures (2)
- Examples: Writing the Facilities and Resources; Addressing rigor and reproducibility; Best practices for citing literature; Addressing human/animal subject protection; Developing your budget; Addressing data sharing; Writing effective revised proposals (the Introduction)

### Hands-on workshop
- Andrew James, PhD/UAMS Library
- Lecture/DEMO
- Searching and managing the scientific literature

### Trainee electives
- SciCom
- Workshop (2)
- Applying lessons learned to write effective Specific Aims
First, let’s assume that you will be seeking research/career development funding from the National Institutes of Health (NIH)
The mission of the NIH is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.

- World’s largest supporter of biomedical, behavioral, & social science research & training
- Budget: >$39 Billion Annually
- Over 80% of funding goes to the extramural community

*NICHRePORTer

NIDA T32 Addiction Research Training Program at UAMS
27 NIH Institutes & Centers (ICs)

Office of the Director

- National Institute on Aging
- National Institute on Alcohol Abuse and Alcoholism
- National Institute of Allergy and Infectious Diseases
- National Institute of Arthritis and Musculoskeletal and Skin Diseases
- National Cancer Institute
- National Institute of Child Health and Human Development
- National Institute on Deafness and Other Communication Disorders
- National Institute of Dental and Craniofacial Research
- National Institute of Diabetes and Digestive and Kidney Diseases
- National Institute of Drug Abuse
- National Institute of Environmental Health Sciences
- National Eye Institute
- National Institute of General Medical Sciences
- National Heart, Lung, and Blood Institute
- National Human Genome Research Institute
- National Institute of Mental Health
- National Institute of Neurological Disorders and Stroke
- National Institute of Nursing Research
- National Institute on Minority Health and Health Disparities
- National Center for Complementary and Integrative Health
- Fogarty International Center
- National Center for Advancing Translational Sciences
- National Library of Medicine
- National Institute of Biomedical Imaging and Bioengineering

No funding authority

NIH Clinical Center
Center for Information Technology
Center for Scientific Review

NIDA T32 Addiction Research Training Program at UAMS
But what NIH grant mechanism do I choose/qualify for when seeking independent funding?
Know Your Funding Mechanisms: Research Training and Career Development Awards

• Three ways you can receive mentored career development funds from NIDA, NIAAA, NIMH, and NIMHD
  ■ Directly from NIH (individual awards: F, K)
  ■ From an academic institution with an NIH-supported training program (T32) – this is you
  ■ From an administrative supplement to an existing NIH grant awarded to your mentor (diversity)

• NIDA, NIAAA, NIMH, and NIMHD offers various training grants across the career timeline
The language of NIH funding opportunities

FOA: Funding Opportunity Announcement
Mechanism for a Federal agency to make known its intentions to award discretionary grants or cooperative agreements, usually by competitive review

• PA: Program Announcement (e.g., R, K, F, etc.)
  Identifies areas of increased priority and/or emphasis on particular funding mechanisms. Generally active for 3 years.
  - PAR: A PA with special receipt, referral and/or review considerations
  - PAS: A PA that includes specific set-aside funds

• RFA: Request for Applications
  Identifies a more narrowly defined area; has set aside funds. Often has single receipt date, but can be renewed.
How do you find FOAs?
(Funding Opportunity Announcement)

Internet search:
- NIH fellowships
- NIH K99/R00
- NIH R01
- etc..

Funding links on Institute website

Contact an NIH Program Official

NIH Guide lists all active NIH FOAs:
http://grants.nih.gov/grants/guide/
So you found an FOA
(Funding Opportunity Announcement)

- Lists Institutes participating in this funding opportunity;
- Institute specific requirements
- Title of FOA topic
- Important updates/information or a link to a newer version of the FOA released with different requirements
- General purpose, but read entire announcement carefully for “special instructions and eligibility”
- NIH scientific/ research program contacts
- Important Dates and deadlines

<table>
<thead>
<tr>
<th>Participating Organization(s)</th>
<th>National Institutes of Health (NIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Components of Participating Organizations</td>
<td>(NCI) (NEI) (NHLBI) (NHGRI) (NIA) (NIAAA) (NIAID) (NIAMS) (NIBIB) (NICHD) (NIDCD) (NIDCR) (NIDDK)</td>
</tr>
<tr>
<td></td>
<td>National Institute on Drug Abuse (NIDA)</td>
</tr>
<tr>
<td></td>
<td>(NIEHS) (NIGMS) (NIMH) (NINDS) (NINR) (NLM) (NCCAM) (ODS) (ORIP)</td>
</tr>
</tbody>
</table>

Special Note: Applicants are cautioned that not all NIH Institutes and Centers (ICs) participate in this program. To determine whether the planned research and training falls within the mission of one of the participating NIH ICs, see the Table of IC-Specific Information, Requirements and Staff Contacts.

