

# Program Requirements for Residency Education in Preventive Medicine<sup>1</sup>

## I. Introduction

### A. Definition

Preventive Medicine is the specialty of medical practice that focuses on the health of individuals, communities, and defined populations. Its goal is to protect, promote, and maintain health and well-being and to prevent disease, disability, and death. Preventive medicine specialists have core competencies in biostatistics, epidemiology, environmental and occupational medicine, planning and evaluation of health services, management of health care organizations, research into causes of disease and injury in population groups, and the practice of prevention in clinical medicine. They apply knowledge and skills gained from the medical, social, economic, and behavioral sciences. Preventive medicine has three specialty areas with common core knowledge, skills, and competencies that emphasize different populations, environments, or practice settings: aerospace medicine, occupational medicine, and public health and general preventive medicine.

1. Aerospace medicine focuses on the health of the operating crews and passengers of air and space vehicles, together with the support personnel who are required to operate such vehicles. Segments of this population often work and live in remote, isolated, and sometimes closed environments under conditions of physical and psychological stress.
2. Occupational medicine focuses on the health of workers including the ability to perform work; the physical, chemical, biological, and social environments of the workplace; and the health outcomes of environmental exposures. Practitioners in this field diagnose, treat, and prevent morbid conditions caused by environmental exposures and stressors. They recognize that work and the environment in which work is performed can have favorable or adverse effects upon the health of workers as well as of other populations; that the nature or circumstances of work can be arranged to protect worker health; and that health and well-being at the workplace are promoted when workers' physical attributes or limitations are accommodated in job placement.
3. Public health and general preventive medicine focuses on promoting health,

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<sup>1</sup>Documentation and performance measures are included to assist program directors in the development and administration of preventive medicine residency training programs. Documentation and performance measures are not program requirements.

preventing disease, and managing the health of communities and defined populations. These practitioners combine population-based public health skills with knowledge of primary, secondary, and tertiary prevention-oriented clinical practice in a wide variety of settings.

## B. Objectives and Components of the Residency Educational Process

The objective of preventive medicine is to develop in physicians the competencies requisite to the practice of preventive medicine in the recognized specialty areas. The main components of the residency educational process are

1. definition of specific educational goals in terms of competencies, skills, and knowledge, expressed in behavioral, measurable terms;
2. assessment of the incoming resident relative to the specific educational goals;
3. design and provision of educational experiences through which specific educational goals may be achieved;
4. documentation of provision of educational experiences and the attainment of educational goals in terms of interim and overall outcome performance measures; and
5. use of periodic performance measures to determine the quality of the educational experience and the clinical competence of the individual resident, as well as the quality of the program.

## C. Duration and Scope of Education

1. An accredited residency program in preventive medicine must provide 36 months of training.
2. The educational program must include the following core components:
  - a. A 12 month clinical phase leading to the acquisition of clinical competencies as specified in III.E.
  - b. A total of 24 months in
    1. An academic phase leading to the acquisition of academic competencies as specified in III.F, and an MPH or other appropriate post-graduate degree.
    2. A minimum of 12 months in a practicum phase leading to the acquisition of core preventive medicine and specialty (i.e. aerospace, occupational, or public health) competencies as specified in III.G. through III.J.

Programs with a status of full accreditation may pursue combined training programs. Programs seeking to integrate preventive medicine training with other Accreditation Council for Graduate Medical Education (ACGME) - accredited training (combined programs) must meet all preventive medicine requirements. Programs must also meet all requirements as specified by both certifying boards of the integrated residencies.

## II. Residency Design

### A. General

#### 1. Identification of specialty area

Residency programs must identify the specialty area of preventive medicine of the residency, the period of desired length of accreditation (1, 2, or 3 years), and the planned number of residents in each year.

*Documentation Requirement:* The appropriate form must be completed and supplied in advance of a planned site visit.

*Measure:* Accurately completed form.

#### 2. Change in training period

The length of residency training for a particular resident may be extended by the program director if that resident needs additional training. If the extension is for only 6 months or less, the program director must notify the Residency Review Committee (RRC) of the extension and must describe the proposed curriculum for that resident and the measures taken to minimize the impact on other residents. Any changes in rotation schedules should be included in the notification. Approval must be obtained in advance from the RRC if the extension is greater than 6 months.

#### 3. Educational goals overview

The program must prepare a written overview statement outlining the educational goals of the program with respect to knowledge, skills, and competencies to be acquired by residents during the training period. This statement must be distributed to residents and members of the teaching staff.

*Documentation Requirement:* The written overview statement outlining the educational goals of the program with respect to knowledge, skills, and competencies of residents to be acquired during the training period must be supplied in advance of a planned site visit.

*Measure:* Overview statement covers core and appropriate specialty area goals and competencies. Content is preventive medicine. Depth and breadth are commensurate with the selected specialty area. Indicates how the knowledge, skills, and competencies are to be met.

#### 4. Program schedule

Prepare a written schedule of activities for each resident during the accredited length of the residency that demonstrates the provision of knowledge, skills, and competencies, including directly supervised clinical care, outlined in the educational goals. The residency program must specify a minimum set of competencies that each resident must acquire prior to completion of the program. This statement must be distributed to residents and members of the teaching staff.

