

Crafting a Fundable Grant

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GWIMS Toolkit

Learning Objectives

- To comprehend sources of grant funding
- To define purposes for grant writing
- To identify tips for grant writing success

Introduction

- Personal bias
- Surgeon scientist
 - “Physician scientist” model
 - Continue to see patients and to perform surgery
 - Personal bias comments indicated in *italics*
- Outline
 - Process
 - Time management
 - Successful completion

Why Write a Grant?

- To pursue a question that is important to address a research question/health issue
- Usually for resources
 - Funds to support personnel, supplies
 - Equipment
- Sometimes for opportunities
 - Travel for education

Why Write a Grant? (Secondary Purposes)

- Accomplishment
- Organizes thoughts

The Alphabet Soup of Funding (Getting Started)

- Intradepartmental
 - Example: Departmental Research competitions. Consider discussions with departmental mentors and senior leadership.
 - Seed money/recruiting package
- Intra-institutional
 - CTSI (Clinical & Translational Science Institute) pilot or developmental projects such as the KL2 multidisciplinary program for junior faculty
 - Small project awards to facilitate interdepartmental collaboration
 - Research projects in certain areas of expertise: cancer, information technology, education
 - Some states may have funding initiatives: CIRM (California Institute of Regenerative Medicine, California), Bankhead Coley (Florida)
- Foundations in your area of expertise
 - Example: American Society of Colon and Rectal surgeons career development award*, Society for Vascular Surgery*, Patient advocacy groups, Kellogg Foundation, Robert Wood Johnson Foundation
 - *Note: Some of these may have a match from the NIH for a career development award (K08/K23)

The Alphabet Soup of Funding (Getting Started)

- National Science Foundation
 - Faculty Early Career Development Program (CAREER)
- Veteran's Administration
 - VA Career Development Awards (vaww.research.va.gov/funding)
- National Institute of Health (www.grants.gov/search)
 - K08: Mentored Clinical Science Research Career Development Awards (www.nih.gov)
 - K23: Mentored Patient-oriented Research career development award (www.nih.gov)
 - K99/R00: Fast-track career development to independence pathway (www.nih.gov)

The Alphabet Soup of Funding (Developing your funding portfolio)

- National Foundations

- Examples: Crohn's and Colitis Foundation Senior Investigator award (www.CCFA.org)
- American Cancer Society (www.cancer.org)

- National Science Foundation (www.nsf.gov)

- Veteran's Administration (www.va.gov)

- Department of Defense (www.federalgrantswire.com)

- National Institute of Health

- R01: Independent funding
- P01/PPG: Program project grant (usually at least 3 investigators with related research) which may transition to a SPORE (P50, Specialized program of research excellence) or to a Center grant (P30)
- U01/U54: Networks of related research

How Much Time Will It Take?

- At least twice as much time as you think!
- Expectations
 - Foundation proposals may be easier to draft initially
 - Career development proposals require less preliminary data but strong mentoring/institutional support
 - There will be sacrifices while preparing/writing the proposal

What Is the Question?

- What do you feel passionately about?
- Focus
- Significance
- Impact

Read the Directions

- Is the nature of what you propose consistent with the granting agency's request?
 - Audience
 - Restriction
- Answer the questions
- Font, page number, margins
- Study section (NIH)
 - Where would you like your proposal to go?
 - Call and get insight from the program officer (*they will then expect and hopefully, welcome your proposal*)

Feedback

- Before you start
 - Mindmapping/brainstorming to vet your idea
 - Lay out the illustrative figures
 - Solicit members of your 'research team'
- While writing
 - Discover holes in logic or techniques
 - Just write something ...
- Once your draft is complete
 - Elicit feedback from your research team members
 - Outside review: Dean's office, Office of research
 - Professional Grant writers

Time Management while Doing Your “Day Job”

- Protection
- Organization/discipline
- Strategies for successful writing:
 - Find your writing style
 - *Write every day!*
 - Block out days or weeks for writing (alternative)

Time Management

Protection

- Leadership needs to be supportive
- Ultimately, you must protect yourself from distractions: patients, other obligations, committee work
- **Ask for what you need**

Time Management

Organize/Discipline

- *Outline, outline, outline*
- Gather figures to demonstrate feasibility & to tell the story
- Double your time estimate for completion
- *If you need consultants, let them know early so that they can provide input and their documentation/authorization (your research team). The NIH expects you to have a credible team.*
- *Start early enough that you have 2 weeks at the end to let the draft 'rest'*

Time Management

Write every day

- *Write in blocks (30-45 minutes a day)*
- *Creative time*
- Put this on your calendar
- Warn staff not to disturb you: eliminate your own distractions from email or texting – each interruption requires at least 15 minutes to regain focus
- Find your *writing style*