Funding Opportunity Title | NIH Pathway to Independence Award (Parent K99/R00)
Activity Code | K99/R00 Career Transition Award/Research Transition Award
Announcement Type | Reissue of PA-10-063

Funding Opportunity Announcement (FOA) Number | PA-11-197
Number of Applications | See Section III. 3. Additional Information on Eligibility.
Catalog of Federal Domestic Assistance (CFDA) Number(s) | 93.113, 93.213, 93.389, 93.172, 93.233, 93.837, 93.838, 93.839, 93.271, 93.855,

FOA Purpose | The primary purpose of the Pathway to Independence Award (K99/R00) program is to increase and maintain a strong cohort of new and talented NIH-supported independent investigators. The program is designed to facilitate a timely transition from a mentored postdoctoral research position to a stable independent research position with independent NIH or other independent research support at an earlier stage than is currently the norm. Prospective candidates are encouraged to contact the relevant NIH staff for IC-specific programmatic and budgetary information: Table of IC-Specific Information, Requirements and Staff Contacts.

Key Dates
- Posted Date | April 8, 2011
- Open Date (Earliest Submission Date) | May 12, 2011
- Letter of Intent Due Date | Not Applicable
- Application Due Date(s) | Standard dates apply, by 5:00 PM local time of applicant organization.
- AIDS Application Due Date(s) | Standard dates apply, by 5:00 PM local time of applicant organization.
- Scientific Merit Review | Standard dates apply
Get to know your NIH Contact people:
~ contact them at any time and be persistent ~

Program Officials:
• scientist and administrator
• manage a grant portfolio and identify scientific areas of special interest or need
• can help you with the grant and application process, research proposal, and career development plan, and determining the best Funding Opportunity Announcement (FOA) for you

Review Official:
• Manage the review process, determines where applications are reviewed, who reviews them, and runs the review meeting

Budget Official:
• Manages the release of NoAs and payment of the award
NIH Funding Opportunities exist across your academic lifetime

Stage of Research Career

- Undergraduate
- GRADUATE/MEDICAL STUDENT
- POST DOCTORAL
- EARLY INVESTIGATOR
- MIDDLE INVESTIGATOR
- SENIOR INVESTIGATOR

Predoctoral Institutional Training Grant NRSA (T32)
Predoctoral Individual NRSA (F31) (Diversity)
Predoctoral Individual MD/PhD NRSA (F30)
Predoctoral Individual NRSA (F99/K00)

Postdoctoral Institutional Training Grant NRSA (T32)

NIH Pathway to Independence Award (K99/R00)

Mentored Research Scientist Development Award (K01)
Mentored Clinical Scientist Development Award (K08)
Mentored Patient-Oriented (K23)
Mentored Quantitative (K25)

Independent Scientist Award (K02)

Midcareer Investigator Award in Patient-Oriented Research (K24)

Loan Repayment Program (LRP)
NIDA Diversity Supplement Program
NIDA Diversity Scholars Program

Small Grant (R03)
A/Start
B/Start
I/Start
E/Chem

Research Project Grant (R01)
Exploratory/Development Grant (R21)

NIH T32 Addiction Research Training at UAMS
NIH Loan Repayment Programs (LRP)

- NIH will repay up to $50,000/year of qualified educational debt for those spending at least 50% effort in:
  - Clinical, Pediatric, or Health Disparities related-research

- To offset the increase in federal tax, payments equal to 39% of total loan repayments are issued

- Individuals from underrepresented backgrounds are encouraged to apply

**Eligibility**
- Doctoral-level degree
- Government or domestic nonprofit research funding
- Student loan debt must be at least 20% of annual salary
- U.S. citizens or permanent residents


Application deadline November, 2016
General principles of effective grant proposals

• Make it your business to know about your career stage-specific grant opportunities and policies
• Understand the tangible and intangible properties of review; contribute as soon as you can
• Understand that review is a process of pattern recognition and analysis (there are expectations)
• This is not an exercise in English composition
• Create a story based on compelling theoretical and conceptual frameworks
• Inspire reviewers with a well-defined and defended idea
• Seek simplicity first
• Prize quality over quantity
• This is an iterative process
The NIH Peer Review Process: Lessons for Proposal Development
This lesson is best learned in practice...

