

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

3 *Final Draft, February 24, 2007*

4 **Executive Summary**

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

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

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

38 **First Report of the Committee on Innovation in the Learning Environment**

39 **“Fostering Innovation and Improvement in the Learning Environment through Accreditation”**

40 **Committee Process**

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

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

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

74 Using these examples of innovation and improvement in action, the Committee and its Work Groups

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

81 **Recommendations**

82 **Describe and replicate innovation and improvement in the learning environment**

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

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

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

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

- 107 • Establish a regular communication and information sharing mechanism with the RCs, focusing on
108 information pertinent to improved learning in the clinical environment, such as the efforts of the
109 Institute for Healthcare Improvement campaigns and the Academic Chronic Care Collaborative. The

110 effort also will explore how the ACGME and its Committees can use a campaign approach and
111 similar methods to facilitate innovation in the learning environment.

- 112 • Disseminate information about notable practices in outcomes-based accreditation and successful
113 institution- and program-level efforts to implement the teaching and assessment of the general
114 competencies through validated tools and methods.

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

- 120 • Study the specific effects of the duty hour standards on resident learning and patient care in
121 individual specialties or across specialties, and look for evidence that supports the hypotheses on any
122 positive or negative effects of the standards through the literature, ACGME data or other relevant
123 information. An example is potential reduced peri-operative continuity of care and its effect on
124 surgical residents' performance on in-service and board examination questions that address
125 indications for surgery and diagnosing and managing post-operative complications.
- 126 • Use the results to identify ways to adapt education to the new models of patient care delivery and
127 learning, and disseminate this information to Review Committees (RCs) and the education
128 community through a regular "Innovation Summary," provided directly to the RCs, the ACGME's
129 educational conferences, and the *ACGME Bulletin*, *E-Bulletin* and web site.

130 **Use accreditation to stimulate and reinforce program and institutional innovation**

131 To increase their relevance and utility in promoting innovation in the learning environment, the accreditation
132 standards and the accreditation approach itself needs to incorporate information gleaned from the study of
133 innovation and excellence in the learning environment.

134 **Recommendation 4:** To assist the Review Committees in advancing innovation in the learning environment
135 and meeting the ACGME's strategic priorities, develop a set of well-designed, ACGME-supported
136 accreditation pilots. RRCs may select from among these supported options those pilots that best allow them
137 to meet their specific goals.

- 138 • Accreditation innovations that could be tested through pilots include shortened program information
139 forms, extended review cycles, validated tools for the six general competencies, learning portfolios,
140 simulation and rehearsal and other innovative approaches. The pilots could also be used to create
141 temporary exemptions from certain standards in a collaborative initiative between the RC and
142 programs similar to the Internal Medicine RC's Educational Innovation Project.
- 143 • An important attribute of the pilots will be tools to evaluate their effectiveness, with the aim of
144 facilitating validation of the approaches and reduce burden in accreditation for the RCs, programs
145 and sponsoring institutions.

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

- 151 • The RFP process will be open to sponsoring institutions in good accreditation standing (no adverse
152 actions or accreditation with warning and at least a four-year review cycle awarded during the most
153 recent accreditation review).
- 154 • Initial steps will include forming an advisory group composed of constituents and RC members to
155 advise on the RFP process and plan for the ACGME resources that will be needed.

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

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

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

173 **Integrate care delivery and clinical education**

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

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

- 181 • Identify opportunities to enhance quality and safety in teaching settings by studying the outcomes of
182 resident involvement in organized clinical quality improvement initiatives in their local setting,
183 beginning with the effect of including residents in the initiatives of the Institute for Healthcare
184 Improvement’s (IHI’s) campaigns.
- 185 • Conduct focus groups with program directors, DIOs, Review Committees and other stakeholders to
186 identify attributes of the learning environment that are important to preparing residents for practice
187 in the 21st century, and how innovation and improvement in the learning environment could be
188 enhanced through the accreditation process.
- 189 • Advance resident preparation for the ambulatory care of patients with chronic conditions through
190 collaboration with the Association of American Medical Colleges’ Academic Chronic Care
191 Collaborative and similar efforts, with the goal of enhancing resident preparation for ambulatory care
192 through disseminating notable practices and changes in the accreditation standards and process.
- 193 • Study institutions that have applied human factors and systems engineering, lean production and
194 simulation in their learning environment, and develop measures to determine the success and
195 “generalizability” of these approaches.

196 **Collect and disseminate Information on “Innovative Practices” in the Learning Environment**

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

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

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

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

- 210 • Aggregate and disseminate ideas for redesign of the learning environment through broad engagement
211 of the stakeholder community via design conferences and other efforts to obtain input to a broad
212 group of stakeholders.
- 213 • Share information on how to a variety of approaches to change management at the program and
214 institutional level, focusing on change ideas/packaging that would be relevant and appealing for

215 residency programs, and develop tools to assist programs in local efforts to redesign their learning
216 environment.

