

The NAACLS Board of Directors is requesting public comment for the new proposed Public Health Microbiologist standards. All comments must be sent by email to RDeCaluwe@naaccls.org by the end of business on **December 11th, 2022**.

Proposed Standards– PHM Standards

PUBLIC HEALTH MICROBIOLOGIST (PHM)

Core Standards

I. Sponsorship

A. Sponsoring Institution

The sponsor of an educational program must be one of the following:

1. A post-secondary academic institution accredited by an institutional accrediting agency that is recognized by the U.S. Department of Education and given the authority to provide post-secondary education, which awards a minimum of a certificate at the completion of the program.
2. A hospital, medical center, or laboratory accredited by an applicable recognized agency (see Standards Compliance Guide), which awards a minimum of a certificate at the completion of the program.
3. A secondary or post-secondary institution recognized by the state in which it is located. (for Phlebotomy and Medical Laboratory Assistant programs only)
4. An institution recognized by the national government or a regional/national accrediting agency for higher education of the country in which it is located as a post-secondary academic institution with degree granting authority. (for programs outside of the United States)
5. A public health laboratory or a recognized organization/corporation of member public health laboratories not affiliated with a hospital, medical center or accredited secondary or post-secondary institution whose program and program participation is mandated by specific statutes and regulations and overseen by a regulatory agency (national, regional, or state).

B. Consortium Sponsor

A separate and distinct entity consisting of two or more members that exists for the purpose of operating an educational program. Where a consortium exists, at

least one member of the consortium must meet the requirements of a sponsoring institution specified in I.A. The creation of the consortium must be clearly documented as a formal memorandum of understanding and signed by all members. This document shall contain the following elements:

1. governance of the consortium
2. lines of authority within the consortium for the educational program
3. responsibilities of each member in the delivery of the educational program

C. Multi-location Sponsor

1. A specified campus location of an entity that controls a system of campuses, which is accredited by an institutional accrediting agency that is recognized by the U.S. Department of Education and given the authority to provide postsecondary education. The specified campus location delivers the educational program in its entirety and awards a minimum of a certificate at the completion of the program.
2. A specified location of an entity that controls a system of hospitals, medical centers, or laboratories accredited by an applicable recognized agency (see Standards Compliance Guide), which awards a minimum of a certificate at the completion of the program.

D. Responsibilities of the Sponsor

1. The sponsor has primary responsibility for:
 - a. supporting curriculum planning and course selection by program faculty and staff
 - b. appointing faculty and staff
 - c. maintaining student transcripts permanently
 - d. granting the degree and/or certificate documenting satisfactory completion of the educational program
 - e. ensuring that appropriate personal safety measures are addressed for students and faculty
 - f. ensuring that all provisions of the Standards are met
 - g. ensuring that graduates of the program have obtained or will obtain the minimum degree and/or certificate upon completion of

the program

2. The sponsor must ensure that the applied laboratory activities assigned to students are educational.
3. There must be documented ongoing communication between the sponsor and its affiliates for exchange of information and coordination of the program.
4. The sponsor must provide eligible students the opportunity to participate in applied laboratory experiences.
5. The sponsor must have a formal affiliation agreement with all other entities that are involved in the education of the students, which describes:
 - a. the relationship
 - b. the roles
 - c. the responsibilities of the sponsor and that entity.

II. Assessment and Continuous Quality Improvement

A. Systematic Assessment

There must be a documented plan for continuous and systematic assessment of the effectiveness of the program.

B. Outcome Measures

A review of the results of the following outcomes measures from the last three active years must be documented, analyzed and used in program assessment and continuous quality improvement of the program to include an annual submission to NAACLS. If outcome measure(s) does/do not meet the stated NAACLS approved benchmarks (see Standards Compliance Guide), then an analysis and action plan must be submitted to correct the deficiency (ies).

1. External certification results
2. Graduation rates
3. Placement rates (i.e., employment positions in the field of study or pursuit of further education)
4. Attrition rates
5. Other (optional): such as results of capstone projects, faculty feedback,

exit or final examinations, exit interviews with graduates, student and graduate professional leadership, impact of the program on local and regional healthcare, etc.

