

Career Development Series 2019

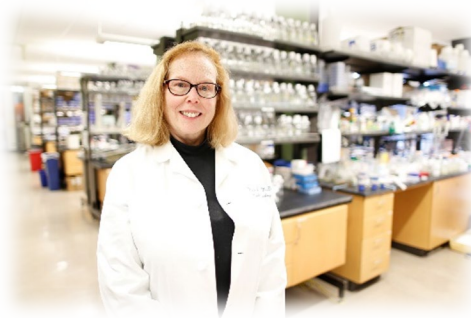


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Institute of **Translational** Health Sciences
ACCELERATING RESEARCH. IMPROVING HEALTH.

Grant Writing Nuggets

Presented by Dr. Nora Disis, MD



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Learning Objectives

- 1 Discuss the four main components of proposal preparation
- 2 List three strategies to strengthen writing approaches for a grant proposal
- 3 Describe the three phases of a proposal pre-submission timeline

Thoughts About & Approaches To Grant Writing

- 1 Know your grant components
- 2 Pay attention to details
- 3 Grant strategy nuggets

Grant Application Misconceptions



- ▶ It's better to submit something, even if not ready, as it will get revised anyway
- ▶ Most grants are awarded after the first submission
- ▶ You can only submit one grant to one place at a time
- ▶ Reviewers read all their grants on the plane

Writing is Fun!

- ▶ Take time to get up to date in your field
- ▶ Develop novel ideas
- ▶ Find new collaborators for novel ideas
- ▶ Make your game plan for the next few years
- ▶ Craft the grant: parts can be used for other projects
- ▶ Writing grants is your JOB-don't take it personally



