Institutional K Awards Tutorial

Planning and writing an institutional K grant to the GA CTSA KL2 Program and/or the BIRCWH K12 Program

Session #1 October 16, 2025

Presented by Janet Gross, Ph.D.

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Class #1 Objectives

- Role of Grants Tutorial Instructor
- Unique aspects of preparing a K and other Mentored CDA
- Getting Ready to Prepare a K application
- K Grant Writing Nuts and Bolts
 - √ Biosketch
 - ✓ Budget

Class #2 Objectives

Candidate section

Letters of Support

- Plans and Statements of Mentor and Co-Mentor(s), Consultants, Collaborators
- Chair or Division Chief's statement of commitment to you for this award

Research Plan (Specific Aims & Research Strategy)

- Examples
- Organization
- Clarity
- Styles of writing

Using reviewers' comments to highlight:

- Qualifications issues
- Level of detail in writing
- Integration of Research Plan in other sections
- Integration of Training Plan

Ga CTSA Grant Writing Resources

- 2-session KL2 / K12 application prep tutorial (4 hrs total)
- Dropbox site for lots of resources
 - > Examples of recently funded KL2 and K12 awards
 - > Other grant writing resources focused on the NIH K
 - > pdf and video of today's talk posted on Dropbox
- I will work with you to develop and refine your proposal (~5 hrs/candidate) based on email agreement

Overview

	GA CTSA KL2	BIRCWH K12
2 years, 75% protected time - 50% for surgical specialties	-salary support \$120,000/yr for 75% effort - technical budget of \$30,000/yr - plus fringe	-salary support \$100,000/yr for 75% effort - technical budget of \$40,000/yr -plus fringe
Goal is for you to generate strong preliminary data for for the NIH K23, K08 (or similar)	√	√
Qualified MD or PhD (or similar) with a full-time faculty appointment by Aug I, 2026) Emory, Morehouse SOM, Emory on GaTech, UGA (select colleges) – all GA CTSA partners	
Commitment to a research and/or academic research career in:	r Clinical investigation and/or translational research Women's health an sex/gender life scient	
Application due date	February 3, 2026	February 3, 2026
Required mentor and career development plan	MSCR, CPTS (or menu option with approval)	Self-designed with guidance from BIRCWH leadership
Who funds this award?	National Center for Advancing Translational Science (NCATS) GA CTSA Institutional Career Development KL2	NIH Office of Research on Women's Health / NICHD Building Interdisciplinary Research Careers in Women's Health K12 (Shath & Sterk)

Clearly justify and describe your choice of Didactic Training options

- MSCR may be appropriate for faculty who have had limited prior didactic research training
- CPTS would be an option for faculty depending on career interest
- If you select the Personalized Pathway Menu option, you need to be explicit in the didactic program you will follow and tell us why you've chosen this selection

Didactic Training Options

- MSCR (Emory or MSM) 30 credits
 - Preferred training option
- Certificate Program in Translational Science (CPTS) –16 credits (previously Certificate Program in Translational Research (CPTR))
 - Flexible so that you can sub out for similar courses you've already taken
- "Menu" Option (new reflects the personalized training pathway for those who have already had MSCR/CPTS training) – must include these 5 required courses from MSCR/CPTS curriculum
 - MSCR/CPTS 593 Research Ethics (required by NIH) [1 credit]
 - > MSCR/CPS 594 Scientific and Grant Writing [2 credits]
 - MSCR/CPTS 761 Introduction to Clinical and Translational Science (CTS) [2 credits]
 - MSCR/CPTS 591 Community Engagement and Health Equity [1 credit]
 - MSCR 592 Clinical and Translational Science Colloquium [1 credit]
 - Electives (based on applicant's needs—can be at any of the Georgia CTSA institutions or workshops, etc.)

