

Grant Management 101

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Disclosures

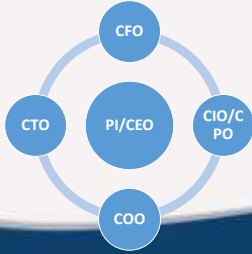
- Research funding provided by:
 - NIH R01CA204189
 - Philips Healthcare
 - HFHS Internal Mentored Grant
- Collaborations with Modus Medical Devices, MedSpira Medical, ViewRay



“Grant Management” is “Time Management”



What does it mean to be a Principal Investigator (PI)?



PI as the Chief Financial Officer

- Managing finances, financial planning, record-keeping/financial reporting

Initial Grant Submission	Ongoing
Personnel Costs/FTE (typically ~80% of budget)	Manage cost center splits, personnel
Initial equipment, travel, trainee support costs, publications, computers	Purchase orders, invoicing, expense report approvals
Patient care costs (extra imaging, tests)	Workflows for ensuring proper billing to grant
Budget Justifications: justify key personnel roles/effort to project, length of time needed	Progress Report: Report Estimated Unobligated Balance, if >25%, justification is needed

Why would you not spend the \$\$\$?

- Delays in hiring (start early!)
- Subcontracts not paid/invoiced (start early!)
- Clinical trial delayed or not enrolling at expected rate (start early!)
- If >25% from expected, "explain why there is a significant balance and how it will be spent if carried forward into the next budget period"

What if you don't adequately explain?

- More information may be requested, including the following:
 - Breakdown of all costs
 - Scientific justification for the existence of the balance
 - Source of unobligated funds
 - Timeline of how you will spend the balance in addition to next year's funding
- **The best strategy is to plan well and spend the money!!**

PI as the Chief Information/Privacy Officer

- Handling confidential patient data, de-identification of data, safe storage and handling of data
- Management of Institutional Review Board or Animal Protocols

CIO-Type Duty: Clinical Trial Management

- Physician buy-in/collaboration
- Trial development, protocol, submission
- Enrollment, workflows, grant billing

All NIH-funded clinical trials are expected to register and submit results information to Clinicaltrials.gov, as per the "NIH Policy on Dissemination of NIH-Funded Clinical Trial Information" for competing applications and contract proposals submitted on or after 1/18/2017. This website provides resources for understanding and complying with this

One Important CIO Duty: Publications

- NIH-funded investigators are required to submit an electronic version of their accepted peer-reviewed manuscripts within 12 months of publication
- Report in annual Research Performance Progress Report via My NCBI

C. Can we manually add publications in PDR? Publications of our research activities in the submitted RPPR for P.L. Accomplishments

Publications must be entered only in PDR for the RPPR account using the following management system. Publications will not automatically appear in the RPPR until 30 days after publication or manually added publications in PDR. Publications listed in other parts of the program report will not appear automatically in PDR until the final reporting form is entered in PDR. To manually add citations in a My NCBI account see the response in the next question.

- Manuscript will go through upload/review/approval process that takes time!! Submit these throughout the year (not right before your PR is due!)
- Have your co-authors also add these! (not right before your PR is due!)

PI as the Chief Technical Officer

- There's work to do!
- Hire the expertise needed to help complete tasks
- Long-range projects: PhD students although these also take time to train, take courses, etc.
 - Depending on tuition, cost can be similar to postdoc
- Postdoctoral/Research Scientist: more experience, but be wary of the Medical Physics Residency + Certificate Course expectations of trainees

Your personal experience will depend largely upon your institution and access to resources

- Does your Department/Institution have a grant manager?
- If not, during grant preparation, can you leverage other administrative support?
 - Examples: Reformatting NIH biosketches, paperwork burden, budget management

The NIH estimates that it will total approximately **22 hours** to complete the application for a regular research project grant. This estimate includes time for development of the scientific plan. Other time such as human subjects research and postdoctoral for preparing and preparing all required forms are not part of the time estimate.

22 HOURS! Just for the "regular" paperwork!!

<https://grants.nih.gov/grants/paperwork-burden.htm>

Grant Management Advice from Current NIH Funded AAPM Members
“In your opinion, what is the most challenging part of managing your grant(s)?”