Writing Your Draft

- Broad applicability → Focused question
- Consider organizing and writing about the figures first (the data you already have)
- Write your research plan (what you want to do)
- Refine the overview portions (Refining the Aims)
 - Abstract
 - Introductory and background materials
- Details
 - IACUC, IRB
 - Statistical analysis

Details

- Human subjects
- Animal use
- Budget
 - Do the math – Consider a detailed budget
- *Attend to these early in the process to focus your writing*

Grantwriters Are Invaluable

- It is virtually impossible to proofread one's own work!
- Assist with:
 - Logic
 - Grammar
 - Presentation

Facing Rejection

- Put the grant away for a bit
- Do not call the Program Officer at this time
- Wait for the reviewers' comments
 - *Most are targeted at strengthening the proposal*
 - *Alter those aspects which can be fixed!*
- Get feedback from your colleagues and research team
- Revise and resubmit
 - *If you don't ask, you will never get it!*
 - *Often, many grants must be submitted to land even one!*

Revising a submitted proposal (Feedback is a gift!)

- Wait for the comments
- If possible, call the administrative liaison to obtain feedback that wasn't included in the written comments
- Respond to each item
- Attend to all details: reread all of the directions
- Submit prior to the deadline

Remember...

- *Grant writing is stressful...take care of yourself!*

Evolution of one Psychiatrist's Research Funding Pathway

Education

- Residency: Psychiatry
- Fellowship: Women's Health
- Master's: Epidemiology

Senior Instructor

- NRSA Fellow
- Departmental Grant
- Mentoring relationships

Assistant Professor

- NIMH K23 mentored Physician Scientist Award (5 years)
- Foundation Grant (1 year)
- Dean's Teaching Fellow (2 years)

Associate Professor

- R34 (3 years)
- Administrative Leadership – Department and Institutional

Professor

- Senior Associate Dean
- Associate Chair

Evolution of one Surgeon Scientist's Research Career Development

Education

Medical School

- Advanced training studying HIV using new technology
- Publication in Journal of Experimental Medicine

Medical School

- Additional year of research

General Surgery Residency

- 15 publications
- Began grant writing

General Surgery

- Three years of research

Junior Faculty

- Wrote 9 foundation grants in second year of practice: 3 funded by third year
- Wrote K08 application in third year of practice
- K08 funded in late fourth year of practice (5 years of funding)

Colon & Rectal Surgery Residency

Midlevel Faculty

- Transitioned to new institution at end of K award (2008)
- Broad Foundation for Inflammatory Bowel Disease award (2009-2010)
- Submitted R01 every cycle beginning February, 2009
- Funded R01 August, 2010 (5 years)
- Bridge funding in state of Florida granted (used 9 months of 1-yr award)
- Second R01 granted June, 2012 (5 years)

Evolution of one Community-based Obesity Researcher's Funding Pathway

Education

- Striving and Thriving in Tough Times: Career Strategies for Women in Academic Medicine

- K-12 Teaching certificate (Oregon)

- Training/certification Registered Dietician

- PhD Nutritional Sciences

- Postdoctoral training (Physiology)

Assistant Professor

- 4 NIH grants
- First one written as a post-doc
- 5 intramural grant awards (institutional/foundation to obtain preliminary data)
- 1 industry application award

Associate Professor

- Awarded 7 intramural grants (2 additional submitted)
- 6 awards from private foundations (1 additional submitted)
- 8 federally funded awards (NIH, USDA; 4 additional submitted)

Institutional Leadership

- Co-Director of a Research Center
- 3 applications pending (1 intramural; 2 federal – NIH and Institute of Education Sciences)

Resources

- Russell SW and Morrison DC. The Grant Application Writer's Workbook. 2010. grantwriter@grantcentral.com.
- Faculty development office, departmental development, office of sponsored research within your institution.
- Davidson NO. Grant writing: tips and pointers from a personal perspective. Gastroenterology. 2012 142(1)4-7.
- Research Foundation of the American Society of Colon and Rectal Surgeons. "FASCRS.org".
- McIntosh M. Emphasis on Excellence. www.meggin.com
- Jensen S. Academic Coaching and Writing. "academiccoachingandwriting.org"

Author's Brief Biography

Emina Huang, MD, FACS, FASCRS is a colorectal surgeon at the University of Florida. She has initiated two colon and rectal surgery services, University of Michigan (2003-2007), and the University of Florida (2008-present). Her education began in piano performance at Oberlin College/Conservatory. She then attended Stanford University Medical School prior to her formal surgical training. She was the first to bear children in her surgical residency at the Ohio State University. She has two children and has been married to the same man for over 25 years.





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