Effort Preparing vs. Reviewing

COMPONENTS

PREPARE

REVIEW

Specific Aims

1%

Grant Foundation

Background

75%

<5%

Preliminary Results

9%

10%

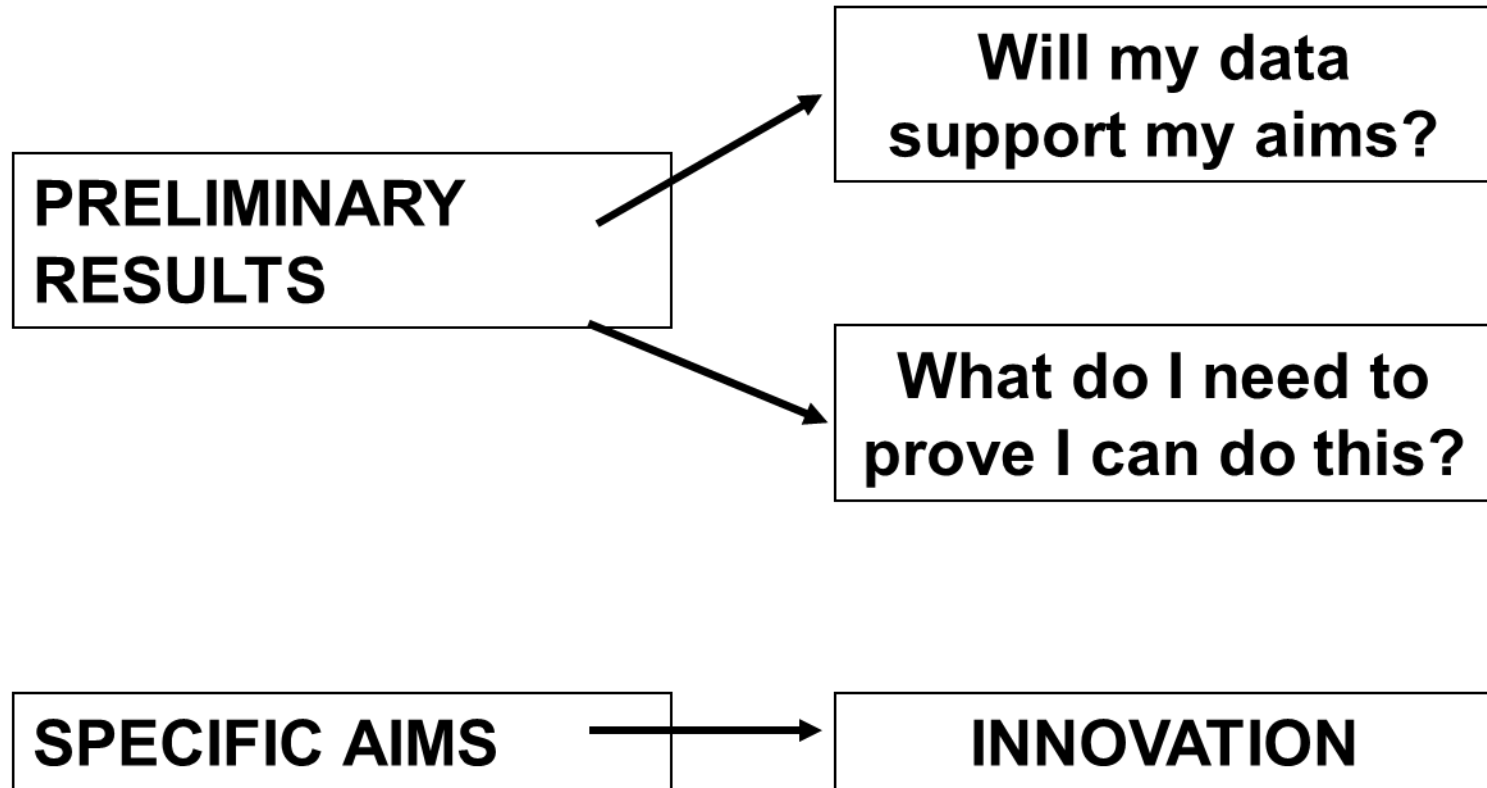
Experimental Design

15%

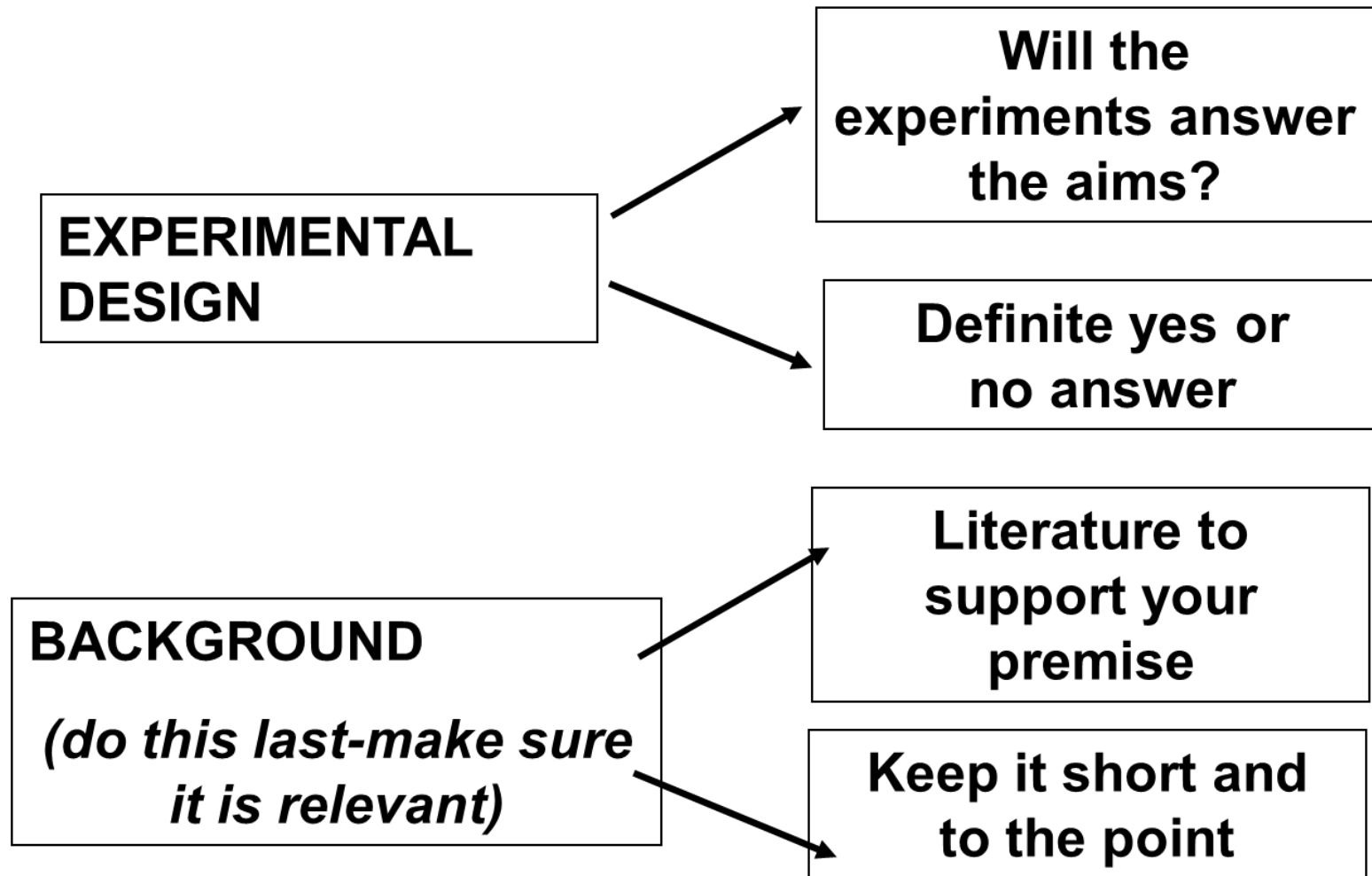
85%

GRANT = money and percent effort = EXPERIMENTS

Order of Proposal Preparation



Order of Proposal Preparation



Common Application Format

Significance

Innovation

Approach (includes preliminary results)

**The most compelling proposals present a
conceptually integrated application**

Preliminary Results

What data is innovative? Significant?
What data shows you can get the job done?

Justify Your Idea

- ▶ Data needs to be relevant to the proposed work
- ▶ Make sure the data says what you say it says
- ▶ Data must be legible
- ▶ Show data you may not think is data

Prove You Can Do The Work

- ▶ Show the data in the order of the Specific Aims
- ▶ Using difficult or unfamiliar methods? Include “proof of principle” in Prelim. Results
- ▶ No huge tables

Specific Aims

Aims accomplished with the money and time requested

DO's

▶ **Be specific:**

“To determine what level *ras* signaling can be inhibited....”

▶ **Be repetitive:**

Use the theme as the structure of the entire proposal

▶ **Cohesive, but not totally dependent**

DONT'S

▶ **Be descriptive**

“To characterize the function...”

▶ **Multiple aims/sub-aims**

▶ **Make one aim the tool needed to develop all**

Experimental Design

Above & Beyond

- ▶ Potential Pitfalls
- ▶ Troubleshooting
- ▶ Future directions
- ▶ Statistician

Flaws

- ▶ No specifics of experiments
- ▶ No controls
- ▶ Lack of detail
- ▶ “Fishing expedition”

Fatal Flaws

- ▶ Experiments will not answer the aims
- ▶ Descriptive
- ▶ Can't do proposed work
- ▶ Too ambitious
- ▶ Already done

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The Physical Grant: Read a Book

Make it easy for the reviewer to read

- ▶ Justify both margins
 - ▶ No less than 11 point
 - ▶ No italics or bolding, just headers
 - ▶ Short words, sentences, paragraphs
