

Program-Level Assessment: Annual Report

Program Name (no acronyms): Master of Public Health (MPH) Program	Department: Behavioral Sciences & Health Equity and Epidemiology & Biostatistics (offering concentrations in Behavioral Health & Health Equity; Biosecurity & Disaster Preparedness; Biostatistics; Epidemiology; Global Health; Maternal & Child Health
Degree or Certificate Level:	College/School: College for Public Health and Social Justice
Date (Month/Year): June 2022	Assessment Contact: Jen Jen Chang, PhD, MPH Program Director and Professor of Epidemiology
In what year was the data upon which this report is based collected? AY2022-2023	
In what year was the program's assessment plan most recently reviewed/updated? 2022	
Is this program accredited by an external program/disciplinary/specialized accrediting organization? Yes, by the Council on Education for Public Health (CEPH)	

1. Student Learning Outcomes

Which of the program's student learning outcomes were assessed in this annual assessment cycle? (Please list the full, complete learning outcome statements and not just numbers, e.g., Outcomes 1 and 2.)

For CEPH accreditation, MPH students must demonstrate 22 competencies, grouped into 8 domains, in their MPH training, regardless of concentration. In AY 2022-2023, our MPH program went through CEPH Accreditation process and had a site visit in April 2023. While the accreditation process was largely successful, it helped us identify certain areas for improvement in our MPH program curriculum, particularly in areas related to the Policy in Public Health domain competencies. As such, we decided to focus our AY 2022-2023 MPH program assessment on the policy domain of competencies which include the following four competencies.

Policy in Public Health

FC 12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence.

FC 13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes.

FC 14. Advocate for political, social, or economic policies and programs that will improve health in diverse populations.

FC 15. Evaluate policies for their impact on public health and health equity.

2. Assessment Methods: Artifacts of Student Learning

Which artifacts of student learning were used to determine if students achieved the outcome(s)? Please describe the artifacts in detail and identify the course(s) in which they were collected. Clarify if any such courses were offered a) online, b) at the Madrid campus, or c) at any other off-campus location.

Consistent with prior years, we used both direct and indirect measures for the MPH program assessment. The direct measures include data from our integrated learning experience capstone PUBH 5960 course, internship preceptor

evaluation from the practice experience PUBH 5910 course, and public health certification exam scores. The data for the indirect measure is based on the annual MPH graduates exit survey.

DIRECT Measures:

1. Integrated learning experience capstone PUBH 5960 course. Data were abstracted from the capstone course final assignment from all course sections (1. Epidemiology (EPI) & Biostatistics (BST) concentrations, 2. Behavioral Science (BSHE)/Global Health (GLOH)/Maternal Child Health (MCH)/Public Health Practice (PHP) concentrations, and 3. online section for Biosecurity & Disaster Preparedness (BSDP) concentration). A random 10% sample was taken from the final course assignments for each course section. This results in a sample of three assignments from the EPI & BST section, three from the BSDP concentration, and three from the 3rd section of the course. These data were reviewed by the MPH program director using standardized rubrics against the learning outcomes associated with the selected domains and its associated four competencies.

2. Internship preceptor evaluations from the practice experience PUBH 5910 course. The MPH Applied Practice Experience (APEX) PUBH 5910 course allows MPH students to integrate competencies acquired through their classroom learning into a community-based public health practice/project. Upon completion of APEX, internship preceptor evaluations are required to assess the student's mastery of program learning outcomes and competencies applied to the practice experience project. Preceptor evaluations were gathered from MPH students who completed their APEX requirement during Summer 2022, Fall 2022, and Spring 2023. Students who completed an internship in Summer 2022 consisted of both 2022 and 2023 MPH graduates. A total of 75 APEX preceptor evaluation forms from student internships were abstracted for Summer 2022, Fall 2022, and Spring 2023. We evaluated all available data from the internship preceptor evaluations across all MPH concentrations specifically focusing on the competencies associated with Policy in Public Health.