NIH Early Career Reviewer (ECR) Program
https://public.csr.nih.gov/ForReviewers/BecomeARReviewer/ECR

Benefits of ECR
• Work side-by-side with some of the most accomplished researchers in your field to help NIH identify the most promising grant applications
• Learn how reviewers determine overall impact scores
• Improve your own grant writing skills by getting an insider’s view of how grant applications are evaluated
• Serve the scientific community by participating in NIH peer review
• Develop research-evaluation and critique-writing skills

Qualifications for ECR
• Assistant Professor (> 2 years)
• Active independent research program
• > one senior-authored publication in prior two years plus one since degree
• Not served on NIH study section or been awarded an RO1 or equivalent
• Submitted an NIH RO1 proposal as PI/PD

NIDA T32 Addiction Research Training Program at UAMS
NIHRePORTer?
Early Stage Investigator

A Program Director / Principal Investigator (PD/PI) who has completed their terminal research degree or end of post-graduate clinical training, whichever date is later, within the past 10 years and who has not previously competed successfully as PD/PI for a substantial NIH independent research award. A list of NIH grants that a PD/PI can hold and still be considered an ESI can be found here.

New Investigator

An investigator who has not previously received substantial, independent funding from NIH.

R01-equivalent ESI applications with meritorious scores will be prioritized for funding.

NIH Institutes and Centers (ICs) fund New Investigators according to the ICs' programmatic and strategic interests.

Policy Summary
"Anatomy" of the Grant Process

Funding Opportunity Announcement (FOA)

Discovery

Revision

Means

IC National Advisory Council

Summary Statement

Program Staff

IRG

CSR Receipt and Referral

NIH Program Staff

Collaborators

Peers, Other Reviewers

SciCom

Think

Write

Polish

Edit

RevisIon
Grant Submission Timeline

**PLANNING PHASE**
- Months before receipt date: 8
  - Assess yourself, your field, and your resources
- 7
  - Brainstorm; research your idea;
- 6
  - First outline your application’s structure; then write

**WRITING PHASE**
- 5
  - Get feedback; edit and proofread
- 4
  - Meet institutional deadlines
- 3
  - Receipt date
- 2
  - Call NIH Program Staff
- 1
  - Set up your own review committee; determine human and animal subject requirements

**SUBMISSION PHASE**
- Know your Institutions deadlines!
How Does Peer Review Work?

It Might Be Perceived This Way

Most scientists regarded the new streamlined peer-review process as ‘quite an improvement.’

But, Actually Works This Way!
Try to think like a reviewer

- Will the investigators be able to get the work done within the project period, or is the proposed work overly ambitious?
  - Simpler is better

- Are the sequence of specific aims overly interdependent?

- Did the PI describe potential pitfalls and possible alternatives?
  - Are you overly cathected to an experimental outcome?

- Will the experiments generate meaningful data that will impact the target problem?
  - Does this proposed work significantly advance a solution space?

- Would the resulting data constitute a clear test of the hypothesis?
  - Are the hypotheses explicitly stated, testable, and falsifiable?

- Are others already doing the work, or has it been already done?
  - Is there real new knowledge to be generated here?

- Is the proposal well-written and clear in its intent and actions?
  - Strive for clarity and succinctness
Peer Review Meeting Rules and Processes

- Reviewers invited based on expertise while avoiding conflicts
- Discussion by 3 assigned reviewers (R1, R2, R3), then all panelists
- All reviewers present give a final score based on the discussion
- Final scores posted in eCommons within 1-3 business days
- Summary statements are released within 4-8 weeks
So I have a Summary Statement, now what?

- Provides a Resume and Summary of Review Discussion, all Critiques and the Meeting Roster.
- Indicates critical “scored” or “not scored” status
- Contact information for the Program Officer who is now your point of contact for further assistance.

