

RESEARCH PROJECT

For this project a student will propose and conduct a small research study. This study can include primary data collection, secondary data analysis, or a combination of the two. This research study should be designed so that it can be completed by the student within the time period that they are enrolled in the MPH program. Students are strongly encouraged to talk to potential advisors as early as possible about integrative projects. Students are encouraged to seek to identify an integrative project research advisor in the second semester of the first year of the program, and may choose to begin some tasks, such as a literature review, during the summer between Years 1 and 2. General guidelines are outlined below but can be modified upon guidance from the primary integrative project research advisor if the change in format is justified. What follows is a general outline for a research project.

Outline of research project (additional headings and subheadings may be added):

- I. Abstract
- II. Public Health Significance and Background
- III. Rationale for proposed study question
- IV. Specific Aims & Hypotheses
- V. Approach/Methods
 - a. Study Design
 - b. Methods
 - c. Analytic Plan (e.g., Statistical Analysis Plan)
- VI. Results
- VII. Discussion
 - a. Should include integration of five core public health disciplines. Describe how the project integrated the disciplines of biostatistics, epidemiology, environmental health, community health and health behavior, and health services administration. If any are not application, explain why.

Students should address/answer the following points/questions (shown below) within each section of research project. Page limits for each section can vary depending on the topic and advisement from the student's integrative project research advisor.

Abstract (150 word limit): The abstract should succinctly define the **objective(s)** of the study, the **methods** used, the **results**, and the **conclusions** drawn from the research project.

Public Health Significance and Background:

- Why is the chosen topic of study (e.g., disease outcome) of public health significance?
- What is the rationale (e.g., biologic plausibility) for asking your particular research questions? (e.g., why would a certain exposure or intervention be associated with a specific outcome?)
- What is the current knowledge (body of literature) on the proposed research question? (e.g., what other studies have been conducted in this area of research and what are their strengths and limitations?)
- What are the gaps in knowledge and unmet needs in the scientific literature about this area of research?
- Why would further study of this research question be of significance? How is further study likely to have a positive influence on the public's health?
- This section should be appropriately referenced.

Justification for Additional Research:

- State how is this research project is new. How did this project address the gaps in knowledge regarding the outcome, the exposure, the study design, etc.?
- What additional information did this study provide?

Specific Aims & Hypotheses:

- State the overall goal of the research project and the central hypothesis.
- State the Specific Aim(s) for the research project. How was the research conducted? (Use strong verbs to express your goals/aims [e.g., determine, discover, elucidate, investigate]).
- If there are multiple aims, the aims need to be attainable and independent of one another.
- State a hypothesis for each specific aim.

Approach/Methods:

- Describe the study design.
- Are ethical issues appropriately addressed? Was IRB approval obtained to conduct this research? If not, why not?
- Defining the exposure, the intervention if applicable, any other relevant variables and the outcome.
- Describe the analytic plan. What statistical methods were used to test the hypotheses (e.g., t-tests, chi-square tests, linear regression, logistic regression, etc.)?
- What potential confounders, pathway variables, etc. were considered in the analysis? How were these variables incorporated in the analysis? Were confounding/interaction/bias/design limitations accounted for?
- What, if any, potential problems were encountered and were any alternative strategies used to deal with these?
- Present sample size and power calculations for the study.

Results:

- Succinctly describe the results of the study using text, tables, and/or figures.
- Clearly reference the figures and tables when discussing them (e.g., see Table 1).
- Not all data presented in figures and tables needs to be restated in the text. Use the text to present and summarize the important findings.

Discussion:

- Summarize the overall findings
- Discuss the study findings in relation to other studies. What was found that was similar or different from previous studies.
- Describe the strengths and limitations of the study.
- Describe how the study integrated the five core public health disciplines.
- What are the overall conclusions from the study?
- Discuss future directions for research on this topic.

Keep in mind that the overall research project assessment will also be based on the following:

- Organization of material
- Logical and consistent progression of ideas
- Appropriateness of analysis
- Are confounding/interaction/bias/design limitations accounted for?
- Appropriate use of graphs/tables
- Language that is understandable, simple
- Good grammar
- Overall scientific merit