



Accreditation Council for  
Graduate Medical Education

**ACGME Program Requirements for  
Graduate Medical Education  
in Clinical Informatics  
(Subspecialty of Anesthesiology,  
Emergency Medicine, Medical Genetics, Pathology,  
Pediatrics, or Preventive Medicine)**

1 **ACGME Program Requirements for Graduate Medical Education**  
2 **in Clinical Informatics**

3  
4 **Introduction**

5  
6 **Int.A. Residency is an essential dimension of the transformation of the medical**  
7 **student to the independent practitioner along the continuum of medical**  
8 **education. It is physically, emotionally, and intellectually demanding, and**  
9 **requires longitudinally-concentrated effort on the part of the resident.**

10  
11 **The specialty education of physicians to practice independently is**  
12 **experiential, and necessarily occurs within the context of the health care**  
13 **delivery system. Developing the skills, knowledge, and attitudes leading to**  
14 **proficiency in all the domains of clinical competency requires the fellow**  
15 **physician to assume personal responsibility for the care of individual**  
16 **patients. For the fellow, the essential learning activity is interaction with**  
17 **patients under the guidance and supervision of faculty members who give**  
18 **value, context, and meaning to those interactions. As fellows gain**  
19 **experience and demonstrate growth in their ability to care for patients, they**  
20 **assume roles that permit them to exercise those skills with greater**  
21 **independence. This concept--graded responsibility and progressive**  
22 **responsibility--is one of the core tenets of American graduate medical**  
23 **education. Supervision in the setting of graduate medical education has**  
24 **the goals of assuring the provision of safe and effective care to the**  
25 **individual patient; assuring each resident's development of the skills,**  
26 **knowledge, and attitudes required to enter the unsupervised practice of**  
27 **medicine; and establishing a foundation for continued professional growth.**

28  
29 **Int.B. Clinical informatics is the subspecialty of all medical specialties that transforms**  
30 **health care by analyzing, designing, implementing, and evaluating information**  
31 **and communication systems to improve patient care, enhance access to care,**  
32 **advance individual and population health outcomes, and strengthen the clinician-**  
33 **patient relationship.**

34  
35 **Physicians who practice clinical informatics draw from the broader field of**  
36 **biomedical and health informatics as they apply informatics methods, concepts,**  
37 **and tools to the practice of medicine. Thus, they must understand the culture,**  
38 **boundaries, and complexities of the field. Further, the stakeholders, structures,**  
39 **and processes that constitute the health system affect the information and**  
40 **knowledge needs of health care professionals and influence the selection and**  
41 **implementation of clinical information processes and systems.**

42  
43 **Physicians who practice clinical informatics collaborate with other health care**  
44 **and information technology professionals and provide consultative services that**  
45 **use their knowledge of patient care combined with their understanding of**  
46 **informatics concepts, methods, and tools to improve clinical practice by:**

47  
48 **Int.B.1. leading initiatives designed to enhance health care quality and access**  
49 **through the procurement, customization, development, implementation,**  
50 **management, evaluation, and continuous improvement of clinical**  
51 **information systems;**

- 52  
53 Int.B.2. securing the legal and ethical use of clinical information;  
54  
55 Int.B.3. assessing information and knowledge needs of health care professionals  
56 and patients;  
57  
58 Int.B.4. characterizing, evaluating, and refining clinical processes;  
59  
60 Int.B.5. analyzing, developing, implementing, and refining clinical decision  
61 support systems; and,  
62  
63 Int.B.6. participating in projects designed to use technology to promote patient  
64 care that is safe, efficient, effective, timely patient-centered and equitable.  
65  
66 Int.C. The educational program in clinical informatics must be 24 months in length. <sup>(Core)</sup>  
67  
68 Int.C.1. Fellows must complete the program within 48 months of matriculation.  
69 <sup>(Core)</sup>  
70

71 **I. Institutions**

72  
73 **I.A. Sponsoring Institution**

74  
75 **One sponsoring institution must assume ultimate responsibility for the**  
76 **program, as described in the Institutional Requirements, and this**  
77 **responsibility extends to fellow assignments at all participating sites.** <sup>(Core)\*</sup>  
78

79 **The sponsoring institution and the program must ensure that the program**  
80 **director has sufficient protected time and financial support for his or her**  
81 **educational and administrative responsibilities to the program.** <sup>(Core)</sup>  
82