3. Public Health Certification Exam Scores. Fundamental competency in the domains identified by the National Board of Public Health Examiners (NBPHE) for the CPH (CPH) exam shares similarities with CEPH in the knowledge and competency bases that guide their credential or accreditation process, despite some differences. Both cover the Policy in Public Health related competencies. Student performance outcomes in the CPH exam among our MPH graduates provide an external, nationally standardized measure of student mastery of our CEPH-accreditation-based competencies and learning outcomes. While MPH students were required to take the CPH exam in AY 2022-2023, we waived the requirement to pass the CPH exam as an MPH graduation requirement this year due to the residual impact of the COVID-19 pandemic and the disruption that it caused in these students' lives and education.

INDIRECT Measures:

MPH graduates Exit Survey. The MPH graduates Exit Survey was administered in class in April 2023, to the second-year MPH students enrolled in the PUBH 5950 course required for CPH exam review and preparation. Data from the Exit Survey provided students' self-assessment of their mastery of each of the CEPH-based MPH program competencies and learning outcomes. Data from 53 MPH students (a response rate: 78%) who completed the 2023 MPH Exit survey related to the Policy in Public Health domain were analyzed using SPSS Software for this program assessment.

Madrid student artifacts are not applicable to the MPH program, nor are any other off-campus locations.

3. Assessment Methods: Evaluation Process

What process was used to evaluate the artifacts of student learning, and by whom? Please identify the tools(s) (e.g., a rubric) used in the process and **include them in/with this report document** (please do not just refer to the assessment plan).

DIRECT Measures:

1. Integrated learning experience capstone PUBH 5960 course final assignment. The MPH program director reviewed a 10% sample of the final course assignment from all sections of the integrated learning PUBH 5960 Capstone course, using the same rubric as last year (see Appendix A for details of the rubrics), with the CEPH competencies in Policy in Public Health domain. The rubric was originally developed based on the existing MSPH program assessment. Per CEPH requirements for the integrated learning experience capstone course, students identify a small number of the core

competencies (learning outcomes) rather than all CEPH competencies to integrate with a few concentration competencies in their capstone projects.

2. Internship preceptor evaluations from the practice experience PUBH 5910 course. APEx preceptor evaluations were analyzed in Excel to assess the outcome achieved by students in each of the twenty-two core competencies as determined by the student's preceptor. APEx preceptor evaluations were collected from students who completed their internship during Summer 2022, Fall 2022, and Spring 2023. Each preceptor assessed student APEx outcomes for each of the twenty-two competencies using the following Likert scale: significant or above average competence, moderate or average competence, limited or no competence, or unable to assess. Descriptive analysis was conducted to examine data from the preceptor evaluations of MPH students APEx outcomes by mastery of each competency in the Policy in Public Health domain.

3. Certified in Public Health (CPH) exam scores Data from the CPH exam from our MPH graduates (May 2023 graduates cohort) was obtained from the NBPHE. Descriptive analysis was conducted using Excel to determine and track the average score of our MPH graduates in each of the CEPH-mandated domain areas and core competencies. This year's assessment focused on the MPH Program Learning Outcomes in the Policy in Public domain from the CPH exam results.

INDIRECT Measures:

MPH graduates exit Survey. We also conducted descriptive analysis for the MPH students Exit Survey data from students who graduated in May 2023 using SPSS. We characterize the percentage of students reporting mastery of each program learning outcome with a focus on the selected domains of Policy in Public Health, Interprofessional Practice, and System Thinking.

4. Data/Results

What were the results of the assessment of the learning outcome(s)? Please be specific. Does achievement differ by teaching modality (e.g., online vs. face-to-face) or on-ground location (e.g., STL campus, Madrid campus, other off-campus site)?

