

Components of a typical grant application and developing the grant concept note

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Outline

- A. Components of a grants application

- B. Developing the grant concept note
 - conceptualization
 - theoretical vs. conceptual framework
 - construct of the grant proposal
 - hints on successful grantsmanship
 - recent funding announcements

Sources of information for Grants Application

- Funding opportunities (FO)
- Request for Application (RFA)
- Respective websites of funding agencies
- Institutional Research Coordinators

A. Components of a Grant application

- Title
- Brief Introduction
- Background and statement of the problem
- Research question or hypothesis
- Aim and objectives
- Study design (type of study)
- Study population and sampling
- Data collection methods and instruments
- Ethical considerations

Components of a Grant application contd.

- Data analysis methods
- Mechanisms to assure the quality of the study – e.g. control of bias, safe storage of data, quality control
- Study period - Timeline for completion of the project
- Resources required for the study, including budget
- References
- Appendices (copy of questionnaire, consent forms, etc.)
- Study personnel – all people involved in the study, and assigned roles

B. Essential Components of a Grant Proposal

- Title
- Background and Significance
- Gaps in knowledge
- Aims and Objectives
- Methods (design, definitions, size, inclusion/exclusion)
- Data Management
- Milestones/Timelines
- Budget/Resources needed
- Appendix
- References

Title

- Sign post of study
- Must align with study objective and research design
- It should be **concise and descriptive**.
- An effective title not only pricks the reader's interest, but also predisposes him/her favourably towards the proposal
- Always think of an **informative but catchy** title.
- **ACRONYMS**

Find an appropriate Title

“Some scientists will study two or three dozen pigeons in a laboratory, and then write a book entitled *Pigeons*.

They should call it ***Some Pigeons I Have Known***”

George Boas (1978)

Setting research Objectives

- Objectives must be: SMART
 - specific
 - measurable
 - achievable
 - realistic, and
 - time-bound
- Objectives determine the methodology (design).

Key words in Objectives:

- To **investigate** the relationship between -----
- To **assess** the
- To **determine** the -----
- To **correlate** the ...

AVOID:

- “To explore

Specific Aims

- Itemized research themes
- Realistic, time-bound, measurable impact, in synch with the research objectives and design
- Must include Rationale and Hypothesis to be tested
- Should be in-line with what data is currently available from the group on the research topic
- Carefully written and straight to the point

The Research Process

- A set of activities meant to test a **hypothesis**
- **Hypothesis** is a tentative statement about the relationship between two or more variables. It is a specific, testable prediction about what you expect to happen in a study.
- Null vs Alternate Hypothesis

Key Ethical Issues

- Confidentiality
- Voluntariness
- Beneficence
- Non-maleficence
- Informed Consent
- Autonomy
- Equity and Justice