 - ▶ Figure legends that describe the figure
- ▶ Limit technical abbreviations, especially non-NIH proposals
 - ▶ No spelling errors!
 - ▶ Conform to instructions
 - ▶ Know your audience
 - ▶ **READ YOUR GRANT OUT LOUD**

Let there be white space!

Write Plainly

Density & White Space

Welcome to Grand Challenges Canada's ~~online proposal development resource~~. As part of our mandate to fund bold ideas that improve the health and well being of people in developing countries by ~~integrating scientific, technological, business and social innovation~~, Grand Challenges Canada has developed resources to assist applicants with preparing their grants in response to our requests for proposals. This online resource is intended to complement the in-person workshops we offer for specific programs by ~~invitation-only~~. Recognizing that we cannot reach everyone with our specific in-person workshops, we hope this resource will help researchers and innovators around the world, ~~whatever their area of study~~, develop their project proposals and maximize their chances of success seeking funding. Grand Challenges Canada is committed to supporting capacity building in less developed settings. The online proposal development resource offers general advice that is applicable to grant writing beyond the specific funding programs of Grand Challenges Canada. We encourage users to view, ~~share, and build on these proposal development resources to accommodate their needs~~. All content is freely available for downloading and dissemination. The online resource is divided into three parts: Previously successful applicants discuss their experiences writing grants for Grand Challenges Canada and affiliated programs. Mechanics of writing – professional writers and editors provide advice on how to effectively communicate and organize proposals for funding. Perspectives of members – experienced grant writers and reviewers offer their views on what makes a successful proposal and their "top tips" for grant writing.

