

## GRANTS(WO)MANSHIP SECRETS

A VIEW FROM THE TRENCHES



Diane L. Damiano PhD PT  
Washington University

## NFL FOOTBALL AS A METAPHOR FOR SUCCESSFUL GRANT WRITING

- First you need to get into the NFL
- Then you need to make it into the playoffs
- What you REALLY want is to get to the Super Bowl
- Ultimate is WINNING the Super Bowl

## Objectives

- Discuss the process of grant writing from the perspective of the applicant

How & where to start

- Finding funding sources
- Identifying mentors & collaborators
- Responding to criticism
- Increasing likelihood of success over long haul

“ I am a great believer of luck, and I find that the harder I work the more I have of it”

Thomas Jefferson

## HOW WOULD YOU DESCRIBE A 'SUCCESSFUL' RESEARCHER?

- One who has brought in the most grant \$\$\$ or has more than one R01?
- One with the largest lab?
- One with the longest CV?
  
- Someone who through their research has:
  - substantially altered clinical treatment
  - developed a new product that will dramatically change how things are done
  - changed our thinking on fundamental concepts

“ Success is not the key to happiness  
– happiness is the key to success. If  
you love what you are doing, you will  
be successful”

Herman Cain

## How to Start

- Identify a problem that particularly intrigues or frustrates you, and may be of interest to others
- Learn all you can about it. Examine the current state of knowledge for 'gaps'
- Challenge conventional wisdom or propose a novel solution or insight

## Where to Start

- Identify at least one person who could serve as a mentor and develop a relationship
  - Observe, listen, question, help (apprenticeship)
- Analyze retrospective data or find small funding sources to obtain prospective pilot data:
  - Your institution
  - Professional societies
  - Drug companies
- Develop a compelling hypothesis or idea

“It is not the answer that enlightens,  
but the question”

Decouvertes



## THE PRIMARY HYPOTHESIS

- OBSESS ON THIS!! This will make/break your funding potential
- Should NOT be:
  - A statement of the obvious
  - Something you (or others) already know from your experience or preliminary data
- Should be:
  - driving force behind the study (what you *really* want to know)
  - what you think in your ‘heart of hearts’ that you will find
  - Of great interest to those in your field and hopefully beyond

“I think and think for months and  
years, 99 times the conclusion is  
false. The 100<sup>th</sup> time I am right... ”

Albert Einstein

“90% of the game is half mental”

Yogi Berra

## Funding Sources for Rehab Research

- NIH
  - NICHD (NCMRR)
  - NINDS
- NIDRR
- United Cerebral Palsy Research and Education
- OREF (Orthopaedic surgeons)
- APTA (PTs)
- NSF (bioengineering project)
- Drug companies (e.g. Allergan, Medtronic)
- Foundation (local or national)

## Identifying Funding Sources

- Visit your research office
  - Website, email updates, services that you can tap into to receive regular announcements
- Pay close attention to acknowledgements in papers & presentations in your field
- Investigate options in your professional societies and closely related foundations
- Investigate NIH & other government websites; call and talk to program people at institutes that fund your type of research
- Talk with other successful researchers for ‘tips’

## Funding sources (cont’d)

- Go to www.
  - Your institution website
  - National Institutes of Health (NIH)
  - NCMRR Research Networks
    - ERRIS (southeast)
    - Midwest Medical Rehabilitation Research Network
    - Northeast Cognitive Rehabilitation Research Network
    - Rehab-Net West
  - Community of Science
  - GrantsNet

## Finding the BEST MATCH

- Match the mission or agenda of a funding agency with your proposal
- Match your level of expertise/preliminary data with the level of the grant competition

Seed grants at your institution/ societies/ drug companies

Larger grant solicitations including foundations

NIH: SBIR Phase I/ R03/R21/ K award

R01 level small single institution; NCRR

R01 large multicenter

Program Project Level

- Do not jump too fast too soon
- Do not be afraid to go 'backwards'

## IDENTIFYING MENTORS AND COLLABORATORS



- Best if you are working directly with them (may outgrow them or need to expand beyond)
- Look around your university:
  - published papers may lead you to people there
  - Attend university wide rounds/conferences
- Network nationally & internationally
- Do not be afraid to contact 'strangers' – but may want to have an 'in' first

“Success in almost any field depends more on energy and drive than intelligence. This explains why we have so many stupid leaders.”

