

## Program-Level Assessment: Annual Report

Program: BS-Public Health

Department: Undergraduate Public Health Programs

Degree or Certificate Level: BS

College/School: CPHSJ

Date (Month/Year): December 2020

Primary Assessment Contact: Lauren Arnold

In what year was the data upon which this report is based collected? 2019-2020 Academic Year

In what year was the program's assessment plan most recently reviewed/updated? 2019

### 1. Student Learning Outcomes

Which of the program's student learning outcomes were assessed in this annual assessment cycle?

This assessment cycle, the following PLOs were assessed:

**LO1:** Demonstrate foundational knowledge of public health in relation to human cultures, history, *science*, and policy.\*

**LO3:** Recognize ways to implement evidence-based approaches to public health issues in communities.

**LO4:** Communicate public health issues with an emphasis on social justice and the core disciplines of public health.

*\*Only "science" piece assessed*

In addition, PLO1 and PLO2 were assessed with graduation exit survey data:

**LO1:** Demonstrate foundational knowledge of public health in relation to human cultures, history, science, and policy.

**LO2:** Identify health characteristics, determinants, and needs across diverse populations.

### 2. Assessment Methods: Artifacts of Student Learning

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

#### Direct Assessment:

- **PLO1:** As PLO1 has multiple parts, the "science" piece was assessed using data from PUBH4100. This part of PLO1 was of interest due to past assessment data that found a weakness in this area. The course content was updated piloted in Spring 2020 to address this concern. This course is taught in St. Louis only; it was offered in-person in the first part of Spring 2020 but was moved online in March 2020 when the University closed to in-person classes.
- **PLO3 & PLO4:** A sample of Public Health Capstone portfolios (PUBH4960) were used to evaluate PLO3 and PLO4.

**Indirect assessment:** The graduation exit survey was used to assess student perceptions on PLO1-4 achievement.

### 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.

**PLO1 (PUBH4100):** Two writing assignments and an IGNITE presentation required students to demonstrate an understanding of biological concepts/ processes and relate these to the subfields of public health (e.g. epidemiology, behavioral science, etc.). The instructor included line items in the rubrics (Appendix 1) to map to PLO1. A score was reported for each student; the class average was calculated and the portion of students earning a “2” (solid understanding) was reported. The second writing assignment and IGNITE presentation were used for program assessment data.

**PLO3 & PLO4 (PUBH4960):** Capstone portfolio artifacts and reflections were used to assess LO3 and LO4 with the following rubric developed by the Program Director in conjunction with faculty who have taught the course; this rubric has been used to assess portfolios in the past:

*Reflection on PLO achievement:*

- in-depth, insightful reflection addresses all aspects of the PLO and substantially builds on discussion of artifacts with additional examples
- 2=general reflection addresses most aspects of the PLO and moderately builds on artifacts with additional examples
- 1=lacks discussion of relationship to PLO achievement; doesn’t build on artifacts with additional examples; and/or comprehensively address the PLO

*Evidence of PLO achievement in artifacts selected by the student:*

- 2=Artifacts clearly relate to the PLO and include appropriate documentation
- 1=Artifacts do not relate to the PLO and/or lack appropriate documentation

The lead course instructor (Fall 2019) reviewed portfolios, and the co-instructor (Fall 2019) reviewed this initial assessment; any discrepancies were discussed and resolved by consensus.

**Graduation Exit Survey:** The graduation exit survey asks students to rate their perceived achievement of LOs 1-4 on a scale of 1 (very uncomfortable) to 5 (very comfortable). Our goal was that 80% of students would report achievement at a level of 4.0 or higher (comfortable/very comfortable).

### 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 Assessment:**

**PLO1:** Findings from PUBH4100 indicated that 100% of students were able to correctly explain the biological processes in their second writing assignment, but only 79% were able to do so in their final IGNITE presentation. Of note, the latter was completed after the switch to online courses, so it isn’t clear if the lower percentage was due to stress of COVID and its associated classroom changes or if students truly faced challenges with the biological concepts. All students were able to connect the biology to public health on both the writing assignment and the IGNITE presentation.

**PLO3:** Based on a sample of Capstone portfolios (Fall 2019 semester) found that student reflection on PLO achievement was consistent with direct assessment of the artifacts provided. Specifically, 77.8% of students (7/9) both adequately addressed all aspects of the PLO in their reflection (average score of 2.6/3) and included artifacts that connected to the PLO (average score of 1.9/2).