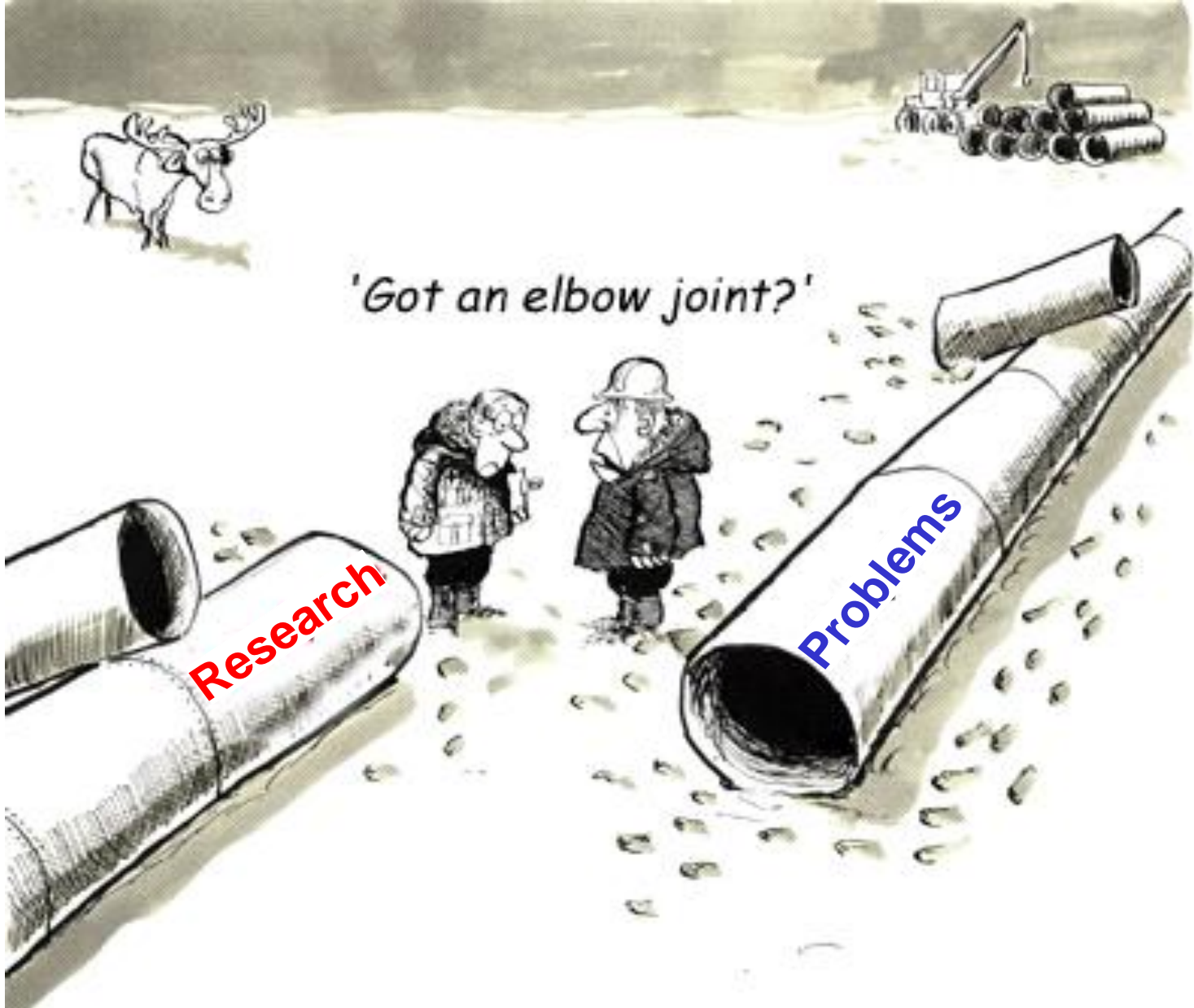
Timeline

- Monthly meetings of Team members On-going
- Completion of on-going data collection 4 months
- Data Entry and Analysis 2 months
- Sensitization of the environment 2 weeks
- Advocacy & Focus Group Discussions 2 months
- **Treatment of High Risk Group** **Immediate**
- Development of Health Promotion Package 1 month
- Intervention (Workshops & Seminars) 3 months
- Monitoring All through
- Evaluation of Effectiveness (questionnaire) 4 months
- Report Writing (mid-term and final) 6/12 months

Summary of Budget

ACTIVITY	Total (USD)
Advocacy meeting with UCH authority and Head of Staff Clinic	Nil
Advocacy meeting with union leaders	76.92
Focus group discussion x 5	257.69
Project Staff and Training	4,623.08
Conducting preliminary survey on KABP and RF	3,910.77
Cardiovascular Health awareness campaign	5,084.62
Advocacy for development of Cardiovascular health policy	Nil
Post-campaign evaluation	630.77
Surveillance and screening for risk factors	Nil
Fund raising	76.92
Administrative Charges	800.00
Total	15,460.77

Developing the Grant concept



Research Quote

To do successful research,
you don't need to know
everything, you just need to
know of one thing
that isn't known.

- Arthur Schawlow

Proposal Writing: developing the concept note



What starts a grant proposal?

Brilliant idea

Thinking

Curiosity

What follows?