*Documentation Requirement:* The written schedule must be submitted in advance of a planned site visit.

*Measure:* The statement provides a coherent approach to provision of an overall resident experience that will create the opportunity for the resident to acquire the knowledge, skills, and core and specialty area competencies during the accredited length of the residency.

#### 5. Resident support

Salaries and benefits of individual residents must comply with the institutional requirements for funding of residents.

#### 6. Grievance process

The program must ensure that all training sites have a grievance process that is in compliance with the Institutional Requirements (Institutional Agreements and Conditions of Resident Employment). A written statement describing the grievance process for each training site must be available for review at the time of the site visit.

*Documentation Requirement:* Appropriate policies included in institutional agreements for all training sites.

*Measure:* Policies are accurate and comply with the Institutional Requirements.

### B. Resident Qualifications

#### 1. Entering the clinical phase

Residents entering the clinical phase must meet one of the eligibility requirements as outlined in the Institutional Requirements section II.A.1. In addition, residents must have completed steps I and II of the United States Medical Licensing Examination (USMLE) or, prior to 1996, its equivalent.

## 2. Entering either the academic or practicum phases

The entering resident must have completed training in an ACGME-accredited clinical year (12 months) with a minimum of 6 months of direct patient care. Direct patient care is the provision of preventive, diagnostic, and therapeutic interventions to patients.<sup>2</sup>

## 3. Entering the practicum phase only

- a. The entering resident must have completed an ACGME-accredited clinical year and have an MPH or other appropriate postgraduate degree. The MPH or other appropriate postgraduate degree must be accredited by the Council on Education in Public Health (CEPH) or other appropriate postgraduate accrediting body.
- b. If the resident has not been awarded an MPH or other appropriate postgraduate degree, then knowledge of each of the four core subjects - biostatistics, epidemiology, environmental and occupational health, and health services organization and administration-must have been obtained through at least 40 contact hours for each course in an academic setting. The resident must complete the accredited MPH, or other appropriate postgraduate degree, prior to the end of the residency program.
- c. The entering resident must have completed training in an ACGME-accredited clinical year (12 months) with a minimum of 6 months of direct patient care. Direct patient care is the provision of preventive, diagnostic and therapeutic interventions to patients.

*Documentation Requirement.* The program must maintain and make available for site visitor inspection a file for each resident (the resident file) that contains copies of certificates and academic institution records to document the specified requirements. Copies of these documents must be submitted to the RRC on request.

Measure: Resident files contain the appropriate documentation.

## C. Program Director

### 1. Qualifications:

The entire residency program must be under the supervision of one physician, the

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<sup>2</sup>Hereinafter patient care is defined as the provision of preventive, diagnostic, and therapeutic intervention to patients.

program director, who is certified by the American Board of Preventive Medicine (ABPM) in the appropriate specialty area of preventive medicine or has suitable qualifications and experience as determined by the RRC.

The program director must have the following:

- a. Clinical, educational, and administrative experience
- b. License to practice medicine in the state where the institution that sponsors the program is located (Certain federal programs are exempted.)
- c. Appointment in good standing to the medical staff of an institution participating in the program

*Documentation Requirement:* The curriculum vitae (CV) of the program director must be submitted in advance of a site visit, when program directors change, and on the request of the RRC.

*Measure:* Documentation in the CV that the requirements are met.

## 2. Program director responsibilities

The program director is responsible for and must be able to demonstrate the provision of the following:

- a. Supervision of residents to achieve the objectives of the educational goals of the residency and educational plans of the residents.
- b. Counseling of residents in the academic phase in the selection of assignments, services, or elective courses that will assist the resident in achieving the skills and knowledge needed in the resident's practicum experiences and intended fields of practice in preventive medicine.
- c. Selection of residents for appointment to the program in accordance with institutional and departmental policies and procedures.
- d. Selection, development, and supervision of the faculty and other program personnel at each institution participating in the program.
- e. Supervision of residents for applicable patient care and practicum experiences through explicit written descriptions of supervisory lines of responsibility. Patient care responsibilities include gradual assumption of clinical responsibility under direct supervision for a variety of clinical problems and preventive encounters. Such guidelines must be communicated to all members of the program staff. Residents must be provided with prompt, reliable systems for communication and interaction with supervisory physicians.

- f. Provision of information that describes the program's accreditation status, educational objectives, and structure to each applicant, or in the event of a major change to each resident.
- g. Implementation of fair procedures, as established by the sponsoring institution, regarding academic discipline and resident complaints or grievances.
- h. Review of the interinstitutional agreements with participating institutions annually and for scheduling updates as needed to ensure currency.
- i. General administration of the program, including those activities related to the instruction, supervision, counseling, evaluation, and advancement of residents.
- j. Maintenance of records related to program accreditation.
- k. Preparation and submission of documentation required by the RRC.

*Documentation Requirement* Written plans, policies, evaluations, and other applicable program communications (eg, letters, memos).

Measure: Program files contain the required documentation.