Preview the NIH K to set the stage for your KL2 / K12

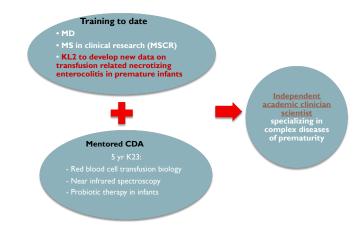
One Stop Shop for NIH Career Development Awards

- Specific Program Announcement (PA) for each kind of K
- ▶ Each K has its own particular requirements
- <u>Each K funder</u> may have particular requirements/rules/restrictions
- Mentored (K23, K01) vs. Non-mentored (K22; R00 phase of K99/R00)
- Other resources for K awards and other Career Development Awards
- AHRQ, CDC (e.g., NIOSH K01)
- DoD, American Heart Assn, other foundations

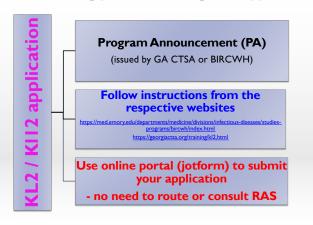
Study the NIH K procedures to gain a context for what reviewers are looking for

- ▶ K Funding Opportunity Announcement
 - https://researchtraining.nih.gov/programs/career-development
- NIH Career Development Application Instructions
 - https://grants.nih.gov/grants/how-to-apply-application-guide.html
 - ▶ See K Career Development Instructions (this gets updated regularly be sure you are using the most updated version as rules change)

Career Path for a NIH K23 – Mentored Patient-oriented Research Career Development Award



All the moving parts for this grant application



NIH Review Criteria

F- Fellowship Grants (each scored 1-9)	K - Career Development (each scored 1-9)	Standard Grants (R, U, P, etc.)
Fellowship Applicant	Candidate	Factor 1. Importance of the Research
Sponsors, Collaborators and Consultants	Career Development Plan / Career Goals	(Significance and Innovation) (scored 1-9)
Research Training Plan	Research Plan	Factor 2. Rigor and Feasibility (Approach) (scored 1-9)
Training Potential	Mentors, etc.	(300104 1-5)
Institutional Environment and Commitment to Training	Environment and Commitment to Candidate	Factor 3. Expertise and Resources (Investigator(s) and Environment) (scored YES/NO)

NIH K Scoring System

- Follows NIH review criteria and process
- Component scores are rated 1 (best) to 9 (worst)
 - These 5 component scores are only given by main reviewers (you will not see these for the KL2 review – you will only see your Overall Impact Score)
- Generally, all component scores must be at least Excellent to be funded
- Your total score = Overall Impact Score (a fundable score is generally <30)</p>
 - Everyone in the room votes based on their own reading and/or what they've learned from the main reviewers using a 10-90 point range
 - Your overall impact score is <u>not</u> the average of the main reviewers' component scores
- Any one of the 5 review criteria with a fatal flaw will result in NO SCORE (or Not Discussed)

Overall Impact or Criterion Strength	Score	Descriptor
High	1	Exceptional
	2	Outstanding
	3	Excellent
Medium	4	Very Good
	5	Good
	6	Satisfactory
Low	7	Fair
	8	Marginal
	9	Poor
Other Designations for Final Outcome		
ND	Not Discussed	

Overall Impact range is 10 best - 90 worst

Am I Competitive?

- Publication record
 - > >I first author publication, preferably experimental research, in your current field, related to the aims of the K
 - Published with your mentor(s)

Center for Scientific Review

2. Watch the Mock Review session video (excellent overview)

1. Scoring System and Procedures

3. See the review criteria

- Biosketch that shouts "I'm on the career path to becoming a (NIH) funded independent investigator"
 - > Personal Statement states this explicitly
 - Track record is the evidence
- Other professional activities awards, invited presentations, co-l, association memberships, etc.
- Remember, you will be competing against people who are at the same career level as you

Getting ready to prepare the K application



Research Ideas -> Research Plan

- A mentored CDA requires training in an area where you are currently not a recognized expert
 - NEW laboratory methods, analytical methods, modeling schemes, comparative systems, new animal models, etc.
 - > Coursework, preferably the MSCR or CPTR
- Hypothesis-driven work is highly valued
- If you are already an expert in what you are proposing, you won't fulfill the criteria of a CDA.
 - Branch out in a new exciting direction
 - > What new training would you need to complete the aims?
 - What is a reasonable amount / type of new training given the duration of the award and the timing of the aims

Vet your research idea with LOTS of smart people

- Is your Research Plan scientifically sound?
 - ▶ How do you know this?
 - Let others see your work review and feedback from peers (not just your mentor)
 - Do you have preliminary data? How compelling is it?
- How will you write about research in an area where you are not an expert?
 - Get advice from your mentors
- e.g., explaining new techniques for analyses in your proposed aims
- You have to sound 'smart enough' but not a published expert (or why would you need the K?)

