

Accreditation Council for Graduate Medical Education

First Report of the Committee on Innovation in the Learning Environment “Fostering Innovation and Improvement in the Learning Environment through Accreditation”

Approved for Filing September 11, 2007

Executive Summary

In the fall of 2004, on the recommendation of the Subcommittee that oversaw the implementation of the common duty hour standards, the ACGME established the Committee on Innovation in the Learning Environment (CILE) with the goal expanding the focus from duty hours to the attributes that collectively contribute to a high quality learning environment. In its first two years of its five-year charter, CILE engaged in broad discussions on innovation and improvement in the learning environment and formulated the recommendations in this first report by the Committee. Three key themes, linked to CILE’s charge, guided the choice of areas to explore and influenced the recommendations contained in the report: 1) to collect and incorporate multiple perspectives on the learning environment; 2) to foster innovation and improvement at the institutional and program level; and 3) to contribute to the redesign of the learning environment through sharing innovative practices and through the accreditation process.

Achieving high-quality learning and patient care in the settings where residents train and practice necessitates that residency programs, sponsoring institutions and the accrediting organization collectively promote a focus on the learning environment. The recommendations address five areas with the aim of advancing innovation and improvement in programs and institutions and in the accreditation process.

- **Describe and replicate innovation and improvement in the learning environment:** Making the appropriate changes in the learning environment requires understanding why some programs and institutions succeed at innovation and improvement. This understanding can be greatly enhanced by studying places that are fertile ground for changes that meet the objectives of high-quality patient care, resident learning and professional development.
- **Use accreditation to stimulate and reinforce program and institutional innovation:** To increase relevance and utility in promoting innovation in the learning environment, the accreditation standards and the accreditation approach need to incorporate information gleaned from the study of innovation and excellence in the learning environment.
- **Integrate care delivery and clinical education:** Educating physicians for professional practice requires an understanding of the current priorities in patient care and quality improvement as well as an understanding of how programs and institutions may benefit from adapting and applying innovative approaches in these areas.
- **Collect and disseminate information on “innovative practices” in the learning environment:** Assisting programs and institutions in efforts to make changes in their learning environment requires readily accessible information on innovative practices that can be adopted and implemented.
- **Broaden input into the redesign of the learning environment through collaboration:** The quality of the response to the call for change in the learning environment will depend on stimulating collaboration among multiple organizations with a stake in graduate medical education.

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Committee Process

When the Accreditation Council for Graduate Medical Education (ACGME) instituted common duty hour limits for residents in all accredited programs, it affirmed that promoting safe patient care, effective resident education and resident well-being requires a broad approach that views duty hours as one of a large set of factors that collectively contribute to a high-quality learning and patient care environment. In the fall of 2004, ACGME established the Committee on Innovation in the Learning Environment (CILE), and charged it with identifying and understanding the factors that contribute to a high quality learning environment. The goals were to ensure that the focus on duty hours would not detract from the attributes of an optimal setting where residents learn and practice, and to minimize any negative effects of the implementation of the duty hour standards on the education of residents and the safety of patient care.

In the past two years, CILE has engaged in a range of studies and discussions to meet its charge. Key themes of this work include 1) promoting a broad perspective on the learning environment that views adherence to the duty hour standards as one of a host of factors in a high-quality learning environment; 2) fostering innovation and improvement in the settings where residents learn, and 3) contributing to the redesign of the learning environment through accreditation, including changes in the standards and accreditation process, sharing of notable practices, and collaboration with other organizations with a stake in medical education. The recommendations in the first CILE Report are in keeping with the ACGME’s four strategic priorities of fostering innovation and improvement in the learning environment; increasing the accreditation emphasis on educational outcomes; enhancing efficiency and reducing burden in accreditation; and improving communication and collaboration with key internal and external stakeholders.