#### D. Faculty

##### 1. Faculty qualifications and time commitment

Faculty and/or practicum supervisors must be assigned to provide the knowledge, skills, direct clinical supervision, and competencies as outlined in the educational goals of the program, and specific assignments must be indicated in each resident's educational plan. Faculty must have documented qualifications to provide the appropriate knowledge, skill, or competency to which they are assigned.

*Documentation Requirement* A matrix must be provided showing faculty assignments to provide appropriate knowledge, skills, and competencies. CVs must demonstrate appropriate qualifications.

Measure: Program files contain matrices and CVs that document faculty qualifications appropriate to provide the knowledge, skill, or competency to which they are assigned.

##### 2. Faculty responsibilities

- a. All members of the faculty must demonstrate a strong interest in the education of residents and support of the goals and objectives of the program through provision of appropriate knowledge, skills, direct clinical

supervision, or competencies. Faculty must also demonstrate a commitment to their own continuing education and participation in scholarly activities.

- b. The responsibility for establishing and maintaining an environment of inquiry and scholarship rests with the teaching staff. While not all members of a teaching staff must be investigators, the staff as a whole must demonstrate broad involvement in scholarly activity. This activity should include the following:
  1. Active participation of the teaching staff in discussions, rounds, and conferences in a manner that promotes a spirit of inquiry and scholarship. Scholarship implies an in-depth understanding of basic mechanisms of normal and abnormal states and the application of current knowledge to practice.
  2. Participation in journal clubs and research conferences.
  3. Active participation in regional or national professional and scientific societies, particularly through presentation at the organizations' meetings and publication in their journals. Participation in research, particularly in projects that are funded following peer review and/or result in publication or presentations at regional and national scientific meetings.
  4. Offering of guidance and technical support (eg, research design, statistical analysis) for residents involved in research.
  5. Provision of support for resident participation in scholarly activities.
  6. Active participation in the review of residents and of planning and review of the residency program.

*Documentation Requirement.* Minutes of planning meetings; logs of journal club, rounds, or case conference attendance; membership on thesis committees; updated CVs for faculty and staff that document continuing education, meeting attendance, and publications.

*Measure:* Program documents attesting to faculty contributions to program planning, review, and resident education.

#### E. Sponsoring Institution

The sponsoring institution must maintain office and laboratory space and access to computer facilities. A collection of basic reference texts and periodicals in preventive medicine and public health must be maintained. Residents must be provided with office facilities and support services during assigned duty hours. Funds must be provided for residents for travel to appropriate professional

meetings.

**Documentation Requirement:** Facilities and support are documented at the time of the site visit.

Measure: Facilities and support are provided.

1. For programs offering training in basic clinical competencies

The institution's Graduate Medical Education Committee (GMEC) should approve the program. In addition to the preventive medicine residency, there must be at least one ACGME-accredited residency at the same institution that provides direct patient care.

*Documentation Requirement:* The program has on file and available to the program director documentation of an ACGME-accredited residency program that provides direct patient care.

Measure: The program has on file and available to the site visitor current documentation of approval of the clinical year by the institution's GMEC.

Measure: Records documenting GMEC review and approval of clinical year.

2. For programs offering training in core preventive medicine knowledge (academic phase)

Core preventive medicine knowledge is offered through a course of study leading to the degree of Master of Public Health or other appropriate postgraduate degree. The MPH or other appropriate postgraduate degree must be accredited by the CEPH or other appropriate postgraduate accrediting body.

The sponsoring institution must provide an environment of inquiry and scholarship in which residents have structured research opportunities to participate in the development of new knowledge.

*Documentation Requirement:* Accreditation documentation. A description of the sponsoring institution must include a statement of its research activities and how participation in these is available to the resident.

Measure: Research opportunities are available to the resident. The accreditation is documented.

3. For programs offering training in competencies of preventive medicine practice (practicum phase)

a. Aerospace medicine

1. The year of acquisition of competencies in aerospace medicine practice must be accomplished in an institutional setting where operational aeromedical problems are routinely encountered and aerospace life support systems are under active study and development.
2. Laboratory facilities should be equipped to provide simulated environments in which the effects of and adaptation to extreme conditions of temperature, barometric pressure, acceleration, weightlessness, and psychological stress can be studied.

b. Occupational medicine

Acquisition of practice competencies in occupational medicine must be accomplished in institutions that provide comprehensive occupational health services to defined work groups, including regular and frequent presence in the work sites served.

c. Public health and general preventive medicine

The sponsoring institution may be an academically affiliated institution, an academically affiliated health care organization, or a government public health agency.

1. If the sponsoring institution is an academic institution or an academically affiliated health care organization, it should have resources for developing a comprehensive graduate program in preventive medicine. An affiliation must be established with a governmental public health agency to ensure appropriate public health practice and research opportunities.
2. If the sponsoring institution is a health agency, it should offer a comprehensive experience in community or public health. To ensure an appropriate didactic component, affiliations must be established with a medical school or a school of public health.

*Documentation Requirement.* Affiliation agreements are current and provided to the RRC and site visitor.

Measure: Appropriate affiliation agreements clearly documenting these requirements.

#### 4. Support departments

The support departments of the sponsoring institutions, such as medical records and the medical library, must contribute to the education of residents in accordance with the *Essentials of Accredited Residencies in Graduate Medical Education*.