Direct Measures:

1. Integrated learning experience capstone PUBH 5960 course final assignment. We conducted assessment in a 10% random sample of our Capstone course with three assignment outputs from students in the EPI & BST concentrations, three from students in the BSHE, GLOH, MCH, and PHP concentrations, and three from online students in the BSDP concentration. No major differences were observed in the learning outcomes between the online or face-to-face instruction modalities. Appendix A shows that competencies in Policy in Public Health were inconsistently covered in student capstone projects across different MPH concentrations. Overall, student projects from the BSDP, BSHE, GLOH, MCH, and PHP concentrations are more likely to demonstrate competencies in the learning outcomes of Policy in Public Health. The capstone section student projects most lacking in these competencies relating to policy in public health were in student projects from EPI/BST concentrations. These mixed findings may be attributed to the CEPH guideline for the integrated learning experience capstone course, which integrates a few foundational competencies only with some of the concentration competencies. In the capstone course, students are mentored through a process of identifying appropriate foundational and concentration competencies for the projects they chose.

2. Internship Preceptor Evaluations from the Applied Practice Experience PUBH 5910 courses. Seventy-five preceptor evaluation forms from completed student internships were abstracted from the Summer 2022, Fall 2022, and Spring 2023 terms. Appendix B details the findings from the descriptive analysis of preceptor evaluations on the selected competencies in Policy in Public Health. For each competency, the preceptor selects from the response options "significant or above average competence," "moderate or average competence," or "unable to assess." The data show that preceptors reported only 38% of the MPH students achieve moderate/average to significant /above average competence in the competency of discussing multiple dimensions of the policy-making process whereas about 47% of the MPH students achieve moderate/average to significant /above average competence in advocating for political, social, or economic policies and programs that will improve health in diverse populations and in evaluating policies for their impact on public health and health equity. MPH students achieved the highest rating of

64% in the competency of proposing strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes for moderate/average to significant /above average competence. It is worth noting that 36% to 60% of the preceptors stated that they were unable to access the Policy in Public health related competencies in the student internship projects.

3. Certified in Public Health (CPH) exam. Our 2023 MPH May/August graduates had a 73% passing rate on the CPH exam. This passing rate is lower than that from 2021 and 2022 (83% and 82%, respectively). As previously mentioned, passing the CPH exam for the May/August MPH graduates was not required for graduation for our 2021-2023 MPH graduate cohorts. Given the residual impacts of COVID-19 pandemic and the additional stressors placed on students over the past two years, the MPH Steering Committee decided to waive the requirement to pass the exam for graduation. Before the pandemic, our CPH exam passing rate was consistently greater than 90%, which exceeded the national passing rate for the CPH exam. Data from the CPH exam for our May/August 2023 MPH cohort shows the following results pertaining to the selected competencies. The average institutional score in the *Policy in Public Health* domain was slightly lower this year (10.6 out of 17) compared to the average score for the domain in 2021 (10.7). There seems to be a declining trend in the institutional score in the policy in public health domain since 2021, based on the CPH exam data. However, due to the relatively small sample sizes, it is unclear if the observed differences in the CPH exam average test score trend in the policy in public health domain are statistically significant.

INDIRECT Measures:

MPH graduates Exit Survey. Of the 53 MPH students (a response rate of 78%) who completed the self-assessment of their learning outcomes in the 2023 MPH Exit survey, *60% to 67% of the students rated themselves as proficient, above average, or very proficient in the learning outcomes under the Policy in Public Health category, which decreased from 75% to 80% in these same learning outcomes in 2022 and from 88% to 100% in 2021 (Appendix D).* Due to the relatively small sample sizes, it is unclear if the observed differences in the exit survey results from 2021, 2022, and 2023 are statistically significant.

5. Findings: Interpretations & Conclusions

What have you learned from these results? What does the data tell you?

Overall, data from the direct and indirect measures seem to support recommendations made by CEPH that there is a need for the MPH program to help students strengthen their competencies in Policy in Public Health domain.