Examples of Reviewers' Comments:

Career Development Plan / Career Goals & Objectives

- Training focused on reading textbooks and some hands-on training sessions by busy mentors is informal and weak.
- It is not clear if the whole of MSCR or only a part of it is included in the training plan
- Wet lab experience is lacking; plans to obtain this expertise are rather vague – terms like lab "rotations" not well defined in terms of location and duration

Mentors, co-mentors, consultants, collaborators

 There is concern about the lack of an individual with sufficient documented behavioral scientist or education expertise in the mentoring team, especially considering the major focus of the research activity.

Research Plan

· Rationale for duration of follow-up (6 months) is unclear

CAREER DEVELOPMENT AWARDS want to know: WHAT ARE YOUR CAREER GOALS?

- > What are your career goals, i.e., whose job would you like?
- Mentoring Plan discuss your career goals (in detail) with your mentor and at least one other respected faculty member (division chief, etc.)
 - What is the NEW TRAINING you will seek?
 - Will you be supported professionally, financially, etc.?
 - Are your career and research goals realistic?
 - This is where you make certain there is NOT SUBSTANTIAL OVERLAP in scientific aims with your mentor's R01
 - Can the award budget support your proposed research? (probably not)
 - Have you thought about a budget? Will you 'piggyback' on another project?
- All roads → NIH K submission
 - Your goal through the institutional K is to generate sufficient preliminary data / results to inform / support an NIH K application

K Grant Writing Nuts and Bolts



Seek Career Advice and Guidance

- Mentoring is key in a KL2 and NIH K
 - > Who is promoting you and your career?
 - > Mentoring vs. pseudo-mentoring
 - Name names this is an internally reviewed award
- Institutional Support
 - You must have a faculty position as of August 1, 2026, that is NOT CONTINGENT on you receiving the K12
 - > Do you have Departmental support for resources as well as the balance of funds needed salary, materials
 - > The typical KL2 / K12 cannot be supported solely on the KL2 / K12 research budget why? Research is expensive.
 - BE VERY CLEAR IN THE BUDGET JUSTIFICATION HOW YOU WILL COVER ALL EXPENSES including tangible support from mentor, co-mentors, etc.

Departmental/School Permission

- Who needs to know that you are submitting this grant?
- Get permission from your PI and division chief
- Release from clinical time?
- Is your department ready to support you as an independent researcher?
- Promotion issues postdoc vs. faculty
- Do you need to complete the MSCR? If you are not sure, please consult with Drs. Blumberg and/or Sheth
- They are expecting to hear from you

KL2 / K12 Required Sections

- a) Cover page (see respective cover sections)
- b) Cover Letter from Applicant
- c) Abstract (30 lines)
- d) Research Training Plan (13 pages total; upload in order specified in jotform)
 - Introduction to Application (I page; resubmissions only)
 - Specific Aims (I page)
 - Candidate Section + Research Strategy (12 pages)
 - Human Subjects Protection / DSMP (if needed; no page limit)
- Facilities and Other Resources (2 pages)
- f) Human Subjects / Data Safety and Monitoring Plan (no limit)
- g) Literature Citations (no page limit)
- h) Budget and Budget Justification (2 pages)
- i) NIH Biosketch and Other Support page (NIH instructions)
 - Applicant and all mentors' and advisory committee members
- j) Letters of Support
 - Department Chair's Letter (or division chief)
 - Lead Mentor (followed by any other co-mentors, advisors, collaborators; 5 slots)

Each PDF gets uploaded into its 'slot'

- Use online portal to submit grant
- Questions:
 - ▶ GA CTSA: Rachel Hardison <u>rachel.hardison@emory.edu</u>
 - ▶ BIRCWH: Shannon Walker shannon.walker@emory.edu

Preparing the Biosketch for a K award

New Tools to build and store your biosketch



Biosketch rules (forms and layout mainly) will be changing –but these new rules will NOT apply to our Feb 1 deadline but they most likely will apply to any NIH K award you will be applying for >Feb 2026

NIH Review Criteria

F- Fellowship Grants	K - Career Development	<u>s</u>
(each scored 1-9)	(each scored 1-9)	
Fellowship Applicant	Candidate	Fact
Sponsors, Collaborators and Consultants	Career Development Plan / Career Goals	(
Research Training Plan	Research Plan	Fa Fea
Training Potential	Mentors, etc.	
Institutional Environment and Commitment to Training	Environment and Commitment to Candidate	Fact (In
		(5

Standard Grants
(R, U, P, etc.)
(-, -, -,,
Factor 1. Importance of
the Research
(Significance and
Innovation)
(scored 1-9)
,
Factor 2. Rigor and
Feasibility (Approach)
(scored 1-9)
,
Factor 3. Expertise and
Factor 3. Expertise and Resources
Resources
=

You are not your research, but you are your biosketch

Which Biosketch should I use?

