

<b>EMORY UNIVERSITY</b>
<b>2021-2022 Assessment Report for Educational Programs</b>
<b>Assessment Period Covered: September 1, 2021 – August 31, 2022</b>

<b>Program:</b> Epidemiology	<b>Date Submitted:</b> 1/6/2023
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**I. PROGRAM MISSION**

The goal of our department is to advance knowledge on the cause of disease and improve public health through research and education. Our degree programs are designed to help students achieve the knowledge, skill, and philosophy they will need to have an influential career in public health.

**II. PROGRAM CONTEXT**

The Department of Epidemiology offers MPH and MSPH degrees in Epidemiology and Global Epidemiology, with approximately 150 graduates each year. These are two-year degree programs, although a small cohort of students complete a dual degree in Epidemiology or Global Epidemiology (paired with an MD, JD, MBA, etc...), and complete their MPH coursework in one year. Students graduate with the knowledge, skills and philosophy to affect positive change in the public’s health and with the professional skills to achieve career success. Our students’ experiences extend beyond the classroom to opportunities with local, state, and federal government, non-profit organizations, academic settings and more.

**III. STUDENT LEARNING OUTCOMES<sup>1</sup>**

1. Students will be able to manage data and conduct statistical analyses to address relevant epidemiologic research questions.
2. Students will be able to interpret the results of statistical analyses and prepare a written report that describes the findings.
3. Students will be able to create a poster and orally communicate the results of epidemiologic research.

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<sup>1</sup> These are the learning outcomes assessed in this report. The competencies for MPH and MSPH degrees in Epidemiology and Global Epidemiology are all available [here](#)

#### IV. ASSESSMENT SUMMARY

##### FIRST METHOD OF ASSESSMENT FOR OUTCOME #1:

**Outcome 1:** *Students will be able to manage data and conduct statistical analyses to address relevant epidemiologic research questions.*

**Method of Assessment:**

Students enroll in Statistical Programming – a course which includes programming in both SAS and R. Students will complete a midterm and final exam assessing their ability to independently utilize statistical analysis packages to input, format, and clean data and perform basic descriptive statistical analyses.

**Achievement Target:**

100% of enrolled students will score  $\geq 80\%$  on both the midterm and final exams.

**Summary of Assessment Results:**

187 students enrolled in Fall 2021

Midterm: 179 (96%) scored  $\geq 80\%$  on midterm exam

- Average grade: 93.4%
- Median grade: 96%

Final: 186 (99%) scored  $\geq 80\%$  on final exam

- Average grade: 97.5%
- Median grade: 99%

While there will certainly be a correlation between the midterm and final exam grades and the course grades, these aren't necessarily one and the same. In addition to these assessments, students in EPI 534 complete a total of 12 homework assignments over the course of the semester, which correspond to 50% of the course grade.

**Use of Assessment Results to Improve Program:**

Overall, students performed well on the midterm and final exams during the evaluation period. The program will continue to monitor students' ability to manage data and conduct statistical analyses using this method of assessment.

Students will soon have access to a self-paced Canvas module which will afford students additional practice with data cleaning and coding.

We have also learned that a subset of our students (those completing the certificate in Infectious Disease Epidemiology) would like additional support in coding in R. In Spring 2023, we plan to take a close look at the curriculum for this certificate program and explore additional opportunities to increase students' confidence in programming in R.

## SECOND METHOD OF ASSESSMENT FOR OUTCOME #1:

**Outcome 1:** *Students will be able to manage data and conduct statistical analyses to address relevant epidemiologic research questions.*

<b>Method of Assessment:</b>
In the required department exit survey, students will rate their agreement with the statement: "I feel confident in my ability to use SAS, R, and other appropriate technologies to conduct data management and perform epidemiologic analyses."
<b>Achievement Target:</b>
85% of respondents will agree or strongly agree that they feel confident in their ability to use statistical analysis packages to manage data and complete statistical analyses.
<b>Summary of Assessment Results:</b>
The exit survey was unfortunately sent using a mailing list obtained from the Office of Career Development which only included graduates' Emory email addresses, and not their permanent addresses. The survey was sent after graduates lost access to their Emory email and we were unable to obtain this information for those who graduated in Spring 2021 (the only opportunity to collect this information for this assessment period). Permanent email addresses have not been recovered for this cohort.
<b>Use of Assessment Results to Improve Program:</b>
In future years, we will work proactively with the Office of Career Development to ensure that we have the correct mailing list before students graduate and lose access to their Emory email account.

## FIRST METHOD OF ASSESSMENT FOR OUTCOME #2:

**Outcome 2:** *Students will be able to interpret the results of statistical analyses and prepare a written report that describes the findings.*

### **Method of Assessment:**

We will use the Integrative Learning required Experience (ILE) to assess this outcome.

Students who complete a Capstone for their ILE will work to answer a research question that is of importance for a partnering public health organization. They will prepare individual executive summaries of the findings to include a background, study objective(s), research methods, results, conclusions and implications.