- Brain storming
- Putting a team together
- Invitation of Collaborators

Developing a concept note

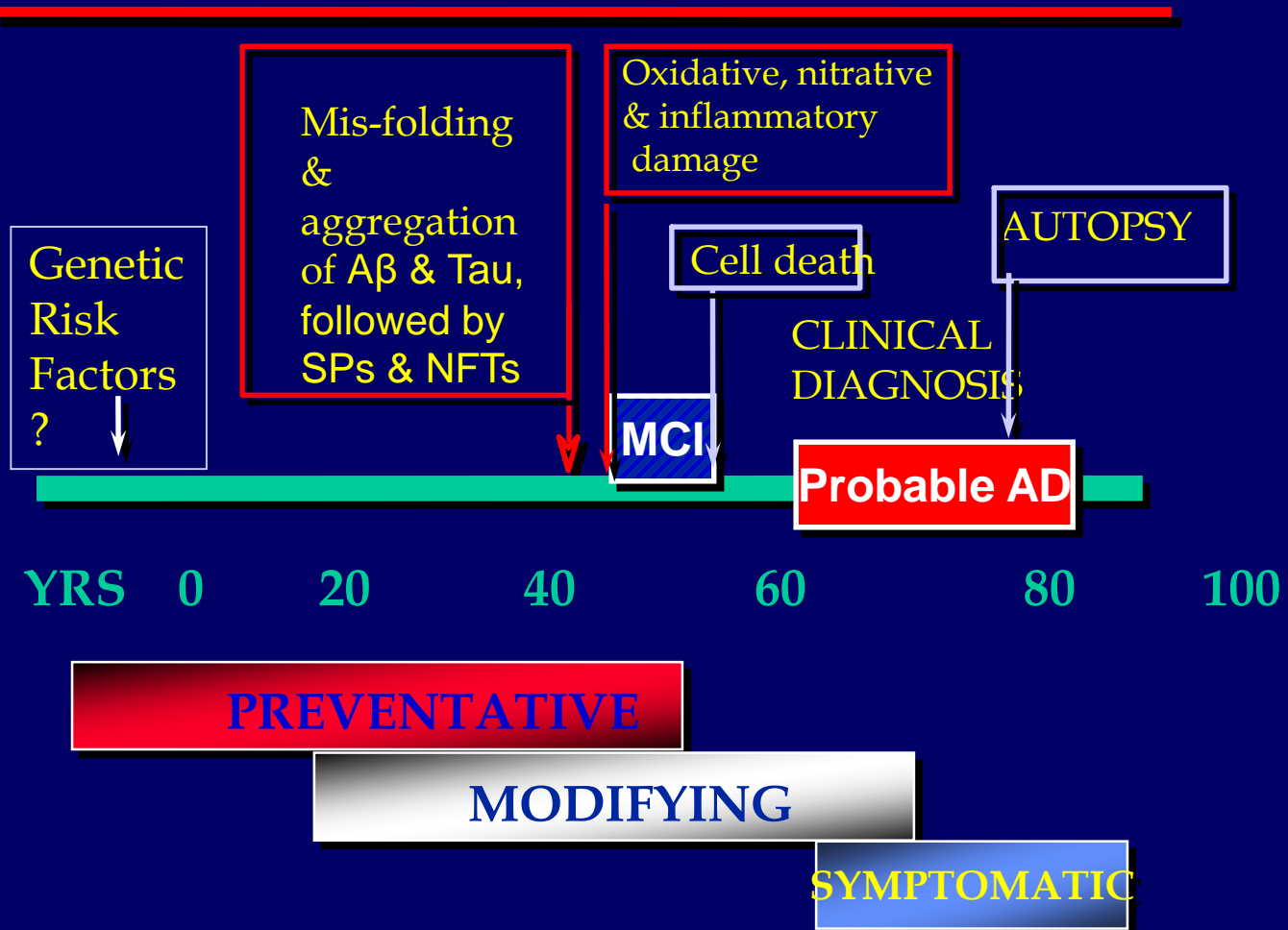
- Clearly formulate the problem
 - put it in context of contemporary scientific and theoretical debates
 - demonstrate how the study will build on existing research and make a contribution to the subject
- Explain what the research will do, to whom or to what, and why?
- Prepare a clear and convincingly argued analytical framework

Theoretical vs. Conceptual Framework

Theoretical framework (Road Map)

- A full description of the general research design, the specific methods and procedures to be carried out.
- The methodology should be sufficiently detailed for replication; Cite any adopted methodological approach
- Provide diagrams, charts, and illustrations as appropriate including a listing of the instrumentation to be used
- Provide a diagram of the experimental setup.
- A description of the theoretical approach and the type of analysis.
- Explain the details of the methods: definitions, parameters to measure, selection of subjects, test instruments , statistical methods . a copy of your survey questionnaire;
- Explain any limitations that can affect the reliability and applicability of the results.