**Do’s:**
- Talk to a Program Officer about:
  - The Overall Impact Score
  - Potential for Funding
  - Next Steps – Revise A0 and Resubmit A1, Other Options

**Dont’s:**
- Do not take comments personally. Take a break and revisit it in a couple of weeks.
- Do not worry as options exist for acquiring research support.
Merit Scoring System: 9 Points

- **The Overall Impact score** serves as a gauge of the Impact the proposed research may have on a particular field of science.
  - Posted on the Cover Page of the Summary Statement
  - Average of the scores from all reviewers x 10. (10 – best score possible)
- **Criterion Scores** are a gauge of the strengths and weaknesses of a particular section of the application
  - **Overall Impact and Criterion Scores are not related mathematically.**

<table>
<thead>
<tr>
<th>Overall Impact or Criterion Strength</th>
<th>Score</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>Exceptional</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Outstanding</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Excellent</td>
</tr>
<tr>
<td>Medium</td>
<td>4</td>
<td>Very Good</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Low</td>
<td>7</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Marginal</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Poor</td>
</tr>
</tbody>
</table>
What reviewers are looking for in the Applicant & Goals section*

- Level and appropriateness of candidates research experience
- Conveyed passion for research, strengths, and weaknesses.
- Congruence between you the candidate, your proposed career development plan, and your career goals
- You may also want to point out that you maintain a level of interest in your field through other related training and work experience.
- Highlight any publications you have (especially if you're applying for an F31), since reviewers will be on the lookout.
- Tell them what you hope to gain from a fellowship, i.e., what added value it would give your career, as opposed to conducting research under your mentor's grant.

*Albert Avila PhD, NIDA
NIH Mentored Career Development Awards

“Mentor, wisely choose”

- Yoda
As an example,

**NIH Pathway to Independence Award (K99/R00)**

PA-19-130 (clinical trial not allowed)
PA-19-129 (clinical trial allowed)

**Purpose:** to facilitate a timely transition from mentored postdoctoral research training to an independent research position at an earlier stage than is currently the case in order to obtain the first R01 at an earlier time point

**Receipt dates**

- New Applications: February 12th, June 12th, October 12th,
- Resubmissions: March 12th, July 12th, November 12th
K99/R00: A Two Phase Award

- **K99 Phase/Postdoc (1-2 years) – mentored phase**
  - Complete postdoctoral research goals & training objectives
  - Apply/Interview/Secure an independent position
  - Must conduct a minimum of 1 year in the K99 phase
  - Up to $90,000/year salary support plus fringe (NIDA)
  - Up to $50,000/year research development support (NIDA)

- **R00 Phase (3 years) – independent phase**
  - You must have an independent tenure-track or equivalent position to activate the R00 phase
  - Award moves with you to the institution where tenure-track appointment will be
  - R00 institution must allow you to dedicate 75% effort toward research activities (protected time)
  - Up to $249,000/year Total Cost (indirect + direct costs)
K99/R00: Eligibility

• You must be in a postdoctoral training position which meets the eligibility criteria, regardless of your current title.

• You can **NOT** have more than 4 years of postdoctoral research training at the time of initial application or subsequent resubmission.

• Research or clinical doctoral degree.

• **U.S. citizens and non-U.S. citizens**

• Both the K and R portion of the award must be conducted at U.S. institutions.

• Have not been awarded an independent grant (R03, R21, R01) or other individual mentored K award.
# Additional Mentored Career Development (K) Awards

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Purpose</th>
<th>Program Announcement</th>
</tr>
</thead>
</table>
| **K01**: Research Scientist Career Development Award | Supports individuals with a research or health-professional doctoral degree for additional training and career development in biomedical or behavioral research. **NIDA encourages training to be in a different area from previous research experiences.** | PA-19-126 (clinical trial not allowed)  
PA-19-127 (clinical trial required) |
| **K08**: Clinical Scientist Research Career Development Award | Supports **clinically trained professionals** with a doctoral degree (MD, PhD clinical psychology, etc.) to pursue research and career development in biomedical, behavioral, and/or translational research. | PA-19-117 (clinical trial not allowed)  
PA-19-116 (clinical trial required) |
| **K23**: Patient-Oriented Research Career Development Award | Supports **clinically trained professionals** with a doctoral degree (MD, PhD clinical psychology, etc.) to pursue training and career development in **patient-oriented research**. | PA-19-119 (clinical trial not allowed)  
PA-19-118 (clinical trial required) |
| **K25**: Quantitative Research Career Development Award | Supports individuals with an **advanced degree in a quantitative areas of science or engineering (MSEE, PhD, DSc, etc)** to pursue research and career development in biomedical, behavioral, and/or translational research. | PA-19-124 (clinical trial not allowed)  
PA-19-125 (clinical trial required) |
Shared Features of the K01, K08, K23 & K25 career development award mechanisms