217 **Broaden Input into Redesign of the Learning Environment through Collaboration**

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

221 • Use design conferences to explore specific aspects of change management and implementation of the
222 competencies through enhanced teaching methods and validated tools for their assessment using the
223 model of an ACGME-sponsored conference held in September 2006 that collected concrete
224 suggestions for the redesign of aspects of the resident learning environment.

225 • Initiate dialogue with other organizations in graduate medical education to solicit specific ideas for
226 enhancing the quality of the learning and patient care environment in which residents function.

227 • Use surveys, design conferences, web-based approaches for aggregating ideas and similar efforts to
228 expand input into the redesign process to a larger group of stakeholders.

229 **Timeline and Phasing of Action Steps**

230 *Months 1 through 6:*

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

232 • Institute pilot of LIIP efforts, refine questions and survey approach, develop draft format for
233 consultative feedback report, begin LIIP surveys.

234 2. Implement “Innovation Summary” (**Recommendation 2**):

235 • Explore operational process with external sources of information (IHI, the Joint Commission on the
236 Accreditation of Healthcare Organizations and others) and develop internal format and dissemination
237 mechanisms for communications with RC members.

238 3. Assess the effect of the duty hour limits (**Recommendation 3**):

239 • Meet with the Council of Review Committee Chairs (CRCC) and other expert bodies to collect
240 perceptions and expert opinions of the effect of the duty hour limits on specific aspects of education,
241 patient care and resident well-being, and use this information informed by a review of the literature
242 to develop hypotheses.

243 • Review the literature and other data sources for possible evidence that substantiates or refutes the
244 hypotheses.

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

246 • Begin discussions with the RCs (starting with CRCC) to solicit ideas for pilots and clarify the RCs’
247 role in the RC pilot and RFP process, emphasizing the benefits of these approaches.

- 248 • Work with the research department (and potentially other experts) to assist in designing pilots along
249 with tools and approaches to evaluate their outcome.
- 250 5. Explore innovative ways to prepare residents for 21st Century practice (**Recommendation 8**):
- 251 • Collaborate with IHI on an informal study to compare available faculty and resident perceptions as
252 well as other available data to explore differences in the implementation of IHI's 100,000 Lives
253 Campaign between institutions that involved residents and those that did not.
- 254 • Conduct focus groups with institution-based resident groups, program director organizations and two
255 to three representative samples of RC chairs and members.
- 256 • Aggregate articles for a themed *ACGME Bulletin* issue on innovation in ambulatory and chronic
257 disease care to be published in the summer of 2007, including articles describing the four residency
258 programs that participate in the Internal Medicine RC's EIP project and the Academic Chronic Care
259 Collaborative.
- 260 • Aggregate information on institutions and programs that have used industrial and human factors
261 engineering and lean management principles in their resident education and clinical care processes
262 that involve residents.
- 263 6. Disseminate information on notable practices in the learning environment (**Recommendation 10**):
- 264 • Collect notable practices in innovation in the learning environment through CILE, the LIIP effort,
265 the RCs and possible other sources, and sort and catalogue this information.
- 266 7. Disseminate information on notable practices in the learning environment (**Recommendation 10**):
- 267 • Collect notable practices in innovation in the learning environment through CILE, the LIIP effort,
268 the RCs and possible other sources, and sort and catalogue this information.
- 269 8. Collaborate with and convene stakeholders around the redesign of the learning environment
270 (**Recommendation 11**):
- 271 • Plan a second design conference with the theme of "Managing Change," to be held in the late
272 summer or early fall of 2007, and a third conference in 2008 devoted to the development of
273 assessment tools for the general competencies.
- 274 *Months 7 through 12:*
- 275 1. Conduct Learning Innovation and Improvement Project (**Recommendations 1 and 7**):
- 276 • Complete LIIP surveys and aggregate and analyze data.
- 277 2. Institute accreditation pilots and RFPs (**Recommendations 4 and 5**):
- 278 • Complete work on evaluation tools to assess the outcome of Review Committee pilots.
- 279 • Open up Pilots to RCs and RFP process to eligible programs and institutions.
- 280 3. Explore innovative ways to prepare residents for 21st Century practice (**Recommendation 8**):

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

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

287 • Implement web-based support advising function and clearing house of resident ideas, explore
288 staffing for advising service provided by ACGEM alone or in collaboration with another
289 organization

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

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

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

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

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

303 *Beyond 12 months:*

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

306 • Use data from the Review Committee pilots and the RFP process to assess for needed changes in the
307 duty hour standards.

308 2. Institute Pilot of an accreditation designation of “With Commendation for Excellence in the Learning
309 Environment” (**Recommendation 7**):

310 • Assemble an Ad Hoc group made up of CILE and IRC members and develop a draft set of criteria,
311 using common attributes for exemplary learning sites from the LIIP project, including information
312 from the consultative feedback provided to institutions as part of their LIIP Project participation.

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314 *Committee on Innovation in the Learning Environment, February 24, 2007*