Based on the direct measure data from the capstone course assignments and internship preceptor final evaluation, the MPH students are least likely to demonstrate a significant level of competency in discussing multiple dimensions of the policy-making process, followed by competency in advocating for political, social, or economic policies and programs that will improve health in diverse populations. However, data from the capstone course projects and internship preceptor evaluation needs to be interpreted with caution, given the limitations noted earlier. Regarding the CPH exam data, *Policy in Public Health* is the lowest-scoring domain based on data from the past few years (Appendix C). The indirect measure data from the self-reported MPH exit survey by students seems to support the less-than-ideal proficiency in the Policy in Public Health competencies, as 32% to 40% of the MPH students reported having only somewhat proficiency or not at all proficient in this domain of competency.

Two faculty from Health Management and Policy are teaching the PUB 5050 health policy course for the MPH program for the first time in AY 2023-2024. They will review course syllabi and course contents from all sections of the course for quality and consistency. We hope this will help bring to light where further revisions can be made in the course contents of the PUBH 5050 policy class to further strengthen students' competency in policy in public health. The MPH program will also review other courses required by the MPH degree for opportunities to help students gain additional training on policy-related materials, in addition to course contents from the PUBH 5050 policy course. The MPH program is also revising the curriculum roadmap for the MPH Public Health Practice degree and placing more emphasis on policy-related courses in the curriculum. For the MPH capstone courses, we plan to offer all sections of the capstone integrated learning course by the same faculty, which could provide students in MPH EPI/BST concentrations with more opportunities to strengthen policy-related competencies in the course assignments. Other measures to improve learning outcomes in the policy domain include having a concise definition

of policy in public health for the internship preceptor evaluation form for MPH students to collect better data that reflects on the students' competencies..

6. Closing the Loop: Dissemination and Use of Current Assessment Findings

- A. When and how did your program faculty share and discuss these results and findings from this cycle of assessment?

Results from the annual program assessment are shared with the MPH Steering Committee, consisting of faculty representatives from all concentrations in the MPH program.

- B. How specifically have you decided to use these findings to improve teaching and learning in your program? For example, perhaps you've initiated one or more of the following:

Changes to the Curriculum or Pedagogies

- Course content
- Teaching techniques
- Improvements in technology
- Prerequisites
- Course sequence
- New courses
- Deletion of courses
- Changes in frequency or scheduling of course offerings

Changes to the Assessment Plan

- Student learning outcomes
- Artifacts of student learning
- Evaluation process
- Evaluation tools (e.g., rubrics)
- Data collection methods
- Frequency of data collection

Please describe the actions you are taking as a result of these findings.

An MPH curriculum innovation task force was formed to strengthen our MPH curriculum. The newly approved revised 42-credit hour MPH degree allows more flexibility in the choices of two elective courses in any given MPH concentration, which could allow MPH students to take additional policy-related elective courses. The MPH Public Health Practice degree curriculum is also significantly revised to allow additional training in topics on health policy, management, and health advocacy. In addition, all sections of the MPH integrated learning capstone course are being taught by the same instructor for AY 2023-2024, which provides an opportunity to emphasize policy-related course contents and course projects for all MPH students. In addition to strengthening the course contents of the PUBH 5050 health policy course, the MPH program will also review other required MPH courses to seek opportunities to further strengthen competencies in policy in public health.

If no changes are being made, please explain why.

NA

7. Closing the Loop: Review of Previous Assessment Findings and Changes

- A. What is at least one change your program has implemented in recent years as a result of assessment data?