*Documentation Requirement*. The site visitor report must address the availability of medical records and medical reference materials.

Measure: Medical records and medical reference materials are available to the resident and faculty.

#### 5. JCAHO accreditation

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) must accredit all participating hospitals.

*Documentation Requirement*. Programs must have on file and readily available for site visitor inspection a copy of current accreditation of all participating hospitals by JCAHO.

Measure: Required documents are current.

#### F. Facilities and General Support

The residency program and its affiliates must maintain adequate facilities, including office and laboratory space and access to computer facilities. Residents should have convenient access to the Internet and other online resources, and when available, the electronic medical information system of participating health care institutions.

A collection of basic reference texts and periodicals in preventive medicine and public health shall be maintained. Access to support services must be provided. Residents must be provided with adequate office facilities during assigned duty hours. All residents must be provided funds for travel to designated professional meetings.

*Documentation Requirement*. The program must supply in advance of a site visit a description of facilities and general support available to the resident.

Measure: The facilities and general support adequately support resident education.

## G. Library

Residents must have ready access to medical reference materials, either at the institution where the residents are located or through arrangement with convenient nearby institutions. Library services should include the electronic retrieval of information from medical databases and an on-site reference librarian. There must be access to an on-site library or to a collection of appropriate texts and journals in each institution participating in a residency program. On-site libraries and/or collections of texts and journals must be readily available during nights and weekends.

*Documentation Requirement*. A description of availability of medical reference materials to residents must be supplied prior to a site visit.

Measure: the resident has the ability to access adequate medical reference materials, eg, reference texts and journal articles.

## H. Participating Institutions and Training Sites

1. Individual phases or parts of the training program may be offered at participating institutions; the participating institutions must meet all requirements of the Institutional Requirements.

The participating institution must provide experiences through which the appropriate knowledge, skills, and competency may be acquired consistent with the overall educational objectives of the residency.

- a. A faculty or staff member at each participating institution or training site must be designated to assume responsibility for the following:
  1. The day-to-day activities of the program at that institution.
  2. Supervision of residents to achieve the objectives of the educational goals of the residency and educational plans of the residents as appropriate to the participating institution.
  3. Direct supervision of residents to ensure applicable patient care and practicum experiences through explicit written descriptions of supervisory lines of responsibility. Such guidelines must be communicated to all members of the program staff. Residents must be provided with prompt, reliable systems for communication and interaction with supervisory physicians.

- b. The responsible faculty or staff member and the residents assigned to the participating institution must coordinate all activities with the program director.
2. The reciprocal commitments of the residency program and the participating institutions must be explicit in a written agreement or contract, to include the following:
    - a. The educational objectives of the affiliation experience, and the knowledge, skills, and competency experiences to be provided.
    - b. The scope of the affiliation with placement locations noted.
    - c. The resources, including space, support services, and clinical facilities of the affiliate, that will be available to the residents.
    - d. The duties and responsibilities the residents will have in the affiliate.
    - e. The relationship that will exist between residents and staff of the residency program and the affiliate.
    - f. The supervisory relationship and identified supervisor, who shall be qualified by certification or equivalent experience in the area, as determined by the program director. There must be active participation by the residents at the affiliated site, and resident supervision on-site must be performed by a physician or appropriately qualified health professional. Supervisors must directly assess clinical development.
    - g. Procedures for academic discipline and handling of resident complaints or grievances.

*Documentation Requirement.* Copies of these written agreements or contracts must be provided to the RRC in advance of a site visit.

*Measure:* Written agreements or contracts demonstrate that each affiliated institution can provide a well-planned, relevant educational opportunity for the resident. The program director and the supervisor at the participating institution must sign these agreements.

### III. Educational Objectives

#### A. Competencies, Skills, and Knowledge

1. The program director and teaching staff must prepare a list of specific competencies, skills, and knowledge that they are prepared to deliver to residents through the training program. Competency acquisition must be evaluated through the use of clearly defined performance indicators.

- 2 Residents in the same program may be in different “tracks” that have a different method or approach to training. Programs are encouraged to seek innovative ways to deliver and fund GME; however, the entire program will be assessed by the RRC—no tracks can be accredited separately.

*Documentation Requirement.* The program must submit a cross-referenced list of specific competencies, skills, and knowledge, including faculty assignments, available through the program. Performance indicators for the assessment of competency acquisition must be specified and tracked for each resident.

*Measure:* The content is preventive medicine. Depth and breadth are adequate and commensurate with the selected specialty area. Performance indicators are specified and documented for the competencies.

#### B. Educational Courses, Rotations, and Activities

The program director and teaching staff must prepare a matrix of educational courses, rotations, supervised clinical experiences, and other educational activities available through the residency by which a resident will have the opportunity to acquire the specific competencies, skills, and knowledge. This matrix must be cross-referenced to the knowledge, skills, and competencies. Ongoing activities that provide an opportunity for group faculty-resident interaction, such as weekly didactic series, journal club, and grand rounds, are essential.