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The online resource is divided into three parts:

Previously successful applicants discuss their experiences writing grants for Grand Challenges Canada and affiliated programs.

Passive vs Active

Research has been cited to demonstrate that an estimated 20% of primary school children are developing reading problems.

Researchers estimate that up to 20% of primary school children have reading problems.

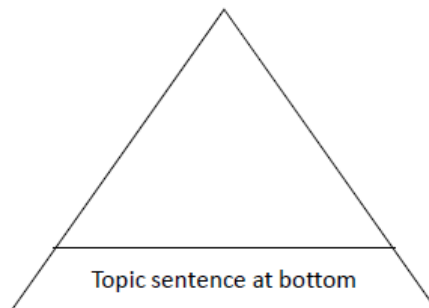
Active Tense Is An Attention Grabber

Over three-quarters of school-age children in low- and middle-income countries have been shown to demonstrate inadequate reading performance. This deficiency has the potential to reduce the possibility of children continuing in school and reaching their full developmental and employment potential. Various educational interventions have been shown to help school children increase their reading speed and comprehension – these include computer software and hardware, access to reading specialists, and specialised training for teachers and parents. But these interventions have mostly been studied in developed countries like Canada and the US. They have not been widely studied in resource poor settings outside of North America. In Indonesia, the problem of reading skill is particularly worrisome – 80% of school children may not be reading at correct levels. Because of this great need research is warranted to understand whether assistive reading systems can help school children in rural Indonesia. **We propose to test and validate a novel, assistive reading system in rural Indonesia.**

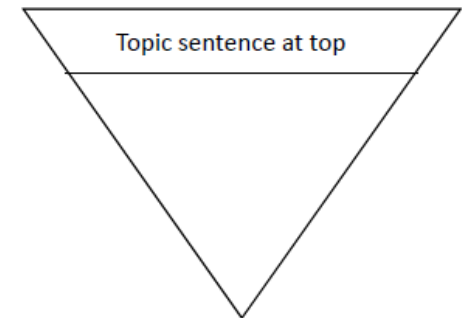
We propose to test and validate a novel, assistive reading systems in rural Indonesia. Assistive reading systems, which involve computer technology, reading specialists, and training for teachers and parents, have been shown to improve students' reading performance in Canada, but they have not yet been well studied in low- or middle-income countries. There is enormous potential for novel interventions in the Indonesian school system because over 75% of children are reading at two levels below their grade and could benefit from tailored assistance that can maximize their ability to continue in school and reach their full developmental potential.

