

Health Science Students' Ability to Identify and Access Evidence-based Health Data

Health Science BS – College of Health and Human Development

Step 1: Student Learning Outcome

Identify and access evidence based information sources relevant to specific health issues.

Step 2: Methods and Measures

Direct Measure: An assignment, 495 class portfolio, in HESC 495 (Capstone Course) An assessment assignment (Direct Measure) is created and administered to HESC 495 students; an internship capstone course that all HESC majors take in their final semester at CSUF. The assessment assignment is part of the 495 class portfolio and is a graded item. The Assessment Committee approves and coordinates calibration of a rubric on a four-point scale; (1) poor, (2) fair, (3) good, and (4) excellent. The assessment committee works to score the collected assignments.

Indirect Measure: All Health Science students complete an exit survey shortly before graduation. Students are asked to rate their ability to identify and access evidenced-based health data." Specifically, "oral presentation effectiveness" will be assessed on the following scale; (0) very weak, (1) weak, (2) adequate, (3) strong, (4) very strong.

Step 3: Criteria for Success

The Public Health faculty has agreed that 70% of HESC students scoring 3 or 4 on the assessment assignment is a successful outcome.

Step 4: Results

Direct: Of the 282 students who completed the capstone assessment during spring 2018, 20% (n= 56 students) were randomly selected for evaluation.

Results indicate that 78.6% of students met this objective (scored "good" or "excellent"), which is above the 70% goal that the Department of Public Health agreed upon, indicating that this objective has been met.

This is the second time this SLO has been assessed. Students in the current cohort (2017-2018) were better able to access and identify evidenced-based health data than students in the previous cohort (2014-2015). There are, however, areas in need of improvement:

- Many students failed to incorporate all requisite data (i.e., government data; quantitative, peer-reviewed articles; qualitative, peer-reviewed articles).
- Some students' rationale was simplistic and did not reflect adequate depth.

- Some students seemed to struggle with writing/APA citation.
- In terms of self-assessment, a majority of students feel strongly that they are able to identify and access evidenced-based health data.

Indirect: The survey was administered in spring 2018 to students enrolled in HESC 495 ($n = 562$). Of these, 529 rated their ability to "Identify and Access Evidence-Based Health Data," with the majority (83.9%) responding that their skills were "strong" or "very strong."

Step 5: Improvement Actions

This is the second time that Objective 2a (Identify and access evidence-based information sources relevant to specific health issues) and Objective 2b (Analyze statistical, epidemiological and qualitative data to promote population health) have been assessed. In 2014-2015, students did not meet either objective. As a result, the Department implemented changes to improve student's mastery of these SLO's, including:

- The addition of a one-unit statistics laboratory course that teaches students how to apply basic statistical skills (HESC 349).
- An emphasis on distinguishing between different types of research in their capstone course (HESC 475), through the incorporation of a minimum number of citations from publicly-available epidemiological/surveillance data sources and a minimum number of peer-reviewed research studies.
- A greater emphasis on qualitative methods in HESC 475 (e.g., increased coursework, additional exam questions, incorporation of qualitative research into their final project).
- Student support through the HESC tutoring program, which was designed to help students struggling with HESC 349, HESC 401, and HESC 475.

These changes appear to have been effective in improving students' ability to "Identify and access evidence-based information sources relevant to specific health issues" (Objective 2a). In 2014-2015, 64.8% of students met this objective. In the current assessment (2017-2018), 78.6% of students met this objective.

These changes, however, did not lead to improvements in Objective 2b, "Analyze statistical, epidemiological and qualitative data to promote population health." In 2014-2015, 67.5% of students met this objective. In 2017-2018, 64.3% of students met this objective. Upon reviewing the comments made from the assessment team, the main reason why students did not meet this objective was due to a lack of understanding of qualitative data. Many students failed to incorporate qualitative data into their responses and when qualitative data was incorporated, there seemed to be some interpretation issues. In contrast, students seemed to have a relatively strong understanding of quantitative data. There are some potential reasons for this:

- Students are exposed to quantitative data in several HESC courses. They are not, however, exposed as frequently to qualitative data.
- Even though students learn about qualitative data in HESC 475, their projects are quantitative in nature.
- Results may speak to an imbalance in the overall curriculum and faculty who teach qualitative methods.

Other reasons for not meeting this objective include:

- Insufficient evidence supporting claims
- Lack of depth in students' responses
- Not following directions

Closing the loop

The Department will continue to implement the changes that occurred after the 2014-2015 assessment, as these changes appear to have increased student success for Objective 2a.

Additional closing-the-loop activities include the following:

- A new course has been designed, PUBH 320, which prepares students to “identify and critically evaluate the quality of health-related information sources (PUBH 320). Taking this course will increase students’ exposure to health-related research.
- In HESC 475, instructors will emphasize the importance of using reliable statistics to present the magnitude of a problem (e.g., CDC statistics versus website statistics) and discuss the difference between primary data sources and secondary data sources. To ensure students understand these differences, instructors will incorporate new exam questions, in-class activities and/or in-class discussion.
- Faculty in the Department of Public Health will spend considerable time during the spring semester discussing the future of qualitative research exposure in our program. If it is agreed upon that it is an important aspect of student training, we will incorporate points of exposure in multiple courses. If it is agreed upon that it is not an important aspect of student training, we will discuss modifying SLO 2b.