CILE’s Work Groups focused on critical tasks important to the committee’s charge. Work Group activities included exploring measures of quality in the learning environment that could facilitate recognition of performance that exceeds minimum compliance with the ACGME’s accreditation standards. It also included consideration of the longer-term goal of advancing standards that focus more on programs’ and sponsoring institutions’ provision of a high-quality learning environment and achievable educational and clinical outcomes, and less on structure and process measures that still currently comprise a significant portion of the standards. This effort also used focus groups to explore how residents and program directors conceptualize excellence in their learning environment, and gathered ideas for innovative solutions that address systems problems and “work-arounds” in the learning environment. Another focal area was learning from institutions that implemented innovative solutions in their learning environment, including lean production in a teaching institution; collaborations between residents and institutional leaders to eliminate inefficiencies in resident practice; and redesign of a surgical curriculum to optimize education and compliance with the duty hour standards. A third project explores approaches for involving residents in quality improvement efforts, in collaboration with the Institute for Healthcare Improvement, a leader in innovation and improvement.

Using these examples of innovation and improvement in action, the Committee and its Work Groups selected concepts and approaches that would lend themselves to promote innovation and improvement in the learning environment through accreditation. These concepts and approaches make up the content of the recommendations in the next section of this report. The goal of these recommendations is to focus on the ACGME’s accreditation activities on those that enhance the quality of residents’ learning and patient care environment, and to promote re-design in the learning environment in a way that is sensitive to innovation in patient care, education and accreditation and to the residents’ dual role as learners and practitioners.

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Recommendations

Describe and replicate innovation and improvement in the learning environment

Modifying the learning environment requires understanding why some programs and institutions appear to succeed at innovation and improvement. This can be found by studying places that are fertile ground for change that meets the objectives of high-quality patient care, resident learning and professional development.

Recommendation 1: Through the ACGME Learning Innovation and Improvement Project (LIIP), identify institutions that innovate in their learning environment, and study their attributes. The goal is to gather ground-level observations on the attributes of institutions and programs that succeed in innovation and improvement in the learning environment, and disseminate this information for adoption and adaptation.

- Identify three to four candidate sites for LIIP using information from the literature and other peer reviewed sources. The institutions must have published on institutional and program level innovation and improvement and have demonstrated excellent accreditation performance at the program and institutional level.
- Conduct telephone interviews with test institutions’ Designated Institutional Officials (DIOs) and selected senior staff members, followed by site visits to assess whether the institutions possess common attributes that create a favorable environment for innovation and improvement.
- Use the data and feedback from the pilot institutions to refine the screening and site visit process.
- Conduct screening telephone calls with a larger set of candidates to select institutions for site visits that will include a summary feedback report to participants under a pilot approach.
- Aggregate the information collected via the site visits to identify common attributes of institutions that promote innovation and thus enhance their learning environment, for dissemination and use in informing the accreditation process.

Recommendation 2: Develop an ACGME-wide “Knowledge Transfer” function to collect and disseminate information about change and innovation in the learning and patient care environment to the ACGME Review Committees (RCs) for adoption and adaptation.

- Establish a regular communication and information sharing mechanism with the RCs, focusing on information pertinent to improved learning in the clinical environment, such as the efforts of the Institute for Healthcare Improvement campaigns and the Academic Chronic Care Collaborative. The effort also will explore how the ACGME and its Committees can use a campaign approach and similar methods to facilitate innovation in the learning environment.
- Disseminate information about notable practices in outcomes-based accreditation and successful institution- and program-level efforts to implement the teaching and assessment of the general competencies through validated tools and methods.

Recommendation 3: Assess the effect of the common duty hour standards on patient care and resident education, by studying the relationship between the duty hour standards and resident learning and engagement in clinical care, including effects in particular specialties, with the goal of improving resident education and the safety and effectiveness of care. This work will be carried out in consultation with the Council of Review Committee Chairs and the individual RCs.

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Study the specific effects of the duty hour standards on resident learning and patient care in individual specialties or across specialties, and look for evidence that supports the hypotheses on any positive or negative effects of the standards through the literature, ACGME data or other relevant information. An example is potential reduced peri-operative continuity of care and its effect on surgical residents' performance on in-service and board examination questions that address indications for surgery and diagnosing and managing post-operative complications.

- Use the results to identify ways to adapt education to the new models of patient care delivery and learning, and disseminate this information to Review Committees (RCs) and the education community through a regular “Innovation Summary,” provided directly to the RCs, the ACGME’s educational conferences, and the *ACGME Bulletin*, *E-Bulletin* and web site.

