

Grantsmanship Series - The Writing and Uses of Specific Aims

July 19th, 2023 - 4 pm ET



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NHGRI



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TraineeHub Grantsmanship Series **Writing and Uses of Specific Aims**

July 19, 2023

Rene Sterling, PhD, MHA

Program Director

NHGRI ELSI Research Program

What is the “Specific Aims” page?

- The “heart” of an NIH application
- One page summary of your grant – stand alone document
- Concise statement of the goals of the proposed research, expected outcome, and impact on field
- List of specific research objectives
- “Succinct combination of sales pitch and science” (Monte and Libby 2018)

Uses for Specific Aims

- Flush out ideas and gain clarity
- Establish a road map for your application
- Get feedback from peers, advisors, mentors, family members
- Inform discussion with (or among) NIH program officers
- Provide application overview for study section reviewers not assigned to your application

ELSIhub Funding Training Series

<https://elsihub.org/video/3-writing-your-specific-aims>



Writing Your Specific Aims

MEGHAN HALLEY, PHD, MPH
STANFORD CENTER FOR BIOMEDICAL ETHICS

CENTER FOR ELSI RESEARCH AND ANALYSIS



3. Writing Your Specific Aims



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3 Myths Unveiled

1. Rough Drafts

I can't share this aims page with an ELSI program officer! It's way too drafty!

I only have one chance to get feedback, you know?

Well, a “drafty draft” is actually great to share with a program officer. Doesn't have to be perfect to have an initial conversation. As time allows, program officers are happy to look at a second draft.



Rene Sterling, PhD, MHA
ELSI Program Director

2. Sample Grants

A colleague shared their application with me. They got a **great** score. I am trying to write my specific aims just like they did. If it worked for them, it should work for me, right?



Not necessarily... Examples can be helpful as a general guide, but your specific aim statements should align with your topic and approach. Don't feel the need to structure your aims just like someone else. Aims could be focused on knowledge gaps, methods, hypotheses, problems to be solved, or something else. Clarity, specificity, and alignment with your goal is key.



Nicole Lockhart, PhD
ELSI Program Director

Specific Aims – Topic Driven (Brothers R01)

A C G
C G T
A C G

Specific Aim 1: Examine the ethical and regulatory challenges that have been raised within current biorepositories and identify the solutions that have been utilized to address these challenges (Retrospective Aim).

Topics

Aim 1a. We will conduct a systematic search for established and developing networks that link data and/or samples from multiple repositories. We will utilize online search tools and existing literature to identify networked biobanks in the US, and contact key informants to collect information about their configuration.

Methods overview
in sub-aims

Aim 1b. We will assess the ethical and regulatory challenges raised within networked biorepositories by interviewing key personnel associated with established and developing networks to explore perspectives and experiences addressing challenges related to consent, privacy and data security, and data access.

Specific Aims – Methods Driven (Stern R21)

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Our specific aims are:

1. To conduct **extensive quantitative analysis using the eugenic sterilization dataset** we have created during the pilot phase of this project. This de-identified HIPAA-compliant dataset was **created using REDCap and includes 212 discrete variables for each of the 15,000 records**...
2. To **link the eugenic sterilization dataset to individual-level census microdata and tract-level census reports** to permit population-based estimates of sterilization rates. By linking the two datasets we will be able to **test the associations** of [demographics], diagnosis and other variables with risk of sterilization. For example, **we hypothesize that Spanish-surnamed patients and young teenagers were disproportionality sterilized**....
3. To conduct **qualitative analysis** with the sterilization records, supplemental files, charts and forms in the digitized microfilm reels...
4. To **incorporate our findings into a companion digital archive** that features data visualization, historical interpretation, and patient stories...

Rich detail on methods.

Hypothesis testing proposed.

Specific Aims – Rationale Driven (Cwik R03)

A C G
C G T
A C G

Specifically, the project will:

1. ...
2. Examine ethical issues in light of existing research ethics protocols. **Protocols for long term follow-up of individuals and families exist for certain kinds of research** (for instance, in the social sciences and public health) **and for related bioethical issues** (such as biobanking, access to/use of genetic information, and disclosure of incidental findings). The investigator will **consider the special challenges** of intergenerational monitoring for GGE [germline gene editing] in light of existing protocols, and apply insights from related areas. Further, this **ensures other bioethicists can replicate the findings of the project**, by examining the results of the project in light of accepted practice in human subjects research.

Explains why aim is proposed.

Limited detail on methods.

3. ...
4. ...
5. ...

3. Career Development Grants

I need to add training aims to the specific aims page for my K application. I may end up with 5 or 6 aim statements. That should cover everything, right?

Applicants take different approaches writing specific aims for career development or fellowship grants. One of your listed aims could address training; but, too many aims may seem overly ambitious. You can briefly mention training or career goals on your aims page. You have a separate section of the application for details.