C. Program Assessment and Modification

The results of program outcomes measures and assessment must include findings from graduate and employer feedback and be:

1. Reflected in ongoing curriculum development, resource acquisition/allocation, and program modification.
2. Analyzed to demonstrate the effectiveness of any changes implemented.

III. Resources

A. General Resources

1. The sponsor must provide sufficient financial resources for the continued operation of the education program to meet documented goals.
2. Resources assessment of personnel and physical resources must be part of a continuous program evaluation.

B. Personnel

1. The sponsor must appoint sufficient number of personnel to achieve program outcomes.

C. Physical Resources

1. The sponsor must provide physical resources such as facilities, equipment and supplies, information resources, and instructional resources sufficient to achieve program outcomes.

IV. Students

A. Publications and Disclosures

1. The following must be defined, published, and readily available to prospective and enrolled students:
 - a. program mission statement;
 - b. program goals and graduate competencies;
 - c. programmatic accreditation status including the name, address and contact information for NAACLS;

- d. results of external certification outcomes, graduation rates outcomes, placement rates outcomes of the last three active years;
- e. list of sites providing applied laboratory experiences;
- f. admission criteria, including essentials functions, advance placement, transfer of credits and credits for experiential learning;
- g. list of course descriptions including the number of academic credit hours per course (if appropriate);
- h. names and academic rank or title of the program director and faculty;
- i. current tuition and fees including withdrawals and refund policies;
- j. policies and processes by which students may perform service work must be published
- k. policies and procedures for:
 - 1. advising and guiding students through the program while maintaining confidentiality and impartiality;
 - 2. specifically addressing when applied laboratory experience placement cannot be immediately guaranteed;
 - 3. student grievance and appeals;
 - 4. criteria for program completion including probation, suspension, and dismissal
- l. program of study calendar
- m. rules and regulations governing acceptable personal and academic conduct, including behavior expectations for applied laboratory experiences

B. Student Records

- 1. The program must maintain student records, conforming to any governmental or sponsor regulations. Record examples include admission, evaluation, counseling, advising, grades, credits, etc.
- 2. The student transcript/student record must be retained permanently by the sponsor and contain at least:

- a. legal name;
- b. grades and credits;
- c. dates of admission and completion

C. Health and Safety

1. Health

- a. The program must provide evidence that the health and safety of students, faculty, and patients during educational activities is safeguarded.

2. Safety

- a. The program must provide evidence that each student enrolled has received biohazard and safety training.

V. Operational Policies

Fair Practices

- A. Student recruitment and admission must be non-discriminatory in accordance with existing governmental regulations and those of the sponsor.
- B. Faculty recruitment and employment practices must be non-discriminatory in accordance with existing governmental regulations and those of the sponsor.
- C. The granting of the degree or certificate must not be contingent upon any type of external certification or licensure examination.
- D. A general plan must be provided, addressing temporary and permanent program closure. In the event of such closure, a detailed plan must be submitted to NAACLS within 30 days of the official announcement.
- E. Service work by students in clinical settings outside of academic hours must be noncompulsory.
- F. Students may not be substituted for regular staff during their student experiences.

VI. Administrative: Maintaining Accreditation

Program/Sponsoring Institution Responsibilities

Programs are required to comply with administrative requirements for maintaining accreditation including:

- A. Submitting required documentation by NAACLS by the established deadline. These include but are not limited to Self-Study Reports, Applications for Continuing Accreditation and required Progress Reports, Interim Report and Action Plans;
- B. Paying accreditation fees, as determined by NAACLS, by the due date;
- C. Informing NAACLS of relevant administrative and operational changes within 30 days. These include changes in program official names, physical addresses, URL or telephone numbers; status (e.g. inactivity, closure) or location, and institution name;
- D. Agreeing to a site visit date before the end of the period for which accreditation is awarded;
- E. Submitting an outcomes report on an annual basis to NAACLS addressing major changes, if any, and program assessment standards (Standard II) by the established deadline date;
- F. Verifying compliance with these Standards upon request from NAACLS, which may include submitting to an off-cycle site visit.