Alzheimer's Disease Timeline



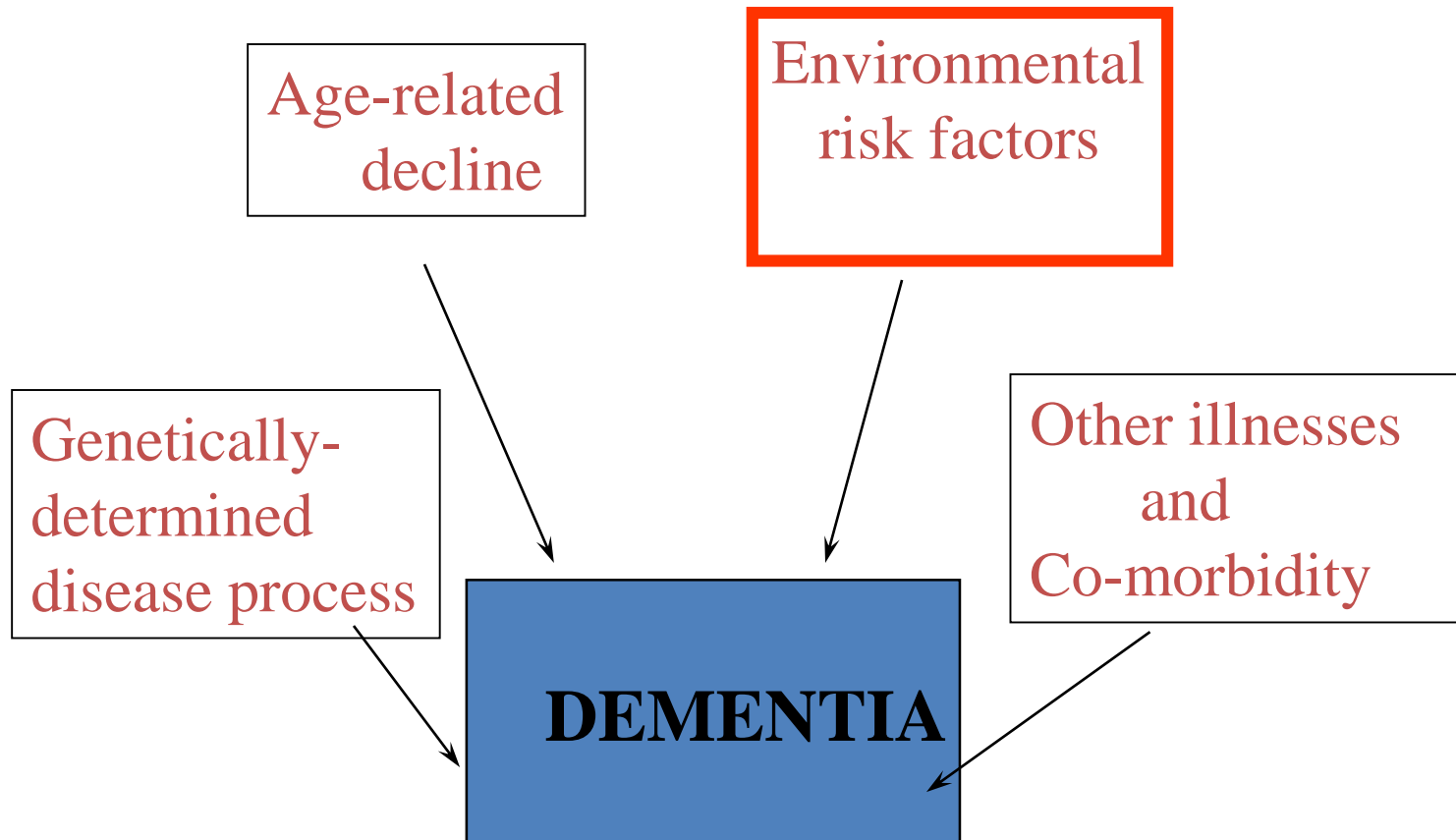
Advantages of a Theoretical Framework

- It helps the researcher consider alternative theories
- It is the link for all aspects of the study including methodology and the research process
- It deepens the essence of the study
- Research funders always request for the theoretical framework in order to neatly place the new study within the body of known knowledge
- It convinces the reviewers that the study is based on credible theoretical background