Use accreditation to stimulate and reinforce program and institutional innovation

To increase relevance and utility in promoting innovation in the learning environment, the accreditation standards and the accreditation approach need to incorporate information gleaned from the study of innovation and excellence in the learning environment.

Recommendation 4: Develop a set of ACGME-supported accreditation pilots to assist the Review Committees in advancing innovation in the learning environment and meeting the ACGME’s strategic priorities. RRCs may select from among the options those pilots that best allow them to meet their specific goals.

- Accreditation innovations to be tested through pilots will include refinements to selected duty hour standards and validation of tools for the six general competencies. Candidate areas for pilots are shown as **Attachment 1**. Future pilots could be directed at broadening the use of learning portfolios, simulation and rehearsal and other innovative approaches. Particular focus will be on pilots that meet the strategic priorities of fostering innovation and improvement in the learning environment and those that increase the accreditation emphasize on educational outcomes.
- Accreditation incentives under these pilots could include shortened program information forms, extended review cycles and delays of accreditation site visit until the conclusion of the pilot. The pilots could also be used to create temporary exemptions from certain standards in a collaborative initiative between the RC and programs, similar to the Internal Medicine RC’s Educational Innovation Project.
- An important attribute of the pilots will be tools and approaches to evaluate their effectiveness, with the aim of facilitating validation of the approaches and reduce burden in accreditation for the RCs, programs and sponsoring institutions. Pilots will be implemented for a period of 24 months, to allow collection of data on the impact on patient care, learning and other relevant outcomes.

Recommendation 5: To advance innovation at the level of residency programs and sponsoring institutions, institute a Request for Proposal (RFP) for accreditation waiver to promote improvement and innovation in the learning environment. The goal is to provide incentives for programs and institutions that innovate in areas that include change in education and clinical care, adapting education and/or care to the common duty hour standards, and applying the general competencies.

The RFP process will be open to sponsoring institutions in good accreditation standing (no adverse actions or accreditation with warning and at least a four-year review cycle awarded during the most recent accreditation review). The RFP will use a three-step approach:

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- In Step 1, ACGME invites institutions in good standing to solicit ideas from their programs, and select up to two for submission to the ACGME. Candidates for submission to the ACGME should require a waiver of an accreditation requirement or a change in ACGME data collection or accreditation process. Institutions will be encouraged to conduct all other proposal internally. Initiatives that have produced results are eligible for submission to the ACGME for publishing on a web digest of innovative approaches.
- In Step 2, proposals submitted to the ACGME will undergo initial review to assess the proposal for completeness and clarity, and conduct an initial scoring, using a points system, with added points given for proposals in the area of one of the strategic priorities, cross-disciplinary approaches and proposal with relevance across specialties.
- In Step 3, pre-scored proposals will be sent to the RRCs and IRC (as relevant) for review and approval.

Initial steps will include forming an advisory group composed of a subset of the CILE membership with added RRC representation to advise on the RFP process and plan for the constituents and RC members to advise on the RFP process and plan for the ACGME resources that will be needed.

Recommendation 6: Use the RC-approved pilots from Recommendation 4 and the RFP process from Recommendation 5 to test proposed revisions to the common duty hour standards. The goal is to ensure that additional changes are based on valid and “actionable” evidence of their effect on the safety and effectiveness of care and on resident learning and resident well-being.

Recommendation 7: In concert with the Institutional Review Committee, develop a pilot of an accreditation designation of “With Commendation for Excellence in the Learning Environment” for sponsoring institutions, and explore with the chairs and members of the ACGME’s Residency Review Committees the feasibility of developing similar recognition efforts at the program level.

- Use information on common attributes of institutions that innovate and improve collected via the LIIP initiative (**Recommendation 1**) along with program and institutional accreditation status to develop selection criteria and processes for the pilot.
- Conduct a pilot of accreditation “With Commendation for Excellence in the Learning Environment” and select institutions for recognition.
- Use information from the pilot to decide on a permanent implementation of a designation of accreditation “With Commendation for Excellence in the Learning Environment,” and use the information from the project to inform the institutional requirements, with the goal of creating standards that are evidence based and focus on the quality of the learning environment.