J. Clark, Sen Editor, PLoS Medicine, 2012

Common
in
academia

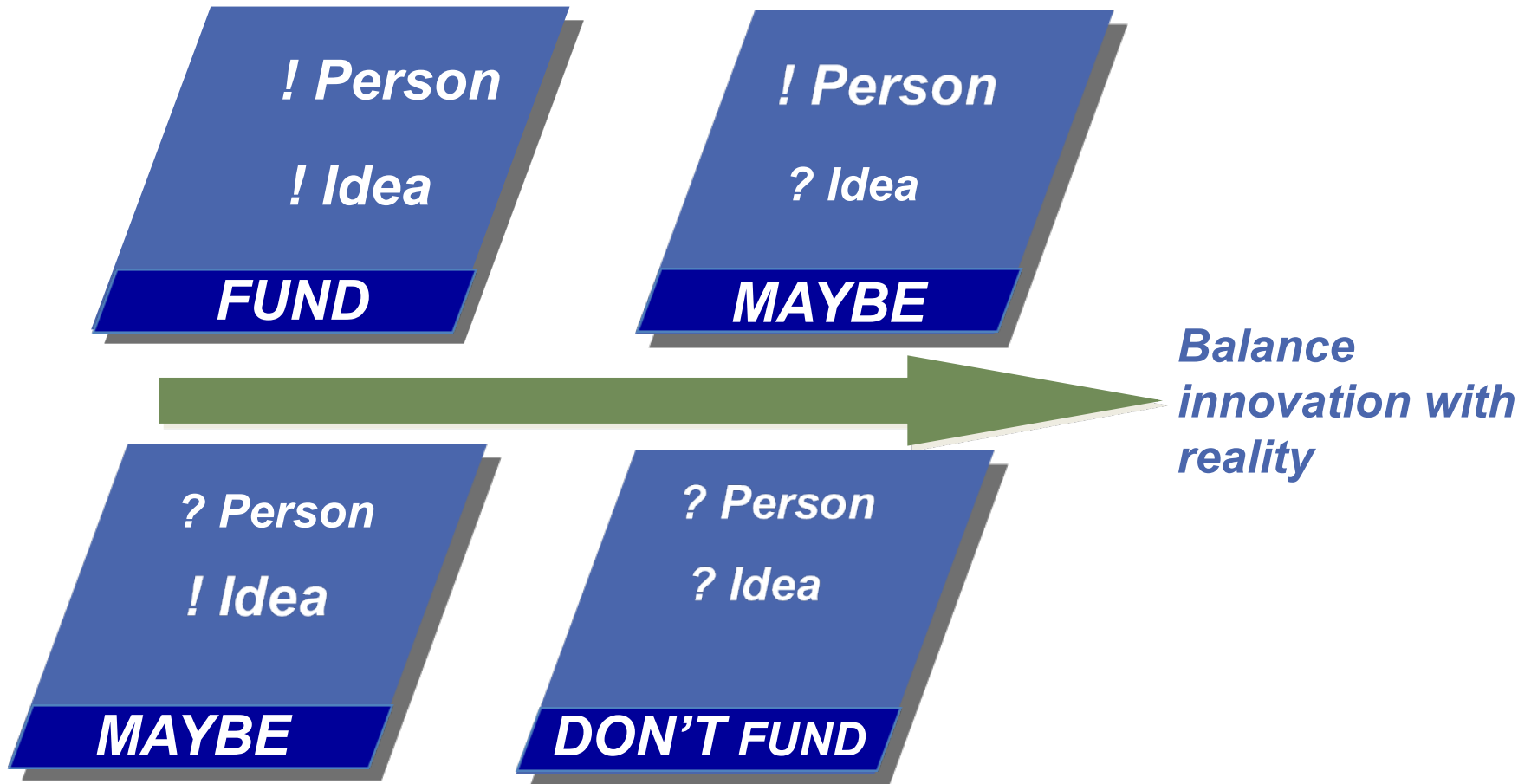


Common
in news
reporting



Key To Writing a Successful Grant:

Know your limits



Know How To Fix Yourself

Budget Justification



Describe personnel
Avoid TBA's

Resources and Environment



You may be new to research, but the place you are isn't. Highlight what is accessible to you.

Letters of Support



Get help with techniques you have never used. Letters must sound like they know you.