Stephen Avery, PhD, Associate Professor, UPenn



- R21CA205063, “Protoacoustics - Clinical based range verification for Cancer Treatment”
- 2 Direct Research Reports
- “The administration is challenging, fortunately we have a grants manager to help with details. Many people do not have this service which could make a difference in getting a grant”

Yevgeniy Vinogradskiy, PhD, Associate Professor, UC Denver



- R01CA200817, “Clinical trial personalizing radiation therapy through a novel lung function imaging modality”
- 2 Direct Research Reports
- “The most challenging aspect is the time commitment of running a clinical trial.”
- “Don’t be afraid to ask your department/hospital for grant, administrative, clinical, and organizational support. That can make a big difference in your ability to be successful.”

Ke Sheng, PhD, Professor, UCLA



- NIH R21EB025269, U19AI067769, R43CA183390, R01CA188300, R44CA183390, DE-SC0017057, DE-SC0017687
- 12 Direct Research Reports

“The grants start the same month that the Notice of Award is received, leaving no time to hire. This also results in surplus at the end that requires effort to carry forward.”

James Balter, PhD, Professor, U of Michigan



- NIH P01CA056827 Imaging-Based Assessments of Response, Project 3
- R01 EB016079 Optimizing MRI for Radiation Therapy Treatment Planning
- 2-3 Direct Research Reports per year

“Hiring appropriate trainees, by a long shot!!!”

Amit Sawant, PhD, Associate Professor, U of Maryland



- NIH R01CA169102 Personalized Motion Management for truly 4D Lung Stereotactic Body Radiotherapy
- R01 CA 202761 Investigating Radiation-induced Injury to Airways and Pulmonary Vasculature in Lung SABR
- Between 6-11 Direct Research Reports

Composition: mostly postdocs, some grad students, some medical rad onc residents, junior faculty

“Hiring competent, motivated personnel, engaging physicians to accrue patients for clinical protocols”

Carri Glide-Hurst, PhD Associate Professor, HFCI



- NIH R01CA204189, Development of Anatomical Patient Models to Facilitate MR-only Treatment Planning
- Between 4-6 Direct Research Reports

“Managing people is by far the most complex and nuanced thing that I do. Hiring the right team members is key to your success. Technical and writing skills are essential but fit is also important.”

Geoffrey Hugo, PhD, Professor, WashU



- NIH R01CA166119 Consistent anatomy registration for lung cancer adaptive radiation therapy
- 5-8 Direct Research Reports
- “At the moment, recruiting good postdocs in the landscape of residency, ABR requirements!”

What advice do you have to someone embarking on their first grant?

Advice on Personnel

Choose your team members very wisely! Check out references very carefully and consider contract language for length of commitment.

Once you receive a grant, and you plan to hire research help, you have automatically become a research teacher. The skills to receive a grant and to teach someone else to do research are not necessarily the same, so you have to shift your mind-set often times from 'how do I do this research,' to 'how do I teach someone else to do this research.'

Advice on Grant Writing

- Get input from seasoned PIs at an early stage (writing aims). Doesn't have to be just physicists, get input from biologists, clinicians, because significance is the most important aspect
- There is not a single way to write a grant. It is good to learn from successful proposals but it is also important to find the style that works best for you.
- Study the art of grant writing—write, rewrite, and then write again. Strong writing and selling are essential to effective grants.

More Advice...

- A. Carefully choose an appropriate request for application (RFA)
- B. Talk to the program director BEFORE writing your proposal
- C. Make sure you write your proposal with the audience in mind (study section roster)
- D. Ensure you can describe and defend your study statistically
- E. DO NOT RUSH!!!! If you miss a deadline, it is far better than sending in a poor, hurried proposal

Take Home Messages

- Running a grant takes a considerable effort, but it is worth it!
- Try to leverage department resources to help with paperwork and administrative burden (but always always double check the accuracy!!)
- Take time to select and make strong hires—ensure high quality hires and do not compromise (even when it may seem as though nobody is applying to your position!)
- Things will take a long time—longer than you think. Plan accordingly.
- Keep applying!

