

A Discussion on Grant Proposal Preparation

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Grant Applications

- Grants in the area of integrative and complementary medicine
- Important elements and factors in grant application to be discussed
- Application and funding process vary in different countries and regions
- General principles apply to biomedical research

Research Funds Received

- From year 1996
- As the PI
- Non-federal funding: \geq US\$15M
- Pharmaceutical industry: \geq US\$35M
- NIH funding: \geq US\$12M
 - R01, R21, P30, P01 (K01/K08 as mentor)

Grant Proposal Review Service

- U.S. National Institutes of Health (NIH)
- U.S. National Science Foundation (NSF)
- Canadian Institutes of Health Research (CIHR)
- The National Natural Science Foundation of China (NSFC)
- Hong Kong Research Grants Council (RGC, for GRF/ECS), and the HMRF

General Considerations

- Grants for biomedical research
- In general, review process similar in different countries
- In the U.S., mainly NIH, also NSF
- In Hong Kong, RGC-GRF, HMRF
- Proposal's quality, writing skill, past publications, other factors

Grant Proposals: How to ...

- How to write a grant
- Varies among investigators
- Different trainings, webinar, helpful?
- After submissions, outcome can be estimated?
- A good template, colleague interactions
- Practice, submission, and ...

General Considerations

- **Quality of the proposal, - % on score**
 - **Mainly to be discussed today**
- **Other factors, - % influence on score**
 - **Your education**
 - **Your experience**
 - **... ..**
 - **Conflict of interest**

Other Factors

- **Other factors from the reviewers**
 - **Your education and your experience**
 - **Your published articles**
 - **Your institution**
 - **Your grant history – nothing or too many?**
 - **Your background related to the proposal**
 - **Your publications related to the proposal**
 - **Percent of weight**

Other Factors

- **Other factors affect your score**
 - **Reviewer selection**
 - **Reviewer's time spent for each proposal**
 - **Study section or panel discussion**
 - **Program officer, program priority**
 - **Final decision**

For a Proposal

- Time to spend, proposal vs. lab research
- Format varies but basically the same
- Format – Skill – Science
- Start to write, suggestions:
 - Research specific topic – hypothesis
 - Background information
 - Objectives - Aims/Methods-stat/Refs/suppl. info
 - Preliminary results
 - Abstract and fill the forms

Grant Proposal Review

- Reviewers are not the same
- Proposal's format, general impression
- Presentation skill and TCM
 - Possible comments from the reviewers
 - For TCM, study herbal's quality control and analysis
 - Herbal trial, safety concerns
 - Placebo effect in acupuncture study
- Science – innovation and approach

Comments from Reviewers

U.S. NIH

Significance:
Investigator(s):
Innovation:
Approach:
Environment:

- **Score/percentile**

The recent “Crash Course in NIH Grants Fundamentals”:

<https://nexus.od.nih.gov/all/2023/07/12/crash-course-in-nih-grants-fundamentals/>

Comments from Reviewers

GRC-GRF

- 1. Objective and research agenda**
- 2. Research Design and Methodology**
- 3. Feasibility of the proposed research**
- 4. The most original or innovative aspect**
- 5. Budget**
- 6. Overall Comments**

Strengths:

Weaknesses:

Suggested improvements:

Overall Score: 1, 2, 3, 3.5, 4, 4.5, 5.

Comments from Reviewers

HMRF

Originality and Impact:

Research Questions, Aims and Hypotheses:

Subjects and Study Methodology:

Outcomes and Data Analysis:

Research Capability:

Budget:

Ethical and Safety Considerations:

Overall Comments and Conclusion:

Strengths:

Weaknesses:

Overall Rating: 1, 2, 3, 4.

Quality of Proposal

- **General quality – format, language ...**
- **Presentation – Figures, Tables**
- **Preliminary data**
- **Science**
- **Writing skill**
- **Supporting document**
- **Budget**

Quality of Proposal

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- Preliminary data
- Science
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- Supporting document
- Budget

Quality of Proposal

- General quality – format, language ...
- Presentation – Figures, Tables
- Preliminary data – too little or too much?
- Science
- Writing skill
- Supporting document
- Budget

Quality of Proposal

- General quality – format, language ...
- Presentation – Figures, Tables
- Preliminary data
- **Science:** significance, innovation, approach
- Writing skill
- Supporting document
- Budget

Quality of Proposal

- General quality – format, language ...
- Presentation – Figures, Tables
- Preliminary data
- Science: significance, innovation, approach
- **Writing skill** – format and presentations
- Supporting document
- Budget

Quality of Proposal

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General Tips

- **Start early**
- **Strictly follow the guidelines**
- **Avoid “last minute syndrome”**
- **Be realistic in designing the project**
- **Prepare your CV appropriately**
- **Read your proposal over and over**
- **Don't forget to any supporting document**

Revision/Resubmission

- What kind of score should be considered?
- For reviewers' comments – similar compared to a manuscript revision
- Emphasizing new studies and findings, and the quality increased significantly
- Some people believe “excitement” should be included

Summary

- Different aspects discussed
- Topic selection and writing preparation
- Issues often encountered including revision/resubmission
- Possible rewarding policy
- Submit
- Submit
- And submit