Students who complete a Thesis for their ILE will complete an analysis of a given research question and will prepare a monograph that situates the research in the larger body of relevant literature and describes the results of their analysis.

### **Achievement Target:**

All students who complete a Capstone will receive an individual grade of B or better on the executive summary assignment. As part of this assignment, students must develop an analysis plan to address their assigned research question.

All students who complete a Thesis will be required to submit, as part of their graduation packet, a thesis checklist signed and approved by their faculty thesis advisor. This checklist will include an item where their faculty thesis advisor affirms that they have reviewed the student's analysis and have found it to be adequate and appropriate for the given research question.

### **Summary of Assessment Results:**

#### **Capstone**

2022: The executive summary assignment was out of a total of 5 points – 32 students earned 5/5 on this assignment and 5 students earned 4/5.

#### **Thesis**

All students who complete a Thesis are required to obtain their advisor's signature to indicate that they had successfully completed this degree requirement, including the data analysis. The data analysis is a crucial component of the Thesis, and advisors work closely with their advisees to ensure that the analysis is aligned with the research question.

### **Use of Assessment Results to Improve Program:**

Throughout the program, students learn of the importance of aligning their analysis plan with their research question. Both the Capstone and Thesis provide an important opportunity for students to implement what they have learned in the classroom to address an important public health question.

## SECOND METHOD OF ASSESSMENT FOR OUTCOME #2:

**Outcome 2:** *Students will be able to interpret the results of statistical analyses and prepare a written report that describes the findings.*

### **Method of Assessment:**

In the required department exit survey, students will rate their agreement with the statements:

*"I feel well prepared to communicate my ideas orally and visually"*

*"I feel well prepared to communicate my ideas using scientific writing"*

### **Achievement Target:**

85% of respondents will agree or strongly agree with both of these statements.

### **Summary of Assessment Results:**

The exit survey was unfortunately sent using a mailing list obtained from the Office of Career Development which only included graduates' Emory email addresses, and not their permanent addresses. The survey was sent after graduates lost access to their Emory email and we were unable to obtain this information for those who graduated in Spring 2021 (the only opportunity to collect this information for this assessment period). Permanent email addresses have not been recovered for this cohort.

### **Use of Assessment Results to Improve Program:**

In future years, we will work proactively with the Office of Career Development to ensure that we have the correct mailing list before students graduate and lose access to their Emory email account.

**FIRST METHOD OF ASSESSMENT FOR OUTCOME #3:**

**Outcome 3:** *Students will be able to create a poster and orally communicate the results of epidemiologic research.*

**Method of Assessment:**

Students will be required to prepare a poster of their Applied Practice Experience or their Integrative Learning Experience to present to RSPH students, staff, and faculty. The Department of Epidemiology will design a feedback form which the student's faculty mentor/field advisor/supervisor/capstone instructor will complete. The students will incorporate this feedback into the preparation of their poster prior to printing.

**Achievement Target:**

At least 50% of students will upload at least one feedback form to Canvas with evidence that the feedback led to concrete improvements to the poster or its presentation.

**Summary of Assessment Results:**

Of the 135 students who graduated in May 2022, 103 (76%) submitted a form to Canvas that documented that they had received and incorporated feedback from their thesis advisor before their poster presentation.

**Use of Assessment Results to Improve Program:**

We found that the requirement for advisors to complete a form to demonstrate that feedback was difficult to implement. Instead of asking advisors to complete a form, we asked students to upload email documentation that showed that they had worked with their advisor to seek feedback and improve their poster. This method proved to be successful, with a 76% response rate. We will continue using this method moving forward.

To improve the mentoring and feedback that students receive, the Department of Epidemiology is preparing a mentoring guide for faculty. This guide will include items such as best practices for mentoring, distinguishing roles (faculty mentor vs. thesis advisor), providing feedback, and important components of a thesis and how they align with our learning outcomes. This guide is expected to launch in Summer 2023.

## SECOND METHOD OF ASSESSMENT FOR OUTCOME #3:

**Outcome 3:** *Students will be able to create a poster and orally communicate the results of epidemiologic research.*

<b>Method of Assessment:</b>
Students will present their posters to RSPH students, faculty, and staff. Faculty will provide in-person feedback on both the quality of the research as well as that of the presentation. Completion of the poster presentation requirement will be included in the department graduation checklist.
<b>Achievement Target:</b>
100% of students will present their research to RSPH faculty members or professionals in a relevant field. Students will be required to do so in order to graduate.
<b>Summary of Assessment Results:</b>
All graduates presented a poster during their time in the program.
<b>Use of Assessment Results to Improve Program:</b>
The Department of Epidemiology will continue to support students in learning how to seek feedback (e.g., providing drafts on a predictable schedule, allowing ample time for review and revisions, following-up as needed...). At the same time, we will continue to emphasize the importance of providing constructive feedback to students on their posters as this is an important skill that takes time and experience to refine.