Dave Kaufman, PhD
ELSI Program Director

Specific Aims Page – Career Goal (Sabatello K01)

My long-term goal is to study the intended and unintended consequences of psychiatric genetic data for law, equality, and social inclusion. I will draw on my experience as a former litigator and disability advocate, and on relevant empirical and qualitative work on the legal and social effects of the geneticization of mental disorders, including stigma and perceptions of treatment.⁶⁴⁻⁷⁵

My goals for this research are:

Aim 1: To survey appellate court decisions in family law, education, and torts to determine the extent to which courts are considering psychiatric genetic data, and how they use such data in their decisions.

Aim 2: To investigate judicial perspectives about the use of psychiatric genetic data and how such data may affect judges' and public perceptions of parental capacity, educational decisions, and civil responsibility for behavior in tort cases, using a vignette methodology with samples, respectively, of family court judges, parents, and state trial court judges and the jury-eligible general population.

Aim 3: To assess, in connection with Aim 2, the association between psychiatric genetic data and stigma by studying whether such data affect judges' and public perception of broader civil legal incapacity and treatment options, and the relationship to judicial bias against persons with psychiatric conditions.

The proposed study has significant implications for 1) understanding and predicting how psychiatric genetic data will influence judicial decisions in tort, family law, and education cases; 2) developing legal policies for the use of such data in civil courtrooms in the US and other technologically advanced societies; and 3) enhancing social science research about stigma and judicial biases relating to psychiatric disorders and genetic data.

Specific Aims Page – Training Plan (Prince K99)

are interpreting and enforcing actuarial and unfair trade practice laws (Aim 2a). I will combine this with legal analysis of statutes, regulations, and applicable case law to evaluate whether state law has been applied to the context of genetic information and how the laws may be interpreted and enforced in this area (Aim 2b). Survey responses will inform the legal analysis of how existing legislation may be enforced or interpreted.

Aim 3 – Provide policy analysis and recommendations for legislative and regulatory options to address concerns about the use of genetic information in supplemental insurance. I will undertake policy analysis of options available to US governments to address societal and individual concerns about supplemental insurer use of genetic information (Aim 3a). Additional policy analysis will explore legal and policy options for the threshold evidence levels needed to meet actuarial standards (Aim 3b). These options will incorporate feedback from policy experts. I will disseminate recommendations through policy briefs and manuscripts.

Aims 1 and 2a (K99 phase) will be completed in concert with training in qualitative and quantitative methods. For the R00 phase, my goal is to secure a tenured law position that involves teaching an experiential course and researching ELSI topics. Under this model, students will assist in the research goals of Aims 2b and 3

By combining policy analysis and case studies from the international setting with detailed legal and survey analysis from the US, this project will produce a robust study of potential policy options for legislators.



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“It’s a foolproof formula for writing grant applications.”

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Thank you!



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of **Genomics**[®]



Writing Specific Aims for Bioethics Research

Amy McGuire, JD, PhD

Center for Medical Ethics and Health Policy

Baylor College of Medicine

Four Principles for Writing Specific Aims (Or... Learning from My Mistakes)



Tailor to the
type of grant



Take your time



Tell a story



Be realistic

1. Tailor to the Type of Grant

Infrastructure

P50, P20
R13/U13, U24,
T32, R25

Independent (Investigator- Initiated vs. RFA)