Unique Standards Public Health Microbiologist (PHM)

PREAMBLE

Objectives

The purpose of these Standards and the Description of the Profession is to establish, maintain, and promote standards of quality for educational programs in the clinical laboratory sciences and to provide recognition for educational programs which meet or exceed the minimum standards outlined in this document.

The Standards are to be used for the development and evaluation of medical laboratory science programs. Paper reviewers and site visit teams assist in the evaluation of the program's compliance with the Standards. Lists of accredited programs are published for the information of students, employers, and the public.

The ability to relate to people, a capacity for calm and reasoned judgment and a demonstration of commitment to the patient are essential qualities. Communications skills extend to consultative interactions with members of the healthcare team, external relations, customer service and patient education.

Public Health Microbiologists demonstrate ethical and moral attitudes and principles that are necessary for gaining and maintaining the confidence of patients, professional associates, and the community.

Description of Entry Level Competencies of the Public Health Microbiologist (PHM)

At entry level, the Public Health Microbiologist (PHM) will possess the entry level competencies to perform the full range of clinical laboratory tests in Public Health Microbiology, Molecular Diagnostics, Laboratory Management and Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms.

The Public Health Microbiologist (PHM) will have diverse responsibilities in areas of analysis and clinical decision-making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At entry level, the Public Health Microbiologist (PHM) will have the following basic knowledge and skills in:

- A. Application of safety and governmental regulations and standards as applied to Public Health Microbiology ;
- B. Principles and practices of professional conduct and the significance of continuing professional development;
- C. Communications sufficient to serve the needs of patients, the public and members of the health care team;
- D. Principles and practices of administration and supervision as applied to clinical laboratory science;
- E. Educational methodologies and terminology sufficient to train/educate users and providers of laboratory services;
- F. Principles and practices of research design, implementation, and dissemination of results.

VII. PHM Program Administration

- A. Program Director

The program must have a NAACLS approved medical laboratory professional serving as program director who meets the following qualifications and executes all required responsibilities.

- 1. Qualifications
 - a. has an earned master's or doctoral degree;
 - b. holds ASCP-BOC or ASCPⁱ-BOC generalist certification as a

Medical Laboratory Scientist/Medical Technologist.

- c. has three years of teaching experience in public health microbiology or related area
- d. has knowledge of education methods and administration as well as current NAACLS accreditation procedures and certification procedures.

2. Responsibilities

The program director must:

- a. be responsible for the organization, administration, instruction, evaluation, continuous quality improvement, curriculum planning and development, directing other program faculty/staff, and general effectiveness of the program;
- b. provide evidence that s/he participates in the budget preparation process;
- c. engage in a minimum of 36 hours of documented continuing professional development every 3 years;
- d. be responsible for maintaining NAACLS accreditation of the program;
- e. have regular and consistent contact with students, faculty and program personnel

3. Faculty Appointments

The program director must have a faculty or clinical appointment at the sponsoring institution.

B. Site Program Coordinator (required for multi-location programs only; assigned to each participating site)

1. Qualifications

The site program coordinator must:

- a. have an academic degree appropriate to the program level;
- b. hold the same level certification required of a program director;
- c. have at least one year of experience in public health microbiology

education.

2. Responsibilities

The site program coordinator, when required, is responsible for:

- a. coordinating teaching and clinical education;
- b. evaluating program effectiveness;
- c. maintaining appropriate communications with the program director.

C. Faculty

1. Didactic Instructor Appointments

The program must have qualified faculty/instructors who hold appointments within the educational program (e.g., certified professionals in their respective or related fields). The program must ensure and document ongoing professional development of the program faculty/instructors.

a. Qualifications

Faculty/instructors designated by the program must:

- i. demonstrate adequate knowledge and proficiency in their content areas;
- ii. demonstrate the ability to teach effectively at the appropriate level.

b. Responsibilities

The responsibilities of the faculty/instructors must include:

- i. participation in teaching courses;
- ii. evaluation of student achievement;
- iii. development of curriculum, policy and procedures;
- iv. assessment of program outcomes.