Sloan Wilson

## Responding to Criticism

- Hints:
  - Ascertain the baseline level of enthusiasm for your idea
  - Try not to be too defensive
  - Look for common themes across reviewers
  - Recognize that reviewers are human
  - Be complimentary and respectful in responses
  - Have others you respect read and interpret the critiques
  - Talk to program people, but remember they are not reviewers
  - Address everything, but be careful that your message is not lost/distorted by being too responsive to isolated changes (you can make proposals worse!)
  - Remember suggestions for future proposals

“Great spirits have always found violent opposition from mediocre minds.”

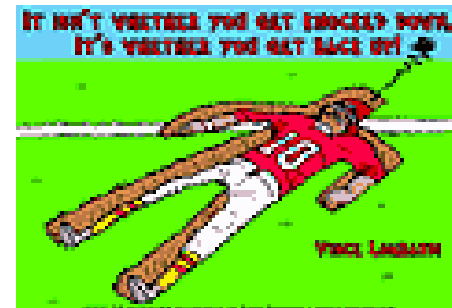
Unknown

“It takes humility to seek feedback. It takes wisdom to understand it, analyze it and appropriately act on it”

Stephen Covey

“If at first you don’t succeed, try, try again. Then quit. No use being a damn fool about it.”

W.C. Fields



## Common Novice Mistakes

- Trying to do too much in a single grant – (KISS)
- Not explicit enough (real purpose buried)
- Not having a clear focus (fishing expedition)
- Not knowing the literature or 'stretching' too far
- Design issues
  - Not best for answering question
  - Insufficient design/statistical input
- Unrealistic methods
  - Unlikely to work or be tolerated
  - Too many tests or not best tests
  - Too many subjects or # not justified
  - Inclusion/exclusion too broad or narrow
- Not up front about limitations or possible problems

“Everything should be made as simple as possible, but not simpler”

Albert Einstein

## MAKING REVIEWERS HAPPY

- Follow rules and try not to push limits
- Minimize spelling, grammar errors and poor organization
- Win them over with abstract/ 1<sup>st</sup> 2 pages
  - Tell a story: why your topic is so important, how your study will change the current state of science, and why you are the one to do it
  - Level of criticism often inversely proportional to their enthusiasm over your idea
- Keep theme and quality consistent throughout; (mirroring across sections)
- Cite them when appropriate

“Delay is preferable to error.”

Thomas Jefferson

## Other ways to get a 'LEG UP'

- Go to grant writing workshops & courses
- Go to conferences and talk with people who present work you are interested in
- Ask to read funded grants; help more senior people with their grants
- Publish your results in a timely manner
- Volunteer to review other grants
- Visit or call the NIH

## Ensuring Long Term Success

- Have a vision of what you would like to accomplish and pursue it step x step
- Be a team player, but strive to develop areas that are "yours, mine and ours"
- Choose to work in an environment that supports your development as a researcher
- Analyze your data carefully & thoroughly – especially when results are not what you anticipated
- Never stop learning and taking time to think
- Broaden your research 'community'
- Mentor others along the way

“Bevor man erfliegen kann, muss man erthinken (Before one can fly, one must limp)”

Sigmund Freud

## Grant Writing is an Art (& Science)

- Requires both skill and practice
- Following instructions imperative
- Must know the politics/ agenda of funding source
- Be ready to seek opportunities as they arise
- Must be persistent – odds of success increase greatly with experience (80% of grants that get funded do so on the second submission)

## What does it take to be successful?

- Passion
- Intelligence
- Clear thinking and writing skills
- Vision
- Hard work & persistence
- Patience
- Long term commitment
- Strong self-concept
- Humility
- Desire to make a difference

“Only those who dare to fail greatly  
can ever achieve greatly”

Robert Kennedy

“I think the greatest reward for doing is  
the opportunity to do more”

Jonas Salk

“Optimistic people live longer”

Martin Seligman



**QUESTIONS?**