An MPH curriculum innovation task force was formed to strengthen our MPH curriculum. The newly approved revised 42-credit hour MPH degree allows more flexibility in the choices of two elective courses in any given MPH concentration, which could allow MPH students to take additional policy-related elective courses. The MPH Public Health Practice degree curriculum is also significantly revised to allow additional training in topics on health policy, management, and health advocacy. In addition, all sections of the MPH integrated learning capstone course are being taught by the same instructor for AY 2023-2024, which provides an opportunity to emphasize policy-related course contents and course projects for all MPH students. And lastly, two faculty from Health Management and Policy are teaching the PUB 5050 health policy course for the MPH program for the first time in AY 2023-2024. They will review course syllabi and course contents from all sections of the course for quality and consistency. We hope this will help bring to light where further revisions can be made in the course contents of the PUBH 5050 policy class to further strengthen students' competency in policy in public health.

B. How has this change/have these changes been assessed?

We have not assessed the outcome of this change the revision in the MPH curriculum was just approved by GAAC in November 2023.

C. What were the findings of the assessment?

NA

D. How do you plan to (continue to) use this information moving forward?

NA

IMPORTANT: Please submit any assessment tools (e.g., artifact prompts, rubrics) with this report as separate attachments or copied and pasted into this Word document. Please do not just refer to the assessment plan; the report should serve as a stand-alone document.

**Appendix A;
Assessment Rubric for MPH Capstones (Biosecurity & Disaster Preparedness, SP23, n=3)**

Learning Outcomes (LO)	LO Assessed by this Capstone (Yes/No)	Capstone Demonstrates Achievement of Competency (Closed Points of Dispensing staffing)	Capstone Demonstrates Achievement of Competency (Managing Surplus COVID-19 Sanitizers)	Capstone Demonstrates Achievement of Competency (Combating Mosquito-borne Diseases During Hurricane Season)	Overall
Policy in Public Health					
1. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence.	No	No	Yes	Somewhat	This competency is addressed to some extent in two of the three sampled BSDP projects.
2. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes.	No	Yes	Yes	Yes	This competency is addressed at three of the sampled BSDP projects.
3. Advocate for political, social, or economic policies and programs that will improve health in diverse populations.	No	Yes	Yes	Yes	This competency is addressed in all three of the sampled BSDP projects.

**Appendix A;
Assessment Rubric for MPH Capstones (BSHE, GLOH, HMP, MCH, PFP, SP23, n=3)**

Learning Outcomes (LO)	LO Assessed by this Capstone (Yes/No)	Capstone Demonstrates Achievement of Competency (Medically-tailored meal programs for chronic conditions)	Capstone Demonstrates Achievement of Competency (Myths Behind Restraint and Seclusion)	Capstone Demonstrates Achievement of Competency (the Potential of Self-Driving Shuttles)	Overall
1. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence.	No	Yes	Yes	No	This competency is largely addressed.
2. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes.	No	Yes	Yes	Yes	This competency is mostly addressed.
3. Advocate for political, social, or economic policies and programs that will improve health in diverse populations.	No	Yes	Yes	Yes	This competency is largely addressed.
4. Evaluate policies for their impact on public health and health equity.	No	Yes	Yes	Yes	This competency is largely addressed.

**Appendix A;
Assessment Rubric for MPH Capstones (Epidemiology/Biostatistics, SP23, n=3)**

Learning Outcomes (LO)	LO Assessed by this Capstone (Yes/No)	Capstone Demonstrates Achievement of Competency (Stressful Life Events and Preterm Birth)	Capstone Demonstrates Achievement of Competency (Impact of COVID-19 on Attainment of Critical-level Care)	Capstone Demonstrates Achievement of Competency (Financial Access Moderating the Relationship between Divorce and Physical Health)	Overall
Policy in Public Health					
1. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence.	No	No	No	No	For the most part, the sample EPI& BST projects lack consideration on any of the competencies relating to the policy in public health
2. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes.	No	Yes	No	No	
3. Advocate for political, social, or economic policies and programs that will improve health in diverse populations.	No	No	No	No	
4. Evaluate policies for their impact on public health and health equity.	No	No	No	No	

Appendix B. Descriptive Analysis Results of Internship Preceptor Evaluations of MPH Students' Selected Competencies (n=75, Summer 2022- Spring 2023)