- ➤ All K applicants → use Standard Biosketch (nonfellowship form)
- If you are updating from a NRSA F Award biosketch, you will need to use a new form page
- Instructions for Foundations and non-NIH funders might be different

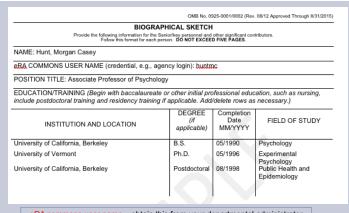
Sections of the NIH Biosketch

Name, eRA commons, Position, Education & Training

A. Personal Statement

- i. Grants I'd like to highlight include: (i.e., research support)
 ii. Citations:
- **B.** Positions and Honors
- c. Contributions to Science

at the end comes the myncbi link (these are all your publications and other research products); don't use google scholar, researchgate, etc.



eRA commons user name – obtain this from your departmental administrator
- ORCHID is required as well when you apply for NIH grants
- This is from the NIH Biosketch EXAMPLE

SAMPLE: Non-fellowship biosketch (DOCX, 38 KB)

A. Personal Statement

Briefly describe why you are well-suited to receive the award for which you are applying. The relevant factors may include aspects of your training; your previous experimental work on this specific topic or related topics; your technical expertise; your collaborators or scientific environment; and your past performance in this or related fields (you may mention specific contributions to science that are not included in Section C). Also, you may identify up to four peer-reviewed publications that specifically highlight your experience and qualifications for this project. (USE "CITATIONS" subheader)

If you wish to explain impediments to your past productivity, you may include a description of factors such as family care responsibilities, illness, disability, and active duty military service.

Suggestions for Writing Personal Statements

- Customize the personal statement for each grant proposal
- 2. Mention the **name** of the grant proposal (e.g., KL2) and speak directly to the purpose of this funding mechanism
- I envision using the training, experience and research findings from this KL2 award to establish a career in cardiovascular research focusing on the role of shear stress affecting the interface of endothelial cells and leukocytes in maintaining the balance of immune activation and immune tolerance, on cardiovascular diseases.

Funded KL2 \rightarrow K01 \rightarrow R21 \rightarrow R01

....

Once we have thoroughly characterized both the behavioral and neurophysiological effects of stimulation at the amygdala in biasing, I will be poised to make the next step to a K01 project wherein I hope to establish an independent lab to systematically examine the contributions of limbic regions (also frequently implanted in epilepsy patients) to emotional perceptual bias, and to broaden our focus to include other measures of affective system function. Emory is the ideal environment for the implementation of the proposed brain stimulation research: in addition to the availability of rare DBS patients, we have a world-renowned epilepsy surgical team, which provides access to approximately 1 patient per week with implanted electrodes in the limbic system making this KL2 and a future a K01 project highly feasible.

Writing Suggestions

- 3. Lots of overlap with Candidate Section in K grant
- 4. Be succinct, revise this several times after you have developed the Candidate section essays
- 5. All these sections need to be great reviewers really care about these sections
- Could be a place to remind the reviewers which didactic training plan you've chosen and why (in brief), i.e., MSCR, CPTS, menu

More Suggestions for Writing Personal Statements

- ▶ Length generally no need to exceed Page 1
- Convey <u>excitement</u> and <u>passion</u> to do the proposed work
- ▶ Depending on the type of grant, emphasize your role for:
 - Leadership (PI of a R grant)
 - Training potential for you to advance in your field (need for training for KL2)
 - Are you a mentor? (you need to review your mentors' biosketches)
 - Track record and experience to support the proposed aims
 - Tone should be confident but not arrogant
 - Don't just walk us through your accomplishments but speak to the science in this proposal

If you are the PI of the grant....