*Documentation Requirement.* A list of courses, rotations, and activities cross-referenced to the list of competencies, skills, and knowledge must demonstrate how educational objectives are met. Descriptions of each course, rotation, and activity must be submitted to the RRC prior to a site visit. The institution providing each course, rotation, or activity must be specified.

*Measure:* The cross-referenced list documents that the program provides courses, rotations, and activities corresponding to the program's knowledge, skills, and competencies list.

#### C. Incoming Resident Assessment

Each incoming resident must be assessed as to his/her knowledge, skills, and competencies in relationship to the educational goals for the residency program. This assessment may take the form of a self-assessment, an in-service exam, a structured interview, or other method that assesses knowledge, skills, and competencies. This assessment is used by the program director and faculty to

guide the development of an individualized educational plan for each resident.

*Documentation Requirement.* The program must have a written assessment (self-assessment, in-service exam, structured interview, or other method) of incoming resident skills, knowledge, and competencies in the program files.

*Measure:* The assessment is specific to the educational objectives for the residency program and must be included in the educational plan for each resident.

#### D. Educational Plan

1. The residents, in collaboration with the program director and teaching staff, must prepare a written educational plan that directs the acquisition of a core set of competencies, skills, and knowledge appropriate to the objectives of individual residents, based on the residents' assessments. The educational plan will detail the courses, rotations, and activities to which they will be assigned to achieve the designated skills, knowledge, and competencies during their residencies.

*Documentation Requirement.* The program must have a written educational plan on file for each resident prior to a site visit.

*Measure:* The educational plan documents each resident's baseline skill, knowledge, and competency inventory; the resident's individual educational objectives; and the courses, rotations, and activities schedules that will provide the opportunity for each resident to meet the educational objectives.

2. The assigned activities must be organized into a structured schedule prior to each year of residency experience. A record of courses, rotations, and activities attended must be completed at the close of each year.

Residencies that offer 2- or 3-year programs may create schedules that concurrently integrate courses, rotations, and activities that incorporate the following criteria:

- a. Adequate time is available to complete each objective.
- b. The sequential acquisition of knowledge, skills, and competencies is clinical, academic/didactic, practicum.
- c. The practicum experiences may be concurrent with academic experiences, but may not precede didactic experiences.
- d. Resident hours on duty in a clinical setting shall be scheduled and monitored to avoid excessive stress and fatigue. Residents must have a keen sense of personal responsibility for continuing patient care and must recognize that

their obligation to patients is not automatically discharged at any given hour of the day or any particular day of the week.

- e. Resident care in the clinical setting must be directly supervised.
- f. In no case should a resident go off duty until the proper care and welfare of patients have been addressed and, if applicable, until responsibilities to the community and public have been fulfilled.
- g. Duty hours and night and weekend call for residents must reflect the responsibility for patients and provide for adequate patient care.
- h. Residents must not be required regularly to perform excessively difficult or prolonged duties. When averaged over any 4-week period, residents should spend no more than 80 hours per week in all duties. Residents at all levels should, on average, have the opportunity to spend at least 1 day out of 7 free of hospital duties and should be on call no more often than every third night. There should be adequate opportunity to rest and sleep when on call for 24 hours or more. There should be adequate backup so that patient care is not jeopardized during or following assigned periods of duty. Patient care quality and education continuity must be ensured through assignment of progressive responsibility.

*Documentation Requirement.* The program must submit the educational plans for all current residents and the final completed schedules for residents who have completed the program since the prior site visit.

*Measure:* Resident schedules show progressive responsibility.

Current residents: Documents the learning goals for an individual resident in terms of competencies, knowledge, and skills. Documents creation of a schedule that includes courses, rotations, and activities conducive to the accomplishment of the learning plan.

Former residents: Documents completion of an educational program in preventive medicine.

## E. General Clinical Competencies

The acquisition of basic clinical competencies will require an ACGME-accredited clinical year (12 months) with 6 months of direct patient care. The following competencies must be obtained by all residents by the time they graduate. (These competencies may also be acquired during academic and practicum training of the residency program and should be incorporated where applicable.

1. Patient Care: Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health

problems and the promotion of health.

2. **Medical Knowledge:** Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (eg, epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.
3. **Practice Based Learning and Improvement:** Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices.
4. **Interpersonal Skills and Communication:** Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patient's families, and professional associates.
5. **Professionalism:** Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
6. **Systems-based Practice:** Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

*Documentation Requirement.* Resident schedules and incoming resident assessment.

*Measure:* Resident schedules, incoming resident assessment, and program files document rotations and activities that verify a total of 12 months of clinical experience.

#### F. Academic Competencies-Preventive Medicine Knowledge Content Areas

##### 1. Core knowledge content areas

The program must address in adequate depth and breadth the following competencies, skills, and knowledge that underlie the practice of preventive medicine:

- a. Health services administration
- b. Biostatistics
- c. Epidemiology

- d. Clinical preventive medicine
- e. Behavioral aspects of health
- f. Environmental health

## 2. Aerospace medicine knowledge content areas

- a. History of aerospace medicine
- b. The flight environment
- c. Clinical aerospace medicine
- d. Operational aerospace medicine
- e. Management and administration

## 3. Occupational medicine knowledge content areas

- a. Disability management and work fitness
- b. Workplace health and surveillance
- c. Hazard recognition, evaluation, and control
- d. Clinical occupational medicine
- e. Regulations and government agencies
- f. Environmental health and risk assessment
- g. Health promotion and clinical prevention
- h. Management and administration
- i. Toxicology

## 4. Public health and general preventive medicine

The knowledge content areas for public health and general preventive medicine, while similar to those of the core content areas, emphasize more in-depth knowledge in each area.