Integrate care delivery and clinical education

Educating physicians for professional practice requires an understanding of the current priorities in patient care and quality improvement, and how programs and institutions benefit from adapting and applying them to the education of residents and fellows.

Recommendation 8: Explore innovative ways to prepare residents for practice in the 21st century, including simulation and rehearsal, improved teaching of hand-offs and other approaches for maintaining continuity of care under team- and shift-based approaches to care, and enhanced teaching and practice in ambulatory management for patients with chronic health conditions.

- Identify opportunities to enhance quality and safety in teaching settings by studying the outcomes of resident involvement in organized clinical quality improvement initiatives in their

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local setting, beginning with the effect of including residents in the initiatives of the Institute for Healthcare Improvement’s (IHI’s) campaigns.

- Conduct focus groups with program directors, DIOs, Review Committees and other stakeholders to identify attributes of the learning environment that are important to preparing residents for practice in the 21st century, and how innovation and improvement in the learning environment could be enhanced through the accreditation process.
- Advance resident preparation for the ambulatory care of patients with chronic conditions through collaboration with the Association of American Medical Colleges’ Academic Chronic Care Collaborative and similar efforts, with the goal of enhancing resident preparation for ambulatory care through disseminating notable practices and changes in the accreditation standards and process.
- Study institutions that have applied human factors and systems engineering, lean production and simulation in their learning environment, and develop measures to determine the success and “generalizability” of these approaches.

Collect and disseminate information on “Innovative Practices” in the Learning Environment

Assisting programs and institutions in efforts to make changes in their learning environment requires readily available information on innovative practices for adoption and implementation.

Recommendation 9: Explore the feasibility of an innovation clearinghouse to assist residents with ideas for innovation in their learning environment with developing proposals for local implementation, and create a repository of developed resident ideas for adoption by programs and institutions.

- Explore the web resources that could be made available to residents via the ACGME site, and what added services could be offered to residents by ACGME alone or in concert with other organizations.
- Explore sources of funding that would support the assistance needed to further refine and develop resident proposals.
- Design a web-based clearinghouse and determine how the availability of this resource will be advertised to residents and others.

Recommendation 10: Disseminate information on notable practices and innovation in the learning environment for adoption and adaptation by programs and sponsoring institutions.

- Aggregate and disseminate ideas for redesign of the learning environment through broad engagement of the stakeholder community via design conferences and other efforts to obtain input to a broad group of stakeholders.
- Share information on how to a variety of approaches to change management at the program and institutional level, focusing on change ideas/package that would be relevant and appealing for residency programs, and develop tools to assist programs in local efforts to redesign their learning environment.

Broaden Input into Redesign of the Learning Environment through Collaboration

Recommendation 11: Foster collaboration and convene stakeholders in resident education, including other organizations that have initiated efforts to promote change and improvement in physician education. The goal is to receive and incorporate input from a broad group of stakeholders.

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- Use design conferences to explore specific aspects of change management and implementation of the competencies through enhanced teaching methods and validated tools for their assessment using the model of an ACGME-sponsored conference held in September 2006 that collected concrete suggestions for the redesign of aspects of the resident learning environment.
- Initiate dialogue with other organizations in graduate medical education to solicit specific ideas for enhancing the quality of the learning and patient care environment in which residents function.
- Use surveys, design conferences, web-based approaches for aggregating ideas and similar efforts to expand input into the redesign process to a larger group of stakeholders.

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Timeline and Phasing of Action Steps

Months 1 through 6:

1. Conduct Learning Innovation and Improvement Project (**Recommendations 1 and 7**):
 - Institute pilot of LIIP efforts, refine questions and survey approach, develop draft format for consultative feedback report, begin LIIP surveys.
2. Implement “Innovation Summary” (**Recommendation 2**):
 - Explore operational process with external sources of information (IHI, the Joint Commission on the Accreditation of Healthcare Organizations and others) and develop internal format and dissemination mechanisms for communications with RC members.
3. Assess the effect of the duty hour limits (**Recommendation 3**):
 - Meet with the Council of Review Committee Chairs (CRCC) and other expert bodies to collect perceptions and expert opinions of the effect of the duty hour limits on specific aspects of education, patient care and resident well-being, and use this information informed by a review of the literature to develop hypotheses.
 - Review the literature and other data sources for possible evidence that substantiates or refutes the hypotheses.
4. Institute accreditation pilots and RFPs (**Recommendations 4 and 5**):
 - Begin discussions with the RCs (starting with CRCC) to solicit ideas for pilots and clarify the RCs’ role in the RC pilot and RFP process, emphasizing the benefits of these approaches.
 - Work with the research department (and potentially other experts) to assist in designing pilots along with tools and approaches to evaluate their outcome.
5. Explore innovative ways to prepare residents for 21st Century practice (**Recommendation 8**):
 - Collaborate with IHI on an informal study to compare available faculty and resident perceptions as well as other available data to explore differences in the implementation of IHI’s 100,000 Lives Campaign between institutions that involved residents and those that did not.
 - Conduct focus groups with institution-based resident groups, program director organizations and two to three representative samples of RC chairs and members.
 - Aggregate articles for a themed *ACGME Bulletin* issue on innovation in ambulatory and chronic disease care to be published in the summer of 2007, including articles describing the four residency programs that participate in the Internal Medicine RC’s EIP project and the Academic Chronic Care Collaborative.
 - Aggregate information on institutions and programs that have used industrial and human factors engineering and lean management principles in their resident education and clinical care processes that involve residents.
7. Disseminate information on notable practices in the learning environment (**Recommendation 10**):
 - Collect notable practices in innovation in the learning environment through CILE, the LIIP effort, the RCs and possible other sources, and sort and catalogue this information.

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8. Collaborate with and convene stakeholders around the redesign of the learning environment
(**Recommendation 11**):

- Two design conferences, sponsored by CILE were held in September 2006 and 2007. Hold a third conference in 2008 devoted to the development of assessment tools for the general competencies.

Months 7 through 12:

1. Conduct Learning Innovation and Improvement Project (**Recommendations 1 and 7**):

- Complete LIIP surveys and aggregate and analyze data.

2. Institute accreditation pilots and RFPs (**Recommendations 4 and 5**):

- Complete work on evaluation tools to assess the outcome of Review Committee pilots.
- Open up Pilots to RCs and RFP process to eligible programs and institutions.

3. Explore innovative ways to prepare residents for 21st Century practice (**Recommendation 8**):

- Assemble an Ad Hoc group of representatives with knowledge of the application of engineering and lean management/production principles to the learning environment to develop a technical report on their applicability and utility in teaching settings, using examples of institutions and programs with experience with these initiatives.

4. Explore the feasibility of an innovation clearinghouse to assist residents with the refinement of ideas to improve their learning environment (**Recommendation 9**):

- Implement web-based support advising function and clearing house of resident ideas, explore staffing for advising service provided by ACGME alone or in collaboration with another organization
- Complete a survey of programs and sites with innovative interventions described in the academic literature to assess their current status and experience, as well as dissemination within and across institutions, focusing on successful innovative interventions and common themes about the success and the characteristics of the spread of innovation.

5. Disseminate information on notable practices in the learning environment (**Recommendation 10**):

- Complete a survey of programs and sites with innovative interventions described in the academic literature to assess their current status and experience, as well as dissemination within and across institutions, focusing on successful innovative interventions and common themes about the success and the characteristics of the spread of innovation.

6: Collaborate with and convene stakeholders around the redesign of the learning environment
(**Recommendation 11**):

- Hold second design conference with the theme of “Managing Change,” and aggregate the results into a second set of proceedings.

Beyond 12 months:

1. Use Accreditation Pilots and RFPs to assess the need for changes in the common and RC-specific duty hour standards (**Recommendation 6**):

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- Use data from the Review Committee pilots and the RFP process to assess for needed changes in the duty hour standards.
2. Institute Pilot of an accreditation designation of “With Commendation for Excellence in the Learning Environment” (***Recommendation 7***):
- Assemble an Ad Hoc group made up of CILE and IRC members and develop a draft set of criteria, using common attributes for exemplary learning sites from the LIIP project, including information from the consultative feedback provided to institutions as part of their LIIP Project participation.

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