Conceptual Framework

- It is an integrated way of looking at a problem under study
- The conceptual framework is the researcher's own original thinking and is the major contribution to knowledge
- The conceptual framework is used to outline possible courses of action to present a preferred approach to an idea or thought

Processes influencing clinical expression of dementia



MODELING THE CONTRIBUTION OF GENES AND ENVIRONMENT

Observed Phenotypic Variation =

Genes + Environment +

Genes * Environment +

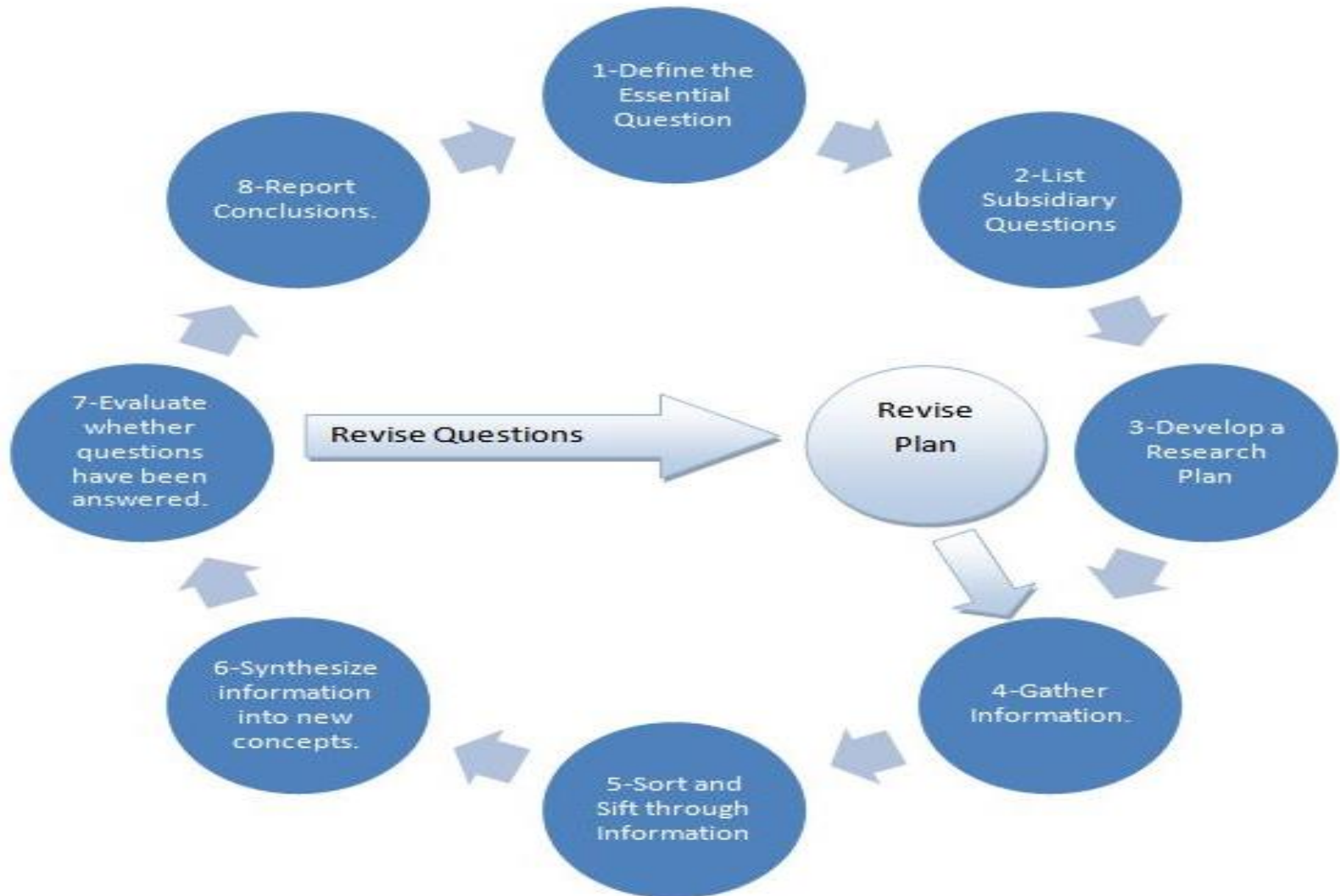
Genes * Genes +

Environment * Environment

Observed Phenotypic Variation

<i>Genes</i>	<i>+Environment</i>	<i>+Gene/Gene</i>	<i>Gene/Environment</i>
APOE ϵ 4	Vascular risk HBP	Genes involved	APOE ϵ 4/Lipid
? Other gene	Oxidative stress ? Diet Social Interaction	APOE ϵ 4 expression	

