

# **DIVISION OF BIOSTATISTICS**

## **Culminating Project Guidelines for MPH Students**

In effective starting Academic Year 2008-09

### **APPLIED RESEARCH PROJECT**

Research projects will be one of two types: (1) investigation of an applied research question with a significant statistical component, or (2) evaluation of a statistical method in a new setting or comparison of a newly-proposed statistical model to a traditional method.

Potential topics must be discussed with and approved in advance by your advisor and second reader. All students are required to write a report and do a poster or oral presentation, at which they will present the culminating project. The presentation time and location will be advertised in the Division and other faculty, staff and students will be invited to attend. The advisor and second reader must receive the document at least two weeks prior to the presentation. The final document will be due to the advisor and second reader on the date all graduation materials are due in the Graduate School (will vary with each quarter).

The content of the report should include:

#### **Abstract/Executive Summary**

An abstract is a brief summary of approximately 250 words. The major components are: Purpose, Methods, Results/Outcomes, Conclusions, and Implications. An executive summary is an expanded version of the abstract and is typically one to two pages in length.

#### **Table of Contents**

The table of contents lists all the major topical areas of the document with the corresponding page numbers.

#### **Introduction/Purpose**

The introduction should state the rationale for the project and introduce the background. What is the basic research question and why is it of interest? Alternatively, what are the statistical methods being compared and why is this comparison of interest?

### **Literature Review**

A literature review is a synthesis of what researchers/scholars have written about a topic in the past. The purpose is not to list as many articles as possible, but rather to demonstrate your ability to recognize relevant information, to synthesize the information and evaluate it according to the guiding concept that you have identified for your project. The literature review should include relevant statistical methods used in the specific field of research, critiques of methods, and any gaps in the literature that you have identified.

### **Study Design**

What is the research question? What are the specific aims to be addressed by this research? What study design was used to answer the questions? Was that design sufficient? Any sample size or power consideration? What are the major threats to validity in the design? How might those threats be dealt with in follow-up studies?

### **Statistical Analysis**

What methods and models were used to collect and analyze data? What were the key variables of interest? How was the model identified? What statistical software was used to analyze the data? How the model was justified?

### **Results**

The findings should be presented in this section. Describe the results of the data analyses. All tables and figures should be referred to within the text. If a table or a figure is used from another source there needs to be a reference citation. If possible, tables and figures should be placed within the text; larger tables and figures may be included in an appendix. All tables and figures should have appropriate titles and legends.

### **Discussion**

Discussion of the findings (interpretation of the data) as they relate to the project questions, goals, and objectives should be presented in this section. Any potential drawbacks of the method should be discussed and propose future research directions should be proposed

### **References**

All literature and personal communications cited in the proposal must be listed in the reference section. References should follow a standard citation format.

### **Appendices**

Anything not included in the text of the project report that is important for the understanding of the design, implementation, or conclusions of the project should

be attached as an appendix ( e.g. tables, plots, simulation results, etc.) All appendices must be referred to within the text of the project report and must be included as part of the table of contents.