**Purpose**

- Provide support and “protected time” (3-5 years) for an intensive, mentored experience leading to research independence
- Must clearly justify the need for additional mentored support
- Focus on making you an independent investigator: You should provide a plan to obtain independent research support (R01) prior to the end of the K award period.

**Eligibility**

- Must have a full time faculty appointment at the time of the award
- Requires minimum of 75% effort dedicated to research
- US citizens, non-citizen nationals, or permanent residents
- Mentor(s) with appropriate research and mentoring experience
- Recipients of R03s, R21s, or equivalent awards are eligible

**Allowable Funds**

- K01 & K25: Up to $90,000/year salary support plus fringe
- K08 & K23: Up to $100,000/year salary support plus fringe
- Up to $50,000/year research support (NIDA, NIAAA, NIMH)

**Receipt dates**

- New Applications: February 12th, June 12th, October 12th
- Resubmissions: March 12th, July 12th, November 12th
## Review Criteria for Mentored Career Development (K) Awards

<table>
<thead>
<tr>
<th>K Application Review Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applicant</strong></td>
</tr>
<tr>
<td><strong>Career Goals and Development Plan</strong></td>
</tr>
<tr>
<td><strong>Research Plan</strong></td>
</tr>
<tr>
<td><strong>Mentor(s), Consultant(s), Collaborator(s)</strong></td>
</tr>
<tr>
<td><strong>Institutional Environment &amp; Commitment to Training</strong></td>
</tr>
<tr>
<td><strong>Protection of Vertebrate Animals/Human Subject, Biohazards, Resubmission</strong></td>
</tr>
</tbody>
</table>

**Vehicle** for attaining goals

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**NIDA T32 Addiction Research Training Program at UAMS**
K Grant Proposal Elements*

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Letter</td>
<td></td>
</tr>
<tr>
<td>PHS Assignment Request Form</td>
<td></td>
</tr>
<tr>
<td>Introduction – (Resubmissions and Revisions)</td>
<td></td>
</tr>
<tr>
<td>Project Summary/Abstract</td>
<td></td>
</tr>
<tr>
<td>Candidate Section</td>
<td>Candidate Statement and Goals/Plan for Career Development</td>
</tr>
<tr>
<td>Research Plan Section</td>
<td>Specific Aims, Research Strategy, Progress Report Publication List (RENEWAL ONLY), Training in the Responsible Conduct of Research</td>
</tr>
<tr>
<td>Other Candidate Information Section</td>
<td>Candidate’s Plan to Provide Mentoring</td>
</tr>
<tr>
<td>Mentor, Co-Mentor, Consultant, Collaborators Section</td>
<td>Plans and Statements of Mentor and Co-Mentors, Letters of Support from Collaborators, Contributors and Consultants</td>
</tr>
<tr>
<td>Environment and Institutional Commitment to Candidate</td>
<td></td>
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</tbody>
</table>

*Incomplete proposals will be administratively triaged

Sample applications: [https://www.niaid.nih.gov/grants-contracts/sample-applications](https://www.niaid.nih.gov/grants-contracts/sample-applications)
# Sections of the Career Development Application

