

Remediation Strategies for Systems-Based Practice and Practice-Based Learning and Improvement Milestones

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Discrepancies are noted in the electronic health record of a patient. The resident copied and pasted sections of another patient's chart, including the medication list, which almost led to an adverse outcome. This is not the first time the resident has made this error. Upon discussion with the resident and the program director, it is clear that workarounds jeopardizing patient safety have been a recurring concern. How should the program director approach the remediation process for this resident's deficiencies in systems-based practice and practice-based learning and improvement?

In 2013, the Accreditation Council for Graduate Medical Education (ACGME) introduced outcomes-based milestones, describing the expected evolution of resident physicians through the core competencies that link skills, knowledge, and behaviors to different levels of achievement.¹ While the vast majority of program directors will encounter a "problem resident,"² there is a paucity of literature addressing best practices for remediation when residents do not demonstrate the expected proficiency for their level of training. In particular, systems-based practice (SBP), which incorporates patient safety and the ability to work effectively within the greater health care system, along with practice-based learning and improvement (PBLI), which addresses the ability to continuously engage in performance improvement, are 2 competencies that share content themes across subspecialties and are consistently noted to be difficult to assess and remediate. Furthermore, recent studies have shown that residents in pediatrics and internal medicine feel least competent or adequately trained in these areas.^{3,4}

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Editor's Note: The online version of this article contains the emergency medicine systems-based practice and practice-based learning and improvement milestones, and additional vignettes from a variety of specialties.

The Council of Emergency Medicine Residency Directors Remediation Task Force was developed with the goal of providing emergency medicine (EM) programs with the tools necessary to identify struggling residents and to collate best practices in remediation. The authors of this article are part of the SBP-PBLI subcommittee of the task force; we aim to offer recommendations for the SBP and PBLI competencies of multiple specialties to assist program directors in the development of remediation plans specific to the common themes in these milestones. We completed a PubMed review of remediation methods in these subcompetencies across all medical specialties, and identified 28 relevant articles. Consensus was obtained from all members of the subcommittee on specific methods to address substandard performance for proficiency levels 1 through 4 in each of the EM subcompetencies (references were used when available, and are provided in the online supplemental material).

Common Themes Identified for SBP and PBLI

In order to generalize our recommendations across the spectrum of graduate medical education, the authors reviewed the milestones for multiple specialties, looking for common themes within the subcompetencies for SBP and PBLI. The ACGME milestones for the following specialties were included in the analysis: EM, anesthesia, family medicine, internal medicine, neurological surgery, obstetrics-gynecology, pediatrics, psychiatry, radiology, surgery, and orthopaedic surgery. Although there is variety in the number of subcompetencies devoted to SBP and PBLI across these specialties, common themes were identified.

The remediation suggestions in BOXES 1 and 2 are meant to serve as a guide and should be tailored to the specialty and individual needs of the learner undergoing remediation. Remediation plans can also be adjusted to target different proficiency levels.

Box 1 Systems-Based Practice Themes With Suggested Remediation Strategies

Require the resident to do 1 or more of the following in the relevant category:

1. Patient Safety and Quality Improvement (understands patient safety measures and incorporates them into daily practice with an understanding of systems for improving patient care)

- Repeat back any verbal orders for confirmation, prior to initiation
- Follow-up cases leading to poor patient outcomes secondary to a systems issue
- Use a patient safety checklist prior to performing procedures⁵
- Organize “safety huddles” for the team, identifying areas where patient safety issues may arise⁶
- Prepare and deliver a lecture for the rotating learners on how to maintain a safe working environment, highlighting basic safety concepts; the resident can also discuss the types of cognitive errors and their effects on patient care, and how to report and monitor safety events^{6,7}
- Identify 5 potential patient safety concerns and create a plan to implement changes⁶
- Attend hospital patient safety committee or process improvement meetings⁶
- Participate in a root cause analysis

2. Interprofessional Teams and Transitions of Care (works effectively within interprofessional teams to assure seamless patient care with an emphasis on patient safety)

- Discuss the importance of learning about the members of their team
- Compile a list of the responsibilities of each member of the health care team⁶
- Use a standardized system for transitions of care
- Have a supervising clinician oversee transitions of care and consultations and provide coaching⁸
- Participate in multidisciplinary team simulation (can be used in all of the remediation plans tailored to specifically target 1 common theme at a time)⁹

3. Economics and Resource Assessment (practices cost-effective care and understands limits of resources)

- Make and share a list of affordable prescriptions for 10 common diagnoses⁶
- Spend time with hospital billing specialists to learn about charges associated with tests⁶
- Discuss the case with an attending prior to ordering diagnostic studies, provide an indication, and describe how each test result would change patient management^{6,8}

4. Care Coordination (uses available resources to optimize delivery of care across the health care system)

- Call 5 discharged patients to discuss their experience and any barriers to following discharge instructions
- Compile and share a list of all ancillary services and their contact information, including hours of service⁶
- Inquire about the patient’s primary care physician and ability to obtain follow-up⁶
- Create and share a summary of potential resources after discharge for underinsured or uninsured patients⁶
- Complete a quality improvement project targeting strategies for improving health care delivery and flow⁶
- Spend time with hospital administration or the department administration team⁶
- Develop a complete patient care plan, from initial encounter to discharge, outlining the responsibilities of all members of the team¹⁰
- Shadow a case manager⁹