2. Liaison

At least one liaison, who is employed by the applied laboratory experience providing site, must be designated at each applied laboratory experience site affiliated with the program to coordinate applied

laboratory experiences for students.

a. Qualifications

The liaison must:

- i. Be a public health professional who demonstrates the ability to effectively coordinate clinical experiences of the students;
- ii. demonstrate knowledge of the program discipline;
- iii. have at least one year experience as a public health laboratory professional.

b. Responsibilities

The liaison must be responsible for:

- i. coordinating clinical instruction at the applied laboratory experience site;
- ii. maintaining effective communication with the program director or designee.

D. Advisory Committee

There must be an advisory committee composed of individuals from the community of interest (e.g., practicing professionals, academic professionals, scientific consultants, administrators, pathologists and other physicians, public member) who have knowledge of public health microbiology education.

1. Responsibilities

The advisory committee of the program shall have input into the program/curriculum to maintain current relevancy and effectiveness.

VIII. Public Health Microbiologist Curriculum Requirements

. Instructional Areas

1. Prerequisite courses in biological sciences, chemistry and mathematics that provide the foundation for course work required in the public health microbiology program.
2. The curriculum must address pre-analytical, analytical and post-analytical components of public health microbiology laboratory services. This includes principles and methodologies, performance of assays, problem-solving, troubleshooting techniques, interpretation and evaluation of laboratory procedures and results, statistical approaches to data evaluation, principles and

practices of quality assurance/quality improvement, and continuous assessment of public health microbiology services for all major areas practiced in the contemporary public health microbiology laboratory.

The program curriculum must include the following scientific content:

- a. Anaerobic Bacteriology
- b. Food and Water Bacteriology
- c. Gram Positive & Negative Bacteriology Molecular Microbiology
- d. Mycology
- e. Parasitology
- f. Mycobacteriology
- g. Serology
- h. Sexually Transmitted Infections
- i. Virology
- j. Public Health Microbiology Laboratory Operations and Management

3. Application of safety and governmental regulations and standards as applied to the public health microbiology laboratory.

4. Principles and practices of professional conduct and the significance continuing professional development.

5. Communications sufficient to serve the needs of patients, the public and members of the health care team.

6. Principles and practices of administration and supervision as applied to the Public Health Microbiology laboratory.

7. Educational methodologies and terminology sufficient to train/education users and providers of public health microbiology laboratory services.

8. Principles and practices of research design, implementation and dissemination of results.

B. Learning Experiences

1. Learning experiences (courses, practica, other required activities) must be properly sequenced and include necessary content and activities to enable students to achieve entry level competencies in each major discipline as listed in Standard VIII.A.2.
2. After demonstrating competency, students, with qualified supervision, may be permitted to perform procedures.

C. Evaluations

Evaluation systems must relate to course content and support program

competencies. If there is evidence that competencies are not adequately achieved (through feedback mechanisms as described in Standard II.B) then course objectives will be examined in detail to assure that the objectives are behavioral, include all domains and relate directly to the evaluations used.

1. These evaluation systems must be employed frequently enough to provide students and faculty with timely indications of the students' academic standing and progress.
2. The evaluation systems must serve as a reliable indicator of the effectiveness of instruction and course design.

This request for public comment has been placed in the NAACLS News and on the NAACLS website, and comments may be sent by email to RDeCaluwe@naacsls.org. Due to the informal nature of LISTSERV communications, comments or discussion posted on the CLS Educators LISTSERV will not be presented to or considered by the NAACLS Board of Directors. NAACLS must receive all comments before the end of the business day **December 11th, 2022**. The comments will then be reviewed and brought before the Board of Directors at the April 2023 Board Meeting.