Mentor Letter

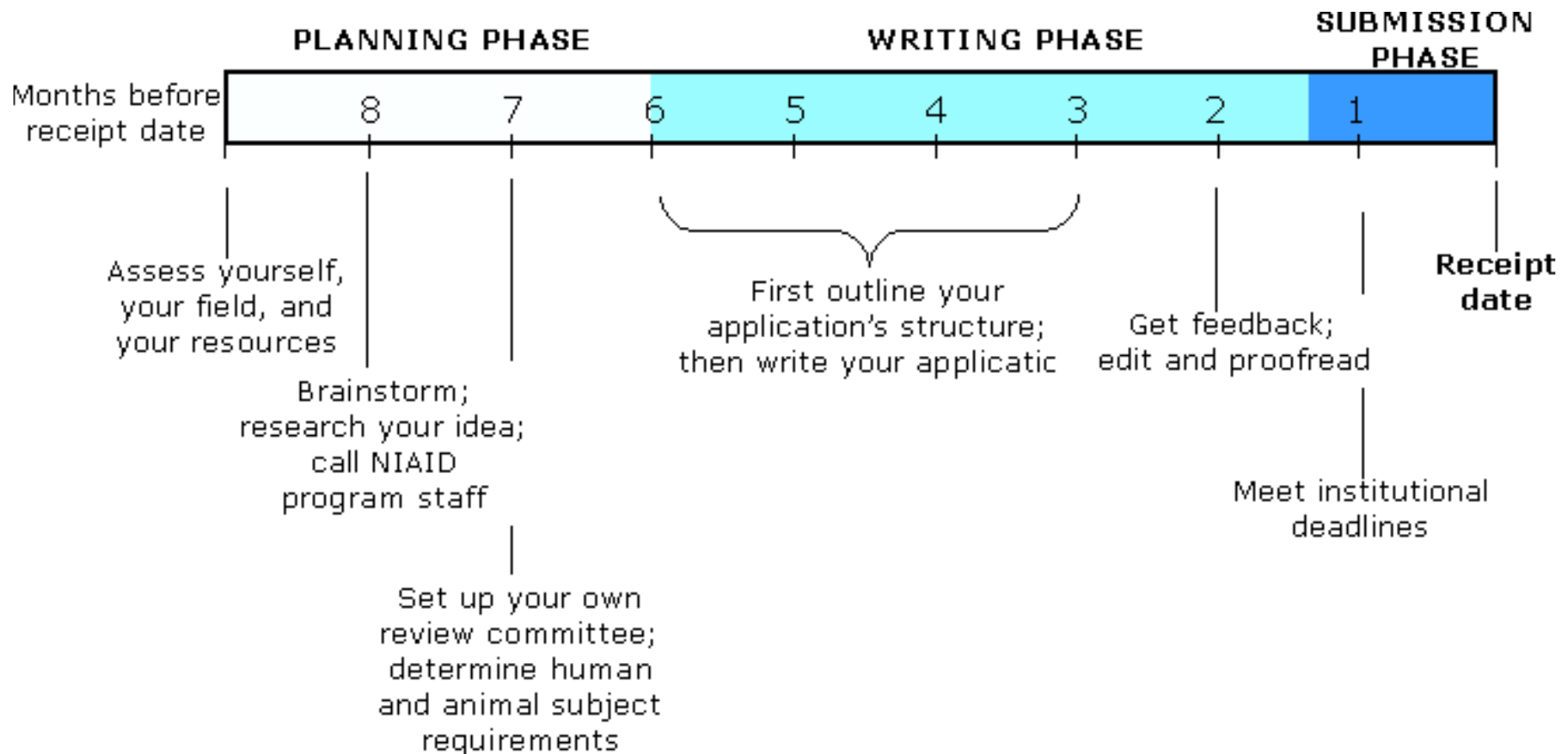
- ▶ Not only a recommendation
- ▶ Mentoring plan
 - Meetings? Other mentors? Classes? Seminars?
- ▶ What is the mentor track record in mentoring?
 - How many? Where are they now?
- ▶ What type of support does the mentor have?
 - Would you be supported for new ideas?
- ▶ After all this....then how wonderful YOU are!
- ▶ **ADVOCATE FOR YOURSELF-** no one cares more about your career than YOU!! Read all letters-revise

Don't forget: Institutional Support-You want them- do they want you?

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Pre-submission Timeline



Plan Your Year of Submissions

- ▶ K Awards
 - Data, publications,
 - ▶ DOD fellowship
 - Prostate, breast, ovarian
 - ▶ AACR/ASCO
 - 1-2 years, early money
- ▶ NRSA
 - ▶ ACS
 - ▶ Leukemia Society
 - ▶ Komen Foundation
 - ▶ ETC, ETC, ETC

- ✓ Send one grant to multiple places
- ✓ Be aware of the audience that will read your grant
- ✓ Make the proposal specific to the mechanism

Bad News The First Time

- ▶ Read reviews and list criticisms
- ▶ Respond to each critique remembering the reviewer is always right
- ▶ Never ignore a suggestion to remove an aim or add another form of analysis
- ▶ If conflicting points are raised, call and ask the review officer
- ▶ When you re-submit, do not ignore new findings in the field
- ▶ Do not turn the grant in at next cycle if reviews are substantial

Steps To Success

- ▶ HAVE SOMEONE ELSE READ THE GRANT before you send it in (give them time)
- ▶ Start early
- ▶ Work off a preliminary budget- sure fire way to prevent “expansiveness”
- ▶ Determine early who you need to help
- ▶ Use the reviews to make yourself better
 - Even if the grant is funded

Thank You

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