



## Recommended Curriculum Guidelines for Family Medicine Residents

# Patient Safety

*This document is endorsed by the American Academy of Family Physicians (AAFP).*

## Introduction

This Curriculum Guideline defines a recommended training strategy for family medicine residents. Attitudes, behaviors, knowledge, and skills that are critical to family medicine should be attained through longitudinal experience that promotes educational competencies defined by the Accreditation Council for Graduate Medical Education (ACGME), [www.acgme.org](http://www.acgme.org). The family medicine curriculum must include structured experience in several specified areas. Much of the resident's knowledge will be gained by caring for ambulatory patients who visit the family medicine center, although additional experience gained in various other settings (e.g., an inpatient setting, a patient's home, a long-term care facility, the emergency department, the community) is critical for well-rounded residency training. The residents should be able to develop a skill set and apply their skills appropriately to all patient care settings.

Structured didactic lectures, conferences, journal clubs, and workshops must be included in the curriculum to supplement experiential learning, with an emphasis on outcomes-oriented, evidence-based studies that delineate common diseases affecting patients of all ages. Patient-centered care and targeted techniques of health promotion and disease prevention are hallmarks of family medicine and should be integrated in all settings. Appropriate referral patterns, transitions of care, and the provision of cost-effective care should also be part of the curriculum.

Program requirements specific to family medicine residencies may be found on the ACGME website. Current AAFP Curriculum Guidelines may be found online at [www.aafp.org/cg](http://www.aafp.org/cg). These guidelines are periodically updated and endorsed by the AAFP and, in many instances, other specialty societies, as indicated on each guideline.

Please note that the term "manage" occurs frequently in AAFP Curriculum Guidelines. "Manage" is used in a broad sense to indicate that the family physician takes

responsibility for ensuring that optimal, complete care is provided to the patient. This does not necessarily mean that all aspects of care need to be directly delivered personally by the family physician. Management may include appropriate referral to other health care providers, including other specialists, for evaluation and treatment.

Each residency program is responsible for its own curriculum. **This guideline provides a useful strategy to help residency programs form their curricula for educating family physicians.**

## **Preamble**

All physicians share responsibility for promoting patient safety and enhancing the quality of patient care. Graduate medical education must prepare residents to provide the highest level of clinical care and maintain continuous focus on the safety, individual needs, and humanity of their patients. It is the right of each patient to be cared for by residents who:

- Are appropriately supervised
- Possess the requisite knowledge, skills, and abilities
- Understand the limits of their knowledge and experience
- Seek assistance as required to provide optimal patient care

The prevention of errors and adverse events in health care is integral to the patient-centered model of care. A family physician should be proficient in the recognition, management, and prevention of medical errors. Family physicians should be champions of a culture of patient safety. During residency training, an integrated approach to both patient safety and quality improvement achieves safer patient care. In addition, this approach prepares graduates to act not only as participants, but also as engaged leaders in our future health care system.

## **Competencies**

At the completion of residency training, family medicine residents should be able to:

- Identify, report, manage, and prevent medical errors (Systems-based Practice, Professionalism)
- Function as active participants in interdisciplinary patient safety activities (Practice-based Learning and Improvement, Interpersonal and Communication Skills)

- Understand the importance of safety methods and practice in improving patient care (Patient Care, Systems-based Practice, Practice-based Learning and Improvement)
- Analyze the care they and their practice provide and compare this care to external standards, thereby identifying areas for improvement (Systems-based Practice, Practice-based Learning and Improvement)
- Work in a well-coordinated manner to achieve organizational patient safety goals, understanding their role(s) within health care teams and with other health care professionals (Systems-based Practice, Professionalism, Interpersonal and Communication Skills)
- Apply learned skills to critique their future unsupervised practice and implement safety improvement processes (Systems-based Practice, Practice-based Learning and Improvement, Professionalism)

## Attitudes and Behaviors

The resident should develop attitudes and behaviors that encompass:

- Awareness that a culture of safety requires continuous identification of vulnerabilities and a willingness to deal with them transparently
- Awareness of the importance of partnership between physicians, other health care team members, and patients to promote patient safety
- Recognition of the impact of patient, physician, system, and process factors on patient safety
- A humanistic, compassionate, and transparent approach to the care of patients involved in a medical misadventure
- Honesty and integrity in all interactions with patients and their families and with medical and clinical staff
- Recognition of the psychosocial, cultural, and economic impact of medical errors on patients and their families
- Support of patients and their families through consultation, evaluation, treatment, and rehabilitation necessitated by a medical misadventure
- Awareness of his or her level of competence in the recognition, management, and prevention of medical errors
- Utilization of self-directed learning to further knowledge and competency in patient safety