R01, R03, R21

Training

K99/R00, K01

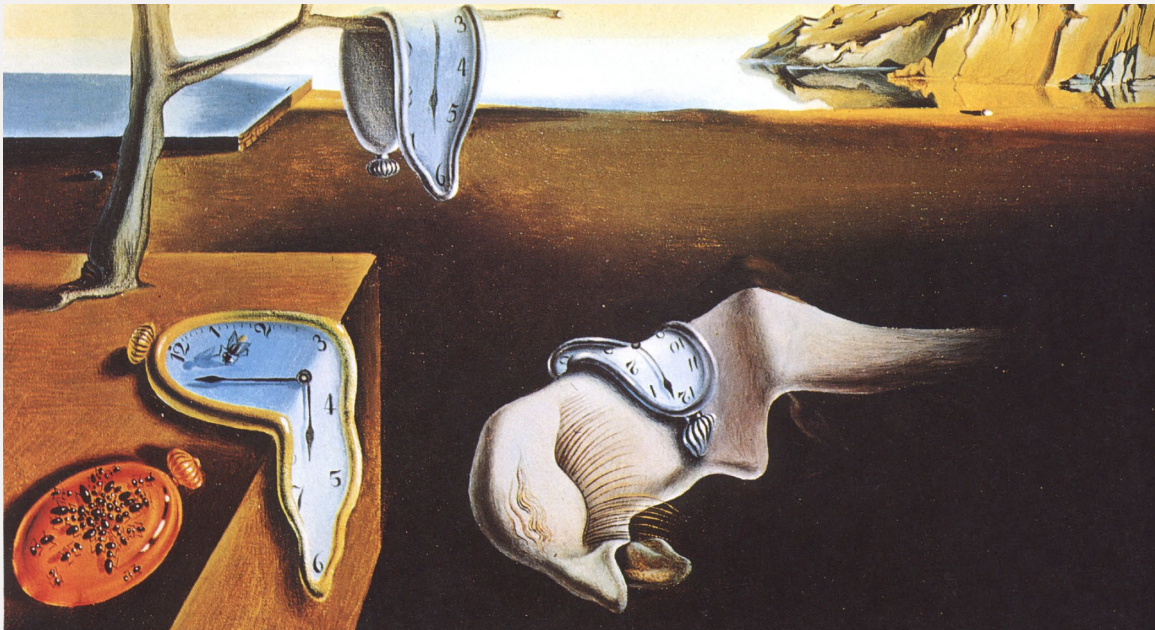
Parallel

R01, R03, R21
K99/R00, K01

Embedded

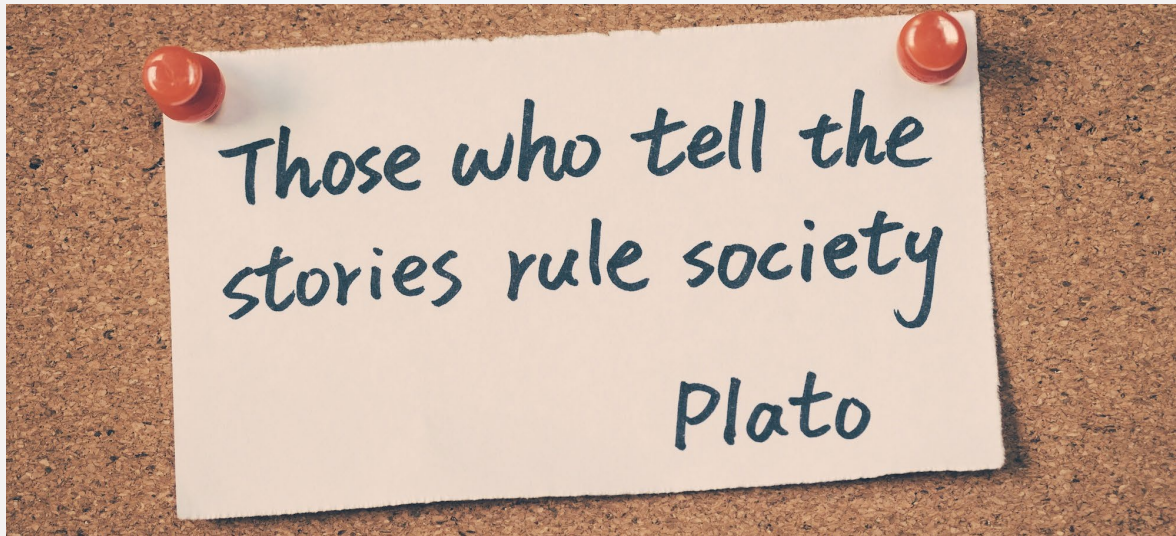
U01, U19, U54
R01, R03, R21

2. Take Your Time



-
- Plan ahead - grants take months to write, not days
 - Take time to get your aims right! The rest of the grant will flow from them
 - Get as much feedback as possible from people in multiple disciplines
 - And listen to it - if your colleagues don't get something or have a criticism, most likely your reviewers will too

3. Tell a Story



- Reviewers are busy - Need to “hook” them from the start
- Be clear and concise
- What you want to convince the reviewer of:

Wow! This is a really important problem.

What? I can’t believe nobody has been able to adequately address this really important problem yet.

Of course! What they are proposing is exactly what needs to be done.

Geez! If they are successful, this is going to have a huge impact.

Best Advice Given To Me

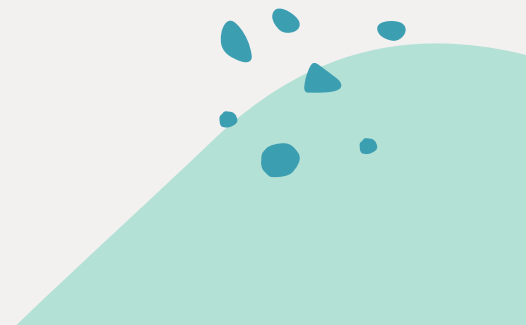
Just say what you mean!

[Do not make the reviewers have to think too hard]



4. Be Realistic

- Don't oversell what you can accomplish (e.g., policy recommendations)
- Don't take on too much (e.g., HMP experience)
- Make sure the scope of work can be accomplished in timeline and with proposed budget
- For first time grant writers: you deserve that amount of money to do that amount of work!



Publishing in ELSI/Scientific Journals

September 7th, 2023 - 12 pm ET



Claudia Gonzaga-Jauregui, PhD
International Laboratory for Human
Genome Research, UNAM



Kyle Brothers, MD, PhD
Norton Children's Research
Institute & University of Louisville



Mildred K. Cho, PhD
Stanford University



Maya Sabatello, LLB, PhD
Columbia University

Fair Access and Equity of Individualized Interventions for Ultrarare Genetic Conditions

September 8, 2023 at 12pm ET/9am PT



Ingrid Holm, MD, MPH
Boston Children's Hospital,
Harvard Medical School



Alison Bateman-House,
MPH, PhD
NYU Langone Health,
University of Arizona



Moderated by
Meghan Halley, PhD, MPH
Stanford University