	Significant or above competence		Moderate or average competence		Limited or no competence		Unable to assess		Total
	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	
POLICY IN PUBLIC HEALTH									
MPH 12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence.	29%	22	9%	7	1%	1	60%	45	75
MPH 13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes.	40%	30	24%	18	0%	0	36%	27	75
MPH 14. Advocate for political, social or economic policies and programs that will improve health in diverse populations.	35%	26	12%	9	0%	0	53%	40	75
MPH 15. Evaluate policies for their impact on public health and health equity.	37%	28	11%	8	3%	2	49%	37	75

Appendix C. Certified in Public Health (CPH) Exam Average Scores by Domain, 2019-2023

Table 1. CPH Exam Average Institutional Scores by Domain Area

Domain Area	Number of Domain Items	2023 Average Score	2022 Average Score	2021 Average Score*	2019 Average Score
Collaboration and Partnership	18	13.2	13.4	14.1	13.6
Communication	18	13.6	13.7	13.9	13.8
Evidence-Based Approaches to Public Health	18	12	12.6	12.6	13.7
Health Equity and Social Justice	17	11.4	11.8	12.4	12.6
Law and Ethics	17	11.5	11.8	11.9	12.5
Leadership	17	12	13.1	12.3	11.4
Policy in Public Health**	17	10.6	10.7	11.5	11.4
Program Management	18	12.9	13.5	13.2	14.5
Program Planning and Evaluation	18	12.5	13.1	13.8	14.0
Public Health Biology and Human Disease Risk	17	11.9	12.7	11.4	13.0

*MPH students did not take the CPH exam in 2020, so average institutional scores are not available.

The domain in **bold is the focus of this year's annual program

Appendix D. MPH Exit Survey 2023

MPH Exit Survey, Self-Assessment of Competencies on Policy in Public Health domain for Spring 2023 MPH Graduates compared with data from 2021 and 2022 MPH Graduates (n = 53, April 2023)

Competencies	2023 MPH Exit Survey ¹		2022 MPH Exit Survey ²		2021 MPH Exit Survey ³	
	n	%	n	%	n	%
Policy in Public Health						
1. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence:						
Not at all Proficient	3	6.7	3	6.1	0	0
Somewhat Proficient	12	26.7	9	18.4	6	17.6
Proficient	14	31.1	15	30.6	7	20.6
Above Average Proficiency	9	20.0	11	22.4	14	41.2
Very Proficient	7	15.6	11	22.4	7	20.6
2. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes:						
Not at all Proficient	2	4.4	2	4.1	0	0
Somewhat Proficient	13	28.9	8	16.3	4	11.8
Proficient	14	31.1	17	34.7	7	20.6
Above Average Proficiency	6	13.3	11	22.4	14	41.2
Very Proficient	10	22.2	11	22.4	9	26.5
3. Advocate for political, social, or economic policies and programs that will improve health in diverse populations:						
Not at all Proficient	3	6.7	2	4.1	0	0
Somewhat Proficient	13	28.9	10	20.4	5	14.7
Proficient	12	26.7	12	24.5	6	17.6
Above Average Proficiency	9	20.0	14	28.6	12	35.3
Very Proficient	8	17.8	11	22.4	11	32.4
4. Evaluate policies for their impact on public health and health equity:						
Not at all Proficient	2	4.4	3	6.1	0	0
Somewhat Proficient	16	35.6	8	16.3	4	11.8
Proficient	14	31.1	11	22.4	5	14.7
Above Average Proficiency	4	8.9	17	34.7	13	38.2
Very Proficient	9	20.0	10	20.4	12	35.3

1. Response Rate 2023 Exit Survey: (n = 45, 85% response rate)
2. Response Rate 2022 Exit Survey: (n = 49, 82% response rate)
3. Response Rate 2021 Exit Survey: (n = 34, 75% response rate)