- Understanding of the role of the risk management team in patient safety

## Knowledge

In the appropriate setting, the resident should demonstrate the ability to apply knowledge of the following:

1. Understanding that medical errors affect patient health and safety
2. Understanding that medical error occurrence varies across settings and among health care professionals
3. Understanding of the scope and gravity of patient safety events (adverse events and near misses)
4. Definition of patient safety as the identification and prevention of occurrence and reoccurrence of errors and adverse events associated with health care. By contrast, quality improvement is defined as systematic and continuous actions that lead to measurable improvement in health care.
5. Identification of the network's risk management team, which may include the following:
  - a. Patient safety officer
  - b. Risk manager
  - c. Director of quality improvement
  - d. Infection control officer
  - e. Vice president of legal counsel
  - f. Chief executive officer
  - g. Board of directors
6. Understanding that effective team-based care plays a role in patient safety and that patients and their families and health care professionals are key players in the health care system
7. Understanding of four critical functions that must take place in order to achieve safer health care:
  - a. Design health care delivery for optimal outcomes
  - b. Deliver optimal care
  - c. Respond when health care delivery and outcomes are not optimal
  - d. Look at near misses on an ongoing basis
8. Understanding that setting patient safety goals is necessary
9. Knowledge of the network's current patient safety goals and priorities
10. Definition of a reportable event. Examples of reportable events include:
  - a. Medication errors
  - b. Events with and without harm
  - c. Unexpected deteriorations
  - d. Complications
  - e. Near misses
  - f. Unsafe conditions
11. Recognition of medical errors when they occur, including those that do not have adverse outcomes

12. Understanding of the importance of reporting medical errors, near misses, and unsafe conditions
13. Description of the network's process for reporting patient safety events, including anonymous hotline and online reporting mechanisms
14. Understanding of the online reporting system
  - a. Define as an online system for reporting medical errors, near misses, and unsafe conditions
  - b. Identify mechanism for completion of an online report
  - c. Understand the importance of feedback following completion of a report
  - d. Understand the importance of trending of reports
15. Understanding of mandated disclosure requirements and the process for disclosing errors to patients and their families
16. Awareness of the network's mechanisms that provide emotional support to residents involved in patient safety events
17. Understanding of the mechanisms and system processes that cause medical errors
18. Definition of the terminology utilized in patient safety investigations, and the ability to be conversant in terms including:
  - a. Root cause analysis (RCA)
  - b. Fishbone diagrams
  - c. Swiss cheese model of system failure
  - d. Failure modes and effects analysis (FMEA)
19. Identification of the five components of a root cause analysis:
  - a. Review by an interprofessional team
  - b. Detailed analysis of systems and processes
  - c. Identification of potential system changes
  - d. Implementation of an action plan
  - e. Follow-up evaluation of the actions
20. Identification of reasons why "blame, shame, and re-train" approaches fail, and comparison with nonpunitive approaches
21. Understanding of the importance of discovering system-based root causes and contributing factors in order to develop effective, substantive interventions
22. Understanding of major categories and methodologies of patient safety interventions
23. Understanding of how knowledge of human factors (e.g., abilities, limitations, familiarities) can be used to reduce adverse events and errors
24. Understanding of how human factors engineering (i.e., application of human factors information to the design of tools, machines, systems, tasks, jobs, and environments for safe, comfortable, and effective human use) can be used to improve human-to-human, human-to-machine, and human-to-system interactions
25. Delineation of the network's system-based challenges and appropriate techniques for designing and implementing system changes
26. Delineation of the network's proactive risk assessment
27. Definition of FMEA as a step-by-step approach for identifying all possible failures in a design, a process, or a product or service

- a. Definition of “failure modes” as the ways, or modes, in which something might fail
- b. Identification of “failures” as any potential or actual errors or defects, especially those that affect the patient
- c. Definition of “effects analysis” as studying the consequences of those failures

28. Understanding of technology as a tool to reduce potential medical errors

29. Understanding of network protocols to promote patient safety and prevent medical errors

30. Understanding of how health care-associated infections occur and the necessity of following guidelines to minimize the risks of such infections