**V. FACULTY INVOLVEMENT**

**Describe how your faculty members were involved in this year’s assessment procedures.**

Faculty with primary and secondary appointments in the Department of Epidemiology serve as thesis mentors, and work one-on-one with students to inform and provide feedback on their literature reviews, data analysis, and poster presentations.

Instructors of Statistical Programming and the Epidemiology Capstone worked with students in their respective classes and graded the assignments noted above to determine whether students achieved these learning outcomes.

**VI. What learning outcomes will your program assess next year?**

<p><b>Outcome 1:</b> Students will be able to manage data and conduct statistical analyses to address relevant epidemiologic research questions.</p>	
<p><b>Method:</b> Students will enroll in Statistical Programming – a course that includes programming in both SAS and R. Students will complete a midterm and final exam assessing their ability to independently utilize statistical analysis packages to input, format, and clean data and perform basic descriptive statistical analyses.</p>	<p><b>Achievement Target:</b> 100% of enrolled students will score <math>\geq 80\%</math> on both the midterm and final exams.</p>
<p><b>Method:</b> In the required department exit survey, students will rate their agreement with the statement: “I feel confident in my ability to use SAS, R, and other appropriate technologies to conduct data management and perform epidemiologic analyses”.</p>	<p><b>Achievement Target:</b> 85% of respondents will agree or strongly agree that they feel confident in their ability to use statistical analysis packages to manage data and complete statistical analyses.</p>



<p><b>Outcome 2:</b> Students will be able to interpret the results of statistical analyses and prepare a written report that describes the findings.</p>	
<p><b>Method:</b> We will use the Integrative Learning required Experience (ILE) to assess this outcome.</p> <p>Students who complete a Capstone for their ILE will work to answer a research question that is of importance for a partnering public health organization. They will prepare individual executive summaries of the findings to include a background, study objective(s), research methods, results, conclusions and implications.</p> <p>Students who complete a Thesis for their ILE will complete an analysis of a given research question and will prepare a monograph that situates the research in the larger body of relevant literature and describes the results of their analysis.</p>	<p><b>Achievement Target:</b> All students who complete a Capstone will receive an individual grade of B or better on the executive summary assignment. As part of this assignment, students must develop an analysis plan to address their assigned research question.</p> <p>All students who complete a Thesis will be required to submit, as part of their graduation packet, a thesis checklist that will include an item affirming that they have reviewed the analysis with their advisor, who found it to be adequate and appropriate for the given research question.</p>
<p><b>Method:</b> In the required department exit survey, students will rate their agreement with the statements:</p> <p><i>“I feel well prepared to communicate my ideas orally and visually”</i></p> <p><i>“I feel well prepared to communicate my ideas using scientific writing”</i></p>	<p><b>Achievement Target:</b> 85% of respondents will agree or strongly agree with both of these statements.</p>

<p><b>Outcome 3:</b> Students will be able to create a poster and orally communicate the results of epidemiologic research.</p>	
<p><b>Method:</b> Students will be required to prepare a poster of their Applied Practice Experience or their Integrative Learning Experience to present to RSPH students, staff, and faculty. The Department of Epidemiology will emphasize the importance of obtaining feedback prior to the poster presentation, with the goal of improving the work. Students will be asked to provide documentation that demonstrates that they received feedback from their advisor, which was then implemented to improve the poster (e.g., first and final drafts of the poster, email documenting suggestions for improvement...)</p>	<p><b>Achievement Target:</b> At least 50% of students will upload at least one document to Canvas providing evidence that they sought feedback from their advisor, which led to concrete improvements to the poster or its presentation.</p>
<p><b>Method:</b> Students will present their posters to RSPH students, faculty, and staff. Faculty will provide in-person feedback on both the quality of the research as well as that of the presentation. Completion of the poster presentation requirement will be included in the department graduation checklist.</p>	<p><b>Achievement Target:</b> 100% of students will present their research to RSPH faculty members or professionals in a relevant field. Students will be required to do so in order to graduate.</p>

**VII. SUPPORTING DOCUMENTATION**

Please remember to attach supporting documentation such as rubrics, sample assignments, test results, surveys, questionnaires, tables, and charts. If you have questions about what should or should not be included with the report, please contact Andrea Barra ([andrea.barra@emory.edu](mailto:andrea.barra@emory.edu)) in the Office of Planning and Budgeting.

**VIII. REVIEW PROCESS**

Please forward your 2021-2022 assessment report to the chair of your department for review and signature. This review will ensure that the information included in this report is accurate and that your program is engaged in a systematic process of continuous improvement.



January 6, 2023

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Department Chair

Date

**IX. SUBMISSION OF REPORTS**

Please submit reports to Andrea Barra, Associate Director of Assessment via Microsoft Form link <https://forms.office.com/r/RALCaaB4iH> by December 31, 2022.