- a. Health services administration, public health practice, and managerial medicine
- b. Environmental health
- c. Biostatistics
- d. Epidemiology
- e. Clinical preventive medicine

*Documentation Requirement:* Resident schedules, resident academic records, rotation and course descriptions, academic transcripts.

*Measure:* The academic courses cover the knowledge areas listed above.

## G. Preventive Medicine Competencies

The attainment of advanced preventive medicine practice competencies requires a sequence of continued learning and supervised application of the knowledge, skills, and attitudes of preventive medicine in the specialty area. The resident must assume progressive responsibility for patients and/or the clinical and administrative management of populations or communities during the course of training.

The resident shall acquire the following core preventive medicine competencies:

1. Communication, program, and needs assessment
  - a. Communicate clearly to multiple professional and lay target groups, in both written and oral presentations, the level of risk from hazards and the rationale for interventions
  - b. Conduct program and needs assessments and prioritize activities using objective, measurable criteria such as epidemiological impact and cost-effectiveness
2. Computer applications relevant to preventive medicine

Residents shall be able to use computers for word processing, reference retrieval, statistical analysis, graphic display, database management, and communication.

3. Interpretation of relevant laws and regulations

Residents shall be able to identify and review relevant laws and regulations germane to the resident's specialty area and assignments.

4. Identification of ethical, social, and cultural issues relating to public health and preventive medicine contexts

Residents shall be able to recognize ethical, cultural, and social issues related to a particular issue and develop interventions and programs that acknowledge and appropriately address the issues.

5. Identification of organizational and decision-making processes

Residents shall be able to identify organizational decision-making structures, stakeholders, style, and processes.

6. Identification and coordination of resources to improve the community's health

Residents shall be able to assess program and community resources, develop a plan for appropriate resources, and integrate resources for program implementation.

7. Epidemiology and biostatistics, including the ability to

- a. characterize the health of a community,
- b. design and conduct an epidemiological study,
- c. design and operate a surveillance system,
- d. select and conduct appropriate statistical analyses,
- e. design and conduct an outbreak or cluster investigation, and
- f. translate epidemiological findings into a recommendation for a specific intervention.

8. Management and administration, including the ability to

- a. assess data and formulate policy for a given health issue,
- b. develop and implement a plan to address a specific health problem,
- c. conduct an evaluation or quality assessment based on process and outcome performance measures, and
- d. manage the human and financial resources for the operation of a program or project.

9. Clinical preventive medicine, including the ability to

- a. develop, deliver, and implement, under supervision, appropriate clinical services for both individuals and populations and
- b. evaluate the effectiveness of clinical services for both individuals and populations.

10. Occupational and environmental health, including opportunities for residents to

be able to assess and respond to individual and population risks for occupational and environmental disorders

*Documentation Requirement:* Resident schedules, rotation descriptions, interinstitutional agreements.

*Measure:* Adequate depth and breadth is provided.

## H. Aerospace Medicine Competencies

Specialty training for the physician in aerospace medicine must provide for the attainment of competencies relevant to the diagnosis, prevention, and treatment of disorders associated with the unique aerospace environments and with the adaptive systems designed to enhance performance and support life under such conditions.

### 1. Manage the health status of individuals working in all aspects of the aerospace environment

- a. Adequate supervised time in direct clinical care of aerospace medical problems must be provided to assure competency in managing aerospace and general medical problems in aerospace personnel.
- b. The resident is expected to develop and apply medical standards and grant exceptions and to facilitate prevention, early diagnosis, and treatment of health hazards.
- c. *For programs with a training track in space medicine:* The resident is expected to perform all activities of a crew surgeon for a space flight, develop and apply medical care standards and programs, evaluate the physiologic effects of spaceflight on crewmembers, and conduct and evaluate longitudinal studies on astronauts.

### 2. Promote aerospace passenger health, safety, and comfort

The resident is expected to acquire skills to educate passengers and physicians about the hazards of flight with certain medical conditions and to serve as passenger advocates to promote flight safety.

### 3. Facilitate optimum care of patients transported in the aerospace environment

The resident is expected to identify appropriate patients for aeromedical transport and to provide guidance for safe aeromedical transport of patients with common medical problems.

4. Apply human factors/ergonomic concepts to the aerospace environment

The resident will acquire skills to advise in the development of air and space flight equipment, biomedical equipment, and vehicles for flight and space flight; techniques for enhancing performance; and techniques of crew resource management

5. Promote aerospace operational safety and mishap prevention

The resident will acquire skills to provide appropriate safety information and education and to conduct the medical aspects of any mishap investigation, including recommendations to prevent recurrences.