**PLO4:** A review of Capstone portfolios (Fall 2019 semester) also found that student reflection on PLO achievement was consistent with direct assessment of the artifacts provided. Specifically, 77.8% of students (7/9) both adequately

addressed all aspects of the PLO in their reflection (average score of 2.5/3) and included artifacts that connected to the PLO (average score of 1.9/2).

**Graduation exit survey results:** As seen last year, upon reflecting on their BS-Public Health experience, the majority of graduating seniors who responded to the exit survey reported that they agreed/strongly agreed that they felt comfortable with achievement of all program LOs. Student rated achievement on a 5-point scale as follows: 5 = Very comfortable; 4 = Somewhat comfortable; 3 = Neither comfortable nor uncomfortable; 2 = Somewhat uncomfortable; 1 = Very uncomfortable. With a maximum score of “5”, the average score and percentage of students reporting “very comfortable” or “somewhat comfortable” for each LO is below:

- LO1 = 4.75
- LO2 = 4.75
- LO3 = 4.8
- LO4 = 4.8

All students (100%) who replied to the graduation exit survey indicated that they were “somewhat/very comfortable” with achievement of each PLO upon graduation. This met our goal of  $\geq 80\%$  at this level of achievement. This indicates that upon graduation, students perceive that they have successfully achieved the PLOs throughout their undergraduate BPSH experience, a perception that is generally consistent with the direct measures reported above.

#### 4. Findings: Interpretations & Conclusions

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

**PLO1:** Findings from the writing assignment and IGNITE presentation indicated that students are able to articulate connections between biology and public health, i.e. why it is important to understand biology as we engage in public health practice, such as disease surveillance, program planning, and policy development. Overall, students demonstrated the ability to explain biology concepts (thus demonstrating their understanding of foundational concepts), although this was weaker in the final oral presentations than in the written assignment. It is noted that the oral presentations were completed after the switch to the online class format due the pandemic, and it is unknown if that change in course modality and stress over the pandemic affected the final presentation outcomes.

**PLO3 and PLO4:** Interestingly, we learned that student perception of their PLO achievement (via reflection, and indirect measure) matched evidence of PLO achievement in artifacts they selected to illustrate that achievement (direct measure). However, only portfolios from the Fall 2019 semester were used in assessment, as there were some modifications to class in the spring semester due to the pandemic and switch to online classes; there was concern that the course modifications and stress of the pandemic could affect the quality of the portfolios that semester.

**Exit Survey:** The graduation exit survey data indicate that the overwhelming majority of students feel comfortable with achievement of all four PLOs. This is important because their level of confidence in PLO achievement will impact the way they approach work or graduate school in the field after graduation. Additionally, students are not expressing concern about “missing” aspects of the curriculum that (negatively) affect PLO achievement.

#### 5. 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?

The Undergraduate Public Health Steering Committee discussed assessment at the first meeting of the 2020-21 academic year. Although this report was not complete at that time, preliminary discussion informed selection of PLOs for assessment in the 2020-21 academic year. Like other University Assessment Reports, this report will be posted on the UGPH Googlesite, accessible by faculty and students.

**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.

The positive findings for the "science" piece of PLO1 indicate that the changes made in PUBH4100 content are moving in the right direction. As Spring 2020 was the first semester these changes were made, they will be utilized in the 2020-2021 academic year and re-assessed that year as well.

Because the COVID-19 pandemic affected our ability to collect assessment data, no actions are being taken based on the PLO3 and PLO4 findings. PLO3 and PLO4 are being re-assessed in AY 2020-2021.

If no changes are being made, please explain why.

See above re: pandemic impact and PLO3/PLO4; these two PLOs are being re-assessed in AY 2020-2021.

## 6. 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?

Past assessment found a weakness in the "science" piece of PLO1 from past assessment using Capstone portfolios. Additionally, future curricular updates to the "science" will be needed to meet our CEPH accreditation requirement that all BSPH students be introduced to a foundation in biological science; once the University Core is introduced in Fall 2022, we will no longer be able to require that students take Biology I/II as part of the core. For these reasons, the decision was made to increase the nature and rigor of basic biology content in PUBH4100-Biological Basis of Public Health.

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

These pilot changes were assessed in the current assessment year with artifacts from

**C.** What were the findings of the assessment?

See above.

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

As this year was a pilot year for the content updates in PUBH4100, the 2020-2021 assessment will again examine the "science" part of PLO1.

**IMPORTANT: Please submit any assessment tools and/or revised/updated assessment plans along with this report.**