5. Written Communication and Use of Technology (timely and accurate completion of charts and understanding the pitfalls when using electronic health records, maximizing appropriate use of electronic clinical pathways to enhance patient care)

- Take an additional introductory course to learn the electronic health record (EHR)⁶
- Inform the supervising clinician of any alerts that come up and why he or she ignored them (the resident should indicate if the initial order was originally changed)^{6,8}
- Spend time with a chief resident or selected faculty member to review and/or set up personalized order sets in the EHR⁶
- Develop sample notes/templates for common patient encounters, divide them by chief complaint, and include prompts for patient reassessments (or other recognized resident deficiencies)⁶
- Have patient notes reviewed by the senior resident and/or attending prior to submission in the EHR, with necessary modifications addressed before signing/finalizing the note^{6,8}
- Perform early patient assessments before the “chart biopsy” of a patient
- Set up additional clinical time to practice patient assessments without utilizing advance access to the EHR and have the resident reflect on the utility of obtaining information directly from patients
- Spend time with a billing specialist to review necessary billing and coding requirements, pearls, and pitfalls⁶
- Prepare a lecture on ethical communication of patient information as it relates to technology^{6,7}
- Work with an attending physician who has medical-legal expertise to learn the pitfalls of documentation⁶
- Identify all available and relevant decision support systems in the EHR and integrate them into a useful resource to share with all the residents⁶
- Create a decision support system for the institution’s EHR that would benefit both patients and other residents in the program through implementation

Box 2 Practice-Based Learning and Improvement Themes With Suggested Remediation Strategies

Require the resident to do 1 or more of the following in the relevant category:

1. Self-Assessment and Implementation of Learning Plans (able to identify strengths and weaknesses using multiple modalities, including feedback and information on patient outcomes; uses the data to create performance improvement plans)

- Work with quality improvement (QI) faculty and attend QI meetings⁶
- Provide the resident with personal feedback on quality measures related to his or her care and discuss ways to improve
- Review written evaluations and in-service training examination results to identify areas of weakness and create a personal learning plan to address the identified weaknesses
- Keep a weekly follow-up log of 2 to 5 admitted and discharged patients for a defined period to discuss with a specific faculty member. Have the resident describe how the follow-up may or may not change future practice⁶
- Participate in a QI project to improve management of a particular disease or better understand a patient presentation

2. Use of Evidence-Based Medicine (understands the principles of evidence-based medicine and is able to incorporate it to improve patient care)

- Meet with a member of the research faculty to discuss the basic principles of evidence-based medicine; the resident must then apply the principles during the next journal club discussion⁶
- Review an article and meet with research faculty to discuss how the article will impact practice and why¹¹
- Participate in a debate on a patient care issue¹²

3. Teaching (facilitate the learning of students, colleagues, and other health care professionals)¹³

- Prepare and give a lecture on an assigned topic to students, residents, and others, and receive direct feedback on teaching style⁷
- Facilitate a small group session and receive direct feedback on teaching methods and style
- Prepare teaching plans on the same topic but directed toward audiences with different levels of learners (eg, patient, student, resident)

Additional vignettes from anesthesia, family medicine, obstetrics-gynecology, and psychiatry are available as online supplemental material. Program directors can utilize these milestone-based tools when structuring remediation plans for residents who are underperforming in the SBP or PBLI competencies.

Implementation

Let's revisit our initial presentation: The program director maps this resident's deficiency to the specialty-specific milestone subcompetency SBP-1 (patient safety), proficiency level 3: "employs processes, personnel, and technologies that optimize patient safety"; subcompetency SBP-3 (technology), proficiency level 3: "recognizes the risk of computer shortcuts and reliance upon computer information on accurate patient care and documentation"; and subcompetency PBLI (participates in performance improvement to optimize emergency department function, self-learning, and patient care), proficiency level 3: "performs self-assessment to identify areas for continued self-improvement and implements learning plans."

A remediation plan to address SBP deficiencies includes the following: (1) prepare and deliver a lecture to the rotating medical students, highlighting basic patient safety concepts and tools in place that optimize patient safety (eg, checklists, SBAR [situation, background, assessment, recommendation]),

and (2) spend four 2-hour blocks in the emergency department evaluating patients without utilizing advanced access to the electronic health record, and then reflect on the utility of obtaining medical information directly from the patients. For PBLI, the program director requires the resident to review written evaluations and in-service training examination results to identify areas of weakness, and then create a personal learning plan to address the identified weaknesses.

The program director then plans to monitor the progress of the resident during the defined remediation period, and solicit monthly feedback from the faculty until the feedback is universally positive.

Conclusion

By aiding in the recognition and remediation of residents struggling to achieve proficiency in the SBP and PBLI subcompetencies, the instruments developed by this task force may improve resident training within the framework of the new accreditation system.

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