6. Interpret, integrate, and/or perform aeromedical research

The resident will acquire skills to effectively conduct aeromedical research into health, safety, human factors, and biomedical engineering aspects of the flight environment.

*Documentation Requirement.* Resident schedules, rotation descriptions, interinstitutional agreements.

*Measure:* Adequate depth and breadth is provided.

I. Occupational Medicine Competencies

Residents must be able to perform the following tasks.

1. Manage the health status of individuals who work in diverse work settings
  - a. Adequate supervised time in direct clinical care of workers, from numerous employers and employed in more than one work setting, must be provided to ensure competency in mitigating and managing medical problems of workers.
  - b. Residents must be able to assess safe/unsafe work practices and to safeguard employees and others, based on clinic and worksite experience.
2. Monitor/survey workforces and interpret monitoring/surveillance data for prevention of disease in workplaces and to enhance the health and productivity of workers

Active participation in several surveillance or monitoring programs, for different types of workforces, is required to learn principles of administration and maintenance of practical workforce and environmental public health programs. Residents must plan at least one such program.

3. Manage worker insurance documentation and paperwork, for work-related injuries that may arise in numerous work settings

Residents should first learn worker insurance competencies under direct supervision of faculty and demonstrate competency to “open,” direct, and “close” injury/illness cases.

4. Recognize outbreak events of public health significance, as they appear in clinical or consultation settings
  - a. Residents should understand the concept of sentinel events, and know how to assemble/work with a team of fellow professionals who can evaluate and identify worksite public health causes of injury and illness.
  - b. Residents must be able to recognize and evaluate potentially hazardous workplace and environmental conditions, and recommend controls or programs to reduce exposures, and to enhance the health and productivity of workers.
  - c. Reliance on toxicologic and risk assessment principles in the evaluation of hazards must be demonstrated.
5. Report outcome findings of clinical and surveillance evaluations to affected workers as ethically required; advise management concerning summary (rather than individual) results or trends of public health significance

*Documentation Requirement:* Resident schedules, rotation descriptions, interinstitutional agreements.

*Measure:* Competencies, skills and knowledge relevant to preventive intervention in the workplace are addressed in workplace settings. The resident has the opportunity to demonstrate constructive participation in comprehensive programs to prevent occupational injury and illness and maintain worker health. Clinic settings demonstrate bridging from clinical activities to effective preventive intervention in the workplace.

## J. Public Health and General Preventive Medicine Competencies

Residents in public health and general preventive medicine must attain competencies in public health, clinical preventive medicine (as appropriate to the specific program), epidemiology, health administration, and managerial medicine.

### 1. Public health practice

At least 1 month must be spent in a rotation at a governmental public health agency and must include participation in at least one of the following essential public health services:

- a. Monitoring health status to identify community health problems
- b. Diagnosing and investigating health problems and health hazards in the community
- c. Informing and educating populations about health issues
- d. Mobilizing community partnerships to identify and solve health problems
- e. Developing policies and plans to support individual and community health efforts
- f. Enforcing laws and regulations that protect health and ensure safety
- g. Linking people to needed personal health services and ensuring the provision of health care when otherwise unavailable
- h. Ensuring a competent public health and personal health care workforce
- i. Evaluating the effectiveness, accessibility, and quality of personal and population-based health services
- j. Conducting research for innovative solutions to health problems

### 2. Clinical preventive medicine

- a. Residents shall acquire an understanding of primary, secondary, and tertiary preventive approaches to individual and population-based disease prevention and health promotion.
- b. Residents shall be able to develop, implement, and evaluate the effectiveness of appropriate clinical preventive services for both individuals and populations.

### 3. Epidemiology

Residents shall design and conduct health and clinical outcomes studies.

### 4. Health administration

- a. Residents shall design and use management information systems.

- b. Residents shall plan, manage, and evaluate health services to improve the health of a defined population using quality improvement and assurance systems.

*Documentation Requirement:* Resident schedules, rotation descriptions, interinstitutional agreements.

*Measure:* The resident demonstrates competency in public health agency administration and public health program planning and implementation, as well as managerial medicine competencies.

#### IV. Evaluations

The program director and faculty must annually evaluate the utilization of the resources available to the program, the contribution of each institution participating in the program, the financial and administrative support of the program, the volume and variety of patients available to the program for educational purposes, the performance of members of the faculty, and the quality of supervision of residents.

##### A. Courses, Rotations, and Activities

1. Written method of evaluation. The program will evaluate in writing the provision of and individual resident participation in assigned courses, rotations, and activities. The method will evaluate achievement of competency, skill, and knowledge objectives from the perspectives of both the resident and the faculty.

*Documentation Requirement:* The program will submit a written description prior to the site visit of the method by which the program director and the resident will document resident participation in assigned courses, rotations, and activities as well as acquisition of skills and knowledge and demonstration of competencies.

*Measure:* Evaluation method provides for documentation by the supervisor and the resident of resident participation in learning experiences, the skills and knowledge acquired, and the competencies demonstrated.

2. Faculty and residents will use the evaluation method to evaluate the courses, rotations, and activities of each resident on at least a semiannual basis.