<table>
<thead>
<tr>
<th>Section of Application</th>
<th>Page Limits</th>
<th>Who Writes?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Letter</td>
<td>None specified</td>
<td>PD/PI (you)</td>
</tr>
<tr>
<td>Project Summary/Abstract</td>
<td>30 lines of text</td>
<td>You</td>
</tr>
<tr>
<td>Project Narrative (Public Health Relevance Statement)</td>
<td>2 - 3 sentences</td>
<td>You</td>
</tr>
<tr>
<td>Introduction to Resubmission or Revision (when applicable)</td>
<td>1 page</td>
<td>You</td>
</tr>
<tr>
<td>Candidate Information and Goals for Career Development and Research Strategy</td>
<td>12 pages for both combined</td>
<td>You</td>
</tr>
<tr>
<td>Specific Aims</td>
<td>1 page</td>
<td>You</td>
</tr>
<tr>
<td>Training in the Responsible Conduct of Research (RCR)</td>
<td>1 page</td>
<td>You</td>
</tr>
<tr>
<td>Plans and Statements of Mentors &amp; Co-Mentors</td>
<td>6 pages</td>
<td>Mentors, etc.</td>
</tr>
<tr>
<td>Letters' of Support from Collaborators, Contributors and Consultants</td>
<td>6 pages</td>
<td>Collaborators, etc.</td>
</tr>
<tr>
<td>Description of Institutional Environment</td>
<td>1 page</td>
<td>You</td>
</tr>
<tr>
<td>Institutional Commitment to Candidate's Research Career Development</td>
<td>1 page</td>
<td>Institution</td>
</tr>
<tr>
<td>Biographical Sketch</td>
<td>5 pages</td>
<td>You</td>
</tr>
</tbody>
</table>
Candidate Statement*

Candidates background

- **Describe past scientific history**, indicate how the award fits into past and future research career development.

Leverage space in letters of support to highlight your background and expertise.

*Dr Zielinski will cover later*
## Predoctoral NRSA Fellowships

**http://www.nida.nih.gov/funding/research-training**

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Purpose</th>
<th>Duration</th>
<th>Allowable Cost</th>
<th>URL</th>
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</thead>
</table>

**Application submission dates (new applications & resubmissions)**
- April 8th, August 8th, December 8th
# Sections of the Fellowship Application

<table>
<thead>
<tr>
<th>Section of Application</th>
<th>Page Limits</th>
<th>Who Writes?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Letter</td>
<td>None specified</td>
<td>PD/PI (you)</td>
</tr>
<tr>
<td>Project Summary/Abstract</td>
<td>30 lines of text</td>
<td>You</td>
</tr>
<tr>
<td>Project Narrative (Public Health Relevance Statement)</td>
<td>2 - 3 sentences</td>
<td>You</td>
</tr>
<tr>
<td>Introduction to Resubmission or Revision (when applicable)</td>
<td>1 page</td>
<td>You</td>
</tr>
<tr>
<td>Applicant's Background and Goals for Fellowship Training</td>
<td>5 pages</td>
<td>You</td>
</tr>
<tr>
<td>Specific Aims</td>
<td>1 page</td>
<td>You</td>
</tr>
<tr>
<td>Research Strategy (The Grant)</td>
<td>6 pages</td>
<td>You</td>
</tr>
<tr>
<td>References</td>
<td>None specified</td>
<td>You</td>
</tr>
<tr>
<td>Respective Contributions (Who did what)</td>
<td>1 page</td>
<td>You</td>
</tr>
<tr>
<td>Selection of Sponsor and Institution</td>
<td>1 page</td>
<td>You</td>
</tr>
<tr>
<td>Training in the Responsible Conduct of Research (RCR)</td>
<td>1 page</td>
<td>You</td>
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<tr>
<td>Sponsor and Co-Sponsor Statements</td>
<td>6 pages</td>
<td>Sponsors, etc.</td>
</tr>
<tr>
<td>Letters of Support from Colaborators, Contributors, Consultants</td>
<td>6 pages</td>
<td>You</td>
</tr>
<tr>
<td>Description of Institutional Environment and Commitment to Training</td>
<td>2 pages</td>
<td>You</td>
</tr>
<tr>
<td>Applications for Concurrent Support (when applicable)</td>
<td>1 page</td>
<td>You</td>
</tr>
<tr>
<td>Biographical Sketch (your format different from sponsor)</td>
<td>5 pages each</td>
<td>You and the sponsors</td>
</tr>
<tr>
<td>Letters of Reference (3 - 5 letters)</td>
<td>No limit</td>
<td>Referee</td>
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</table>
An exercise in hypothesis formation and conceptual modeling within a translational science benefit model

Treating Addiction as a Terminal Disease

Amy E. Caruso Brown MD

Your task: read this Perspective and

• Frame this patient as a target for impact by your research area
• From that research frame, advance a problem solving solution to change this outcome for her and future others
• From that solution space, develop a conceptual model that explicitly defines your concept of the problem and your potential solution
• State a hypothesis or hypotheses to test this model by guiding your experimental design

On February 6th we will discuss each of your models and hypotheses, and discuss best practices approaches for each