- Even if you are a postdoctoral fellow, you need to read / review / edit the Personal Statement of all other contributors to this proposal
- WHY?
 - Because this is the Pl's job
 - Each Personal Statement must reflect that writer's role on the project
- If someone is sponsoring / mentoring / collaborating with you, that should be mentioned in that person's Personal Statement

Show your current Research Support after your Personal Statement essay

- Research Support (section D.) formerly came at the end of the biosketch (you will see this if you look at old versions of the biosketch possibly from your mentor)
- Now, you are instructed to include the projects that are most relevant to the research proposed in the application.
- Do not include number of person months or direct costs.
- For junior-level investigators, I recommend that you include all current and previous funding
- For the most current NIH guidance, look at the file: non-fellowshipbiosketch-sample-2021.docx
- Exact instructions for the <u>Biosketch</u> are found in the NIH K application guide

Research Support now looks like this:

Your personal statement here

Ongoing and recently completed projects that I would like to highlight include: R01 DA942367

Hunt (PI) 09/01/16-08/31/21

Health trajectories and behavioral interventions among older people with substance use disorders

R01 MH922731

Merryle (PI), Role: co-investigator 12/15/17-11/30/22

Physical disability, depression, and substance use among older adults

Citations:

- Gross, J, xxxx
- Gross, J, xxxxx

B. Positions and Honors



- You can load info into Mv NCBI
 - You should do this now because you will have to do in later on in 2026 for all future NIH grant proposals
 - online tool (via SciENcv) to support building/storing your personal data including linking to all your publications
- Be thorough
- Clarify what specific awards/honors were for
- Sometimes you might want to add an alternative (unique) subheader if the grant supports it
 - Patents
 - **Board Certifications**

Example of creative subheader

Consultant/Reviewer

Course Instructor/Director

Program Developer (could be an international program, or software)

External Advisor

Section C. Contributions to Science

- List up to 4 peer-reviewed publications or other non-publication research products (my interpretation: this could include abstracts but not papers in preparation or under review)
- ▶ Each of the 5 'contributions' can be no more than ½ page each including citations
- > Provide a URL to a full list of your published work as found in a publicly available digital database such as SciENcv or My Bibliography, which are maintained by the US National Library of Medicine*

Complete List of Published Work in My Bibliography: http://www.ncbi.nlm.nih.gov/myncbi/.....

* must be a .gov link (not google scholar or research gate)

C. Contributions to Science

- Topic #1....(use an explanatory subheader)
 - Brief narrative (written in 1st person)
- Published manuscripts (underline or bold your name)
- Topic #2....(use an explanatory subheader)
 - Brief narrative
 - Published manuscripts

C. Contribution to Science

Early caffeine therapy is associated with a lower risk of bronchopulmonary dysplasia
 Caffeine therapy is widely used to treat apnea related to prematurity. A landmark

Caffeine therapy is widely used to treat apnea related to prematurity. A landmark international, multicenter trial demonstrated that caffeine reduces the risk of bronchopulmonary dysplasia, a serious and chronic respiratory complication of prematurity. My research has focused on examining the comparative effectiveness of various approaches to initiation of caffeine therapy. Initial studies at our center, which we later validated in a large US cohort of over 60,000 very low birth weight infants, showed earlier initiation of caffeine therapy, compared to later initiation, was associated with a lower risk of bronchopulmonary dysplasia. Our initial novel findings have recently been replicated by several other research groups in the US and internationally.

- Patel RM, Leong T, Carlton DP, Vyas-Read S. Early caffeine therapy and clinical outcomes in extremely preterm infants. <u>J Perinatol</u>. 2013;33(2):134-40. PMID: 2253326
- Dobson N*, Patel RM*, Smith PB, Kuehn DR, Clark J, Vyas-Read S, Herring A, Laughon MM, Carlton DP, Hunt CE. Trends in caffeine use and association between clinical outcomes and timing of therapy in very low birth weight infants. <u>J Pediatr</u>. 2014 May;164(5):992-998.e3 PMCID: 3992195 "Contributed equally

Thinking about my "Contributions to Science"

- What goes here?
- How do I organize this?
- How much do I report (i.e., how many items)?
- Some ideas
 - In your previous research experiences, what did the <u>team</u> do and what exactly did <u>you</u> do?
 - √ What did you learn from what you did?
 - Can you reflect on what you found and how it may have led to the current proposal?
 - ✓ Be aspirational express your professional hopes and desires

Recommendations

- ▶ Follow the directions use the example as a model
- Chances are as a junior investigator you will have between 1-3 (maybe 4) Contributions to Science
- Do not misrepresent any facts
 - List all publications as they would appear in PubMed or in any other searchable database
- Advice from a sage academician:
 - "Extraordinary evidence for extraordinary claims"
 - "The magnitude of your supposed accomplishment must align with your tangible contributions"
- "Self-aggrandizing will certainly backfire. Probably better to lean towards humility to increase likability factor"