31. Understanding of how medication errors occur due to a wide range of factors, including, but not limited to:

- a. Inadequate knowledge of patients and their clinical conditions
- b. Inadequate knowledge of medications
- c. Calculation errors
- d. Illegible handwriting
- e. Confusion regarding the name of the medication
- f. Insufficient history-taking
- g. Patient noncompliance

## Skills

In the appropriate setting, the resident should demonstrate the ability to:

1. Proficiently perform the following:
  - a. Identification of network safety and quality goals
  - b. Recognition of medical errors, near misses, and unsafe conditions
  - c. Reporting of medical errors, near misses, and unsafe conditions
  - d. Interpretation of feedback after reporting medical errors, near misses, and unsafe conditions
  - e. Interpretation of trending of patient safety events as it pertains to the design and implementation of system improvements
  - f. Participation in a patient safety investigation and analysis using current methodology
  - g. Development of a personal improvement plan
  - h. Participation in system improvement plans that promote patient safety and prevent medical errors
  - i. Active participation as a representative on a hospital safety/quality committee
  - j. Promotion of a climate that supports recognition of and adherence to patient care protocols by team members

- k. Role modeling of self-directed and system improvement activities
  - l. Adherence to network protocols to promote patient safety and prevent medical errors
  - m. Participation in effective and safe handoffs and transitions of care
- 2. Understand the following techniques and procedures:
  - a. Disclosure of patient safety events to patients and their families via:
    - i. Modeling by faculty
    - ii. Participation in real-life discussions
    - iii. Simulated discussions
- 3. Show education in the following:
  - a. Child abuse
  - b. Institutional employee safety
  - c. Opioid management
  - d. Elder abuse
  - e. Patient competency determination
- 4. Have exposure to institutional safety and quality committees

## **Implementation**

Implementation of this curriculum is dependent upon an interactive didactic and clinical approach to learning. Core cognitive ability and skill are obtained in a series of lectures and workshops that are integrated in the quality/safety/risk management lecture series. The lecture series and workshops cover a robust range of topics, including: case management; hospital quality goals; handoff communication and patient safety; documentation; responsibility of the patient safety officer; state patient safety authority; online internal reporting system; quality cycle; root cause analysis; failure modes and effects analysis; institutional safety; categories of patient safety events; use of registries; health care disparities; and community needs assessment.

Additional opportunities to advance knowledge in patient safety are afforded through the following: grand rounds presentations; morbidity and mortality presentations; orientation and reorientation programs; family medicine department meetings; and resident representation on patient safety, quality, and associated committees at the hospital.

Residents obtain additional patient safety knowledge and experience longitudinally throughout their three years in the office and hospital. Residents are mentored in patient safety during their patient care experiences by faculty, attending physicians, consultants, and quality and safety staff. Faculty physicians share personal experiences with patient safety events as a component of this teaching process. Faculty members serve as role models for handling patient safety concerns and give guidance on prevention of events and near misses. Cases that arise during residency training will have the greatest impact on the learning process for the resident.

## Resources

Halbach J, Sullivan L. Medical errors and patient safety: a curriculum guide for teaching medical students and family practice residents. *MedEdPORTAL*. 2005;1:101. [https://doi.org/10.15766/mep\\_2374-8265.101](https://doi.org/10.15766/mep_2374-8265.101). Accessed February 25, 2019.

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Soni K, Ranji S. Residency curriculum in quality improvement and patient safety. June 2012.

World Health Organization. Multi-professional patient safety curriculum guide. 2011. [www.who.int/patientsafety/education/curriculum\\_Curriculum\\_Tools/en/index1.html](http://www.who.int/patientsafety/education/curriculum_Curriculum_Tools/en/index1.html). Accessed February 25, 2019.

World Health Organization. WHO patient safety curriculum guide for medical schools. 2009. [www.who.int/patientsafety/education/curriculum\\_guide\\_medical\\_schools/en/](http://www.who.int/patientsafety/education/curriculum_guide_medical_schools/en/). Accessed February 25, 2019.

## Website Resources

Accreditation Council for Graduate Medical Education. [www.acgme.org](http://www.acgme.org)

American Academy of Family Physicians. [www.aafp.org](http://www.aafp.org)

Institute for Healthcare Improvement (IHI) Open School Online Courses. [www.ihi.org/education/ihopenschool/courses/Pages/default.aspx](http://www.ihi.org/education/ihopenschool/courses/Pages/default.aspx)

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