*Documentation Requirement:* The program will maintain and make readily available to site visitors copies of evaluations by both the residents and the faculty of courses, rotations, and activities for the prior 5 years. Evaluation of residents in the academic phase will be the responsibility of the sponsoring institution and will include a transcript or equivalent document provided to each resident. The

evaluations for each resident must be available for review by the individual resident.

Measure: Documents for each resident for each experience that learning opportunities were provided, skills and knowledge were acquired, and competencies were demonstrated.

## B. Summary Resident Evaluation

The program director, with participation of the faculty, shall evaluate resident progress toward educational goals in writing at least semiannually. Where progress toward educational goals deviates significantly from the educational plan, counseling or corrective actions must be documented.

Fair procedures, as established by the sponsoring institution, and in compliance with the ACGME Institutional Requirements regarding academic discipline and resident complaints or grievances, must be implemented.

Faculty should monitor resident stress, including mental or emotional conditions inhibiting performance or learning and drug- or alcohol-related dysfunction. Program directors and teaching staff should be sensitive to the need for timely provision of confidential counseling and psychological support services to residents. Training situations that consistently produce undesirable stress on residents must be evaluated and modified.

The evaluations must be reviewed with the resident formally and in a timely manner. Where appropriate, interim evaluation is encouraged.

*Documentation Requirement*. These evaluations must be on file for the prior 5 years and readily available to the site visitor.

Measure: Documents that the resident has been supplied feedback on progress against plan on acquisition of knowledge, skills, and demonstration of competencies. Final evaluation documents completion of learning plan.

## C. Program Evaluation

### 1. Residents

Residents shall annually provide a confidential written evaluation of the educational program based on completion of a written questionnaire. This evaluation shall be provided to the program director. An additional confidential evaluation shall be provided to the chair of the residency advisory committee (RAC).

*Documentation Requirement.* Confidential written evaluations by each resident of the program must be maintained on file for the prior 5 years, be noted in the RAC minutes, and be readily available to the site visitor.

*Measure:* Documents that each resident has provided annual feedback to the program on the program structure, factors considered conducive to acquisition of skills and knowledge and demonstration of competencies, activities planned but not provided, and suggestions for program enhancement.

## 2. Faculty-Residency Advisory Committee

The RAC shall consist of faculty, external members, practicum supervisors, and at least one resident representative. A majority of the members must have their primary affiliation outside the sponsoring institution. Members must be certified in preventive medicine or knowledgeable about specialty training in preventive medicine. The RAC chair must be a physician. The program director must serve in an ex-officio capacity.

The RAC must meet at least semiannually.

The mission of the RAC is to promote a residency training experience that is aligned with preventive medicine practice. The RAC, as an external body, complements the graduate medical education committee (GMEC), which serves to evaluate and support the residency from within the sponsoring institution.

The functions of the RAC are to advise and assist the program director to

- a. develop and update a written residency mission statement that describes goals and objectives;
- b. develop educational experiences and practicum rotations;
- c. provide new or emerging knowledge, skills, or competencies that may influence the content or conduct of preventive medicine education;
- d. review the GMEC review of the residency program;
- e. review confidential and written resident evaluations of the program and make recommendations for changes;
- f. review the program director evaluation of individual residents; and
- g. provide an annual report to the institution through the chair of the committee.

*Documentation Requirement.* Minutes document the functions of the RAC.

*Measure:* Minutes are available in the program files that document the activity of the RAC and faculty/member participation.

#### D. Resident Progression and Program Completion

The program director and faculty must document completion of courses, rotations, and activities and must certify that residents completing the program have fulfilled all established requirements of their educational plan. This final evaluation must be part of the resident's permanent record and must be maintained by the institution.

Although a person may have entered a practicum phase with an incomplete academic phase, that person may not be certified as having completed the practicum phase in the absence of a transcript certifying that all the requirements for the Master of Public Health or other appropriate postgraduate degree have been completed.

*Documentation Requirement:* This documentation must be readily available for site visitor review.

*Measure:* Documents status in and/or completion of the educational plan by each resident. Documents that a resident completing the practicum has achieved the planned competencies.

#### E. Resident Summary

The residency must maintain a database of all residents participating in the program and their professional status for 5 years.

1. The program must monitor the percentage of entering residents who take the certifying examination of the American Board of Preventive Medicine (ABPM). A minimum of 50% of entering residents must take the certifying exam averaged over any 5-year period.
2. Of those residents taking the certifying examination, a minimum of 50% must pass the certifying examination averaged over any 5-year period.

*Documentation Requirement:* Prior to the site visit the program must provide documentation of the residents participating in the program, their professional status, the percentage taking the certifying examination, and the percentage passing the certifying examination.

*Measure:* 50% of entering residents must take the certifying examination of the ABPM, and of those taking the examination, 50% must pass.

#### F. Institutional Report of Program Director

The program director and the chair of the RAC must provide to the director of graduate medical education, or equivalent, at the institution an annual written report of the residency quality. The program director and the chair of the RAC must provide a written plan of corrective actions for any recommendations received from the director of graduate medical education.

*Documentation Requirement:* Reports and plans for corrective actions written since the prior site visit must be readily available to the site visitor.

Measure: Recommendations are acted upon by the residency program director.

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