Recommendations

- Each new grant proposal should prompt you to revise your biosketch, especially the Personal Statement (and possibly Contributions to Science), so that it speaks directly to this particular grant proposal
- Pay attention to aesthetics and layout spacing, font, page break
 - Does your printed out biosketch look like the example?
 - Do you need to customize any subheaders to make a point e.g., teaching or curriculum development
- Reviewers are looking for specific information in particular places – make it easy for the reviewer by following the rules and the formatting



K Budget



- ▶ This is a non-modular budget
- ▶ There are only 2-line items in a K budget
 - 1. Salary support for PI (you)
 - 2. Technical Budget
- Plan in advance to be sure you can do the work for the money
- Reviewers will ask: Can this work be carried out with this budget?

Technical Budget

@\$30,000/yr for GA CTSA KL2 @\$40,000/yr for BIRCWH K12

- a) tuition and fees related to career development (allot \$10,000 for MSCR for Year 1; if you are not taking the MSCR, you have more discretion)
- b) research expenses, such as supplies, equipment and technical personnel
- c) travel to research meetings or training
- d) statistical services including personnel and computer time
- e) Maximum \$2,500/yr for travel (airfare, lodging, per diem)

Required Expenses to itemize in your Budget Justification

From within the technical budget, you need to allocate

- 1. \$10,000 tuition for MSCR in Year 1 (if applicable)
- Annual Ga CTSA scientific meeting at Callaway Gardens (expected)
 - Hotel, travel by car, registration (this is cheap or free)
- Annual NCATS Association for Clinical and Translational Science meeting in Washington, DC (see PA instructions)
 - Airfare and hotel
 - Discounted registration (Alexey will register you)
 - Poster / talk preparation

Budget Justification (narrative; 2 pages)

A. Senior/Key Person – describe in narrative form why <u>you</u> are PI of this proposal (will be redundant with other sections) – do not include any salary for or description of mentors in this section

(B - E indicate n/a)

F. Other Direct Costs (cap of \$30K or \$40K)

F.I. Materials and Supplies – in this section you detail the expenses to carry out your research. If you are getting money from the department or elsewhere to do the work, be clear what costs are coming from the grant and what are coming from elsewhere. Using standard budget categories will make this easier.

- travel expenses go here



RESEARCH COST

Supplies

Microdialysis (μD): A total of \$10,190 is requested for μD supplies including the following: \$2,895 for a CMA 107 μD pump. \$6,475 for 28 CMA 60 μD probes (\$231.25 per probe), \$430 for 40 CMA syringe pumps, \$285 for 250 μD microvials, and \$105 for 5 CMA pump batteries.

AFB Culture and Drug Susceptibility Testing: A total of \$2,100 is requested for supplies including the following: \$800 for 100 MGIT tubes, \$1,000 for DST reagents, and \$300 for 100 tissue grinders.

Genome Sequencing: A total of \$1,263 is requested for genetic sequencing supplies including the following: \$633 for 250 DNA Qiagen Mini-Kits, and \$630 for reagents necessary for freezing MTB isolates and DNA.

Lab supplies: A total of \$319 is included for miscellaneous lab supplies including gloves and N95 respiratory masks.

Total = \$13,872

<u>Travel</u>: All travel during year 1 will be supported by an ongoing NIH Fogarty TB research-training grant (#D43TW007124).

<u>Coursework</u>: Emory courtesy scholarship for faculty (5 credits/semester) will cover coursework in Year 1.

Patient enrollment costs: A total of \$2,000 is requested to pay study staff in the Republic of Georgia to perform all the tasks required for patient enrollment including collecting informed consent, data collection, blood draw, DNA extraction, freezing MTB isolates, microdialysis, and shipping samples. (4 patients * \$500 per patient).

Total = \$10,128

Reviewer's Comments regarding the Budget for an NIH K23

Overall budget is reasonable, but it will be good to see a breakdown of the \$25,000 Research Support. This seems to include a lot of travel. Patient costs itself will cover about \$13,000 (160 women x 2 visits x \$40/visit). This doesn't leave much for a Research Coordinator, Database manager and Biostatistics support.



Learn from funded proposals

- See KL2-BIRCWH folder on DROPBOX
- NIH RePORTER for K awards similar to yours