The Research Cycle



Construct of the Proposal

- Sections:
 - Background literature
 - Rationale
 - Hypothesis & objectives
 - Preliminary data
 - Research Plan
- The research plan should provide answers to the following questions:
 - What you intend to do?
 - Why is the work important?
 - What has already been done?
 - How are you going to do the work?
 - Does it show the significance of the work?

What type of research is planned?

- Single or Multi-site
- Types of Collaboration needed
- Personnel to be involved
- Anticipated outcome
- Influence of the “elements”
- Materials to be stored or transferred?
- What will offer the best value for the money sought?

Hints

- Connect research objectives and study design
- There must be clear research endpoints
- Planned study must be innovative
- Sample size must be adequate for statistical analysis
- Methods of data analysis should be very explicit
- Ethical considerations must be detailed

Tips on Grant Success

- Begin early.
- Answer all questions in the RFA. Anticipate unstated questions.
- Be explicit and specific.
- Be realistic in designing the project.
- **Make explicit the connections between your research questions and objectives, your objectives and methods, your methods and results, and your results and dissemination plan.**
- Follow the application guidelines exactly.
- If rejected, revise your proposal and apply again.

www.fic.nih.gov

GLOBAL HEALTH MATTERS

Fogarty at
50

SEPT/OCT 2018

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First Fogarty ophthalmology

Fellow studies rare

cancer in Ethiopia . . . p. 4



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Funding Opportunity Announcement	Details	Deadline
Global Infectious Disease (GID) Research Training Program (D71) (D43) Clinical Trial Optional	http://bit.ly/IDtraining	July 25, 2019
Global Brain and Nervous System Disorders Research Across the Lifespan (R21) Clinical Trial Optional (R01) Clinical Trial Optional	http://bit.ly/NIHGlobalBrain	Nov 7, 2019
Emerging Global Leader Award (K43) Independent Clinical Trial Required (K43) Independent Clinical Trial Not Allowed	http://bit.ly/NIHGlobalLeader	Nov 7, 2019
Noncommunicable Diseases and Disorders Research Training Programs in LMICs (D43) Clinical Trial Optional	http://bit.ly/NCDtrain	Nov 12, 2019
Ecology and Evolution of Infectious Diseases Initiative (EEID) (R01)	http://bit.ly/EEIDNIH	Nov 20, 2019

For more information, visit www.fic.nih.gov/funding

Call on Neglected Tropical Diseases

- Overview Budget for SGP III: USD 300,000
- Maximum funding per award: USD \$25,000
- Call opening date: August 19, 2019, 08:00 GMT
- Call closing date: September 30, 2019, 17:00 GMT
- Announcement of awards: November 8, 2019, 17:00 GMT

- The African Research Network for Neglected Tropical Diseases (ARNTD) with support from the U.S. Agency for International Development (USAID) and UK aid from the UK government, through the Coalition for Operational Research on Neglected Tropical Diseases (COR-NTD), is seeking proposals for both operational and social science research on “Emerging Challenges facing NTD program implementation in Africa.’

Foot notes

- *All applications submitted after the deadline of September 30, 2019 at 17:00 GMT will not be reviewed, and all unsolicited attachments will not be considered.*
- *We encourage proof-of concept projects which demonstrate potential for scale-up to benefit program implementation (control and elimination of NTDs) as proximally as possible and which could be attractive for later funding from other sources.*
- *Inquiries can be made from the ARNTD Secretariat at any point during the period when the call is open by sending an email with the subject line “Inquiry SGP III” to secretariat@arntd.org*

Assessment

- Significance of study – relevance, impact
- Investigators
- Innovation – scientific, social, economic
- Approaches – design, framework, ethics
- Environment – facilities, security

Important Considerations

- Grant writing is a competition
- Why would a funding agency be willing to fund your proposal?
- What makes your submission better than others?
- What is innovative about your study?
- Previous grant successes do not guarantee funding (You have to prove yourself each time)

Thank you for listening

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