- 83 I.A.1. A clinical informatics fellowship must function as an integral part of an  
84 Accreditation Council for Graduate Medical Education (ACGME)-  
85 accredited residency program in anesthesiology, emergency medicine,  
86 medical genetics, pathology, pediatrics, or preventive medicine. <sup>(Core)</sup>  
87

- 88 I.A.2. There must be an institutional policy governing the educational resources  
89 committed to the fellowship that ensures collaboration among multiple  
90 disciplines and professions involved in educating fellows. <sup>(Core)</sup>  
91

- 92 I.A.3. There may be only one ACGME-accredited clinical informatics program  
93 within a sponsoring institution. <sup>(Detail)</sup>  
94

95 **I.B. Participating Sites**

- 96  
97 **I.B.1. There must be a program letter of agreement (PLA) between the**  
98 **program and each participating site providing a required**  
99 **assignment. The PLA must be renewed at least every five years.**  
100 <sup>(Detail)</sup>

101  
102 **The PLA should:**

- 103  
104 **I.B.1.a)** identify the faculty who will assume both educational and  
105 supervisory responsibilities for fellows; <sup>(Detail)</sup>  
106  
107 **I.B.1.b)** specify their responsibilities for teaching, supervision, and  
108 formal evaluation of fellows, as specified later in this  
109 document; <sup>(Detail)</sup>  
110  
111 **I.B.1.c)** specify the duration and content of the educational  
112 experience; and, <sup>(Detail)</sup>  
113  
114 **I.B.1.d)** state the policies and procedures that will govern fellow  
115 education during the assignment. <sup>(Detail)</sup>  
116  
117 **I.B.2.** The program director must submit any additions or deletions of  
118 participating sites routinely providing an educational experience,  
119 required for all fellows, of one month full time equivalent (FTE) or  
120 more through the Accreditation Council for Graduate Medical  
121 Education (ACGME) Accreditation Data System (ADS). <sup>(Core)</sup>  
122  
123 **II. Program Personnel and Resources**  
124  
125 **II.A. Program Director**  
126  
127 **II.A.1.** There must be a single program director with authority and  
128 accountability for the operation of the program. The sponsoring  
129 institution's GMEC must approve a change in program director. <sup>(Core)</sup>  
130  
131 **II.A.1.a)** The program director must submit this change to the ACGME  
132 via the ADS. <sup>(Core)</sup>  
133  
134 **II.A.2.** The program director should continue in his or her position for a  
135 length of time adequate to maintain continuity of leadership and  
136 program stability. <sup>(Detail)</sup>  
137  
138 **II.A.3.** Qualifications of the program director must include:  
139  
140 **II.A.3.a)** requisite specialty expertise and documented educational  
141 and administrative experience acceptable to the Review  
142 Committee; <sup>(Core)</sup>  
143  
144 **II.A.3.b)** current certification in the subspecialty of clinical informatics  
145 by a member board of the American Board of Medical  
146 Specialties, or subspecialty qualifications that are acceptable  
147 to the Review Committee; <sup>(Core)</sup>  
148  
149 **II.A.3.c)** current medical licensure and appropriate medical staff  
150 appointment; and, <sup>(Core)</sup>  
151  
152 **II.A.3.d)** at least five years of experience in clinical informatics. <sup>(Detail)</sup>  
153

- 154 **II.A.4.**                    **The program director must administer and maintain an educational**  
155 **environment conducive to educating the fellows in each of the**  
156 **ACGME competency areas.** <sup>(Core)</sup>  
157  
158 **The program director must:**  
159  
160 **II.A.4.a)**                    **oversee and ensure the quality of didactic and clinical**  
161 **education in all sites that participate in the program;** <sup>(Core)</sup>  
162  
163 **II.A.4.b)**                    **approve a local director at each participating site who is**  
164 **accountable for fellow education;** <sup>(Core)</sup>  
165  
166 **II.A.4.c)**                    **approve the selection of program faculty as appropriate;** <sup>(Core)</sup>  
167  
168 **II.A.4.d)**                    **evaluate program faculty;** <sup>(Core)</sup>  
169  
170 **II.A.4.e)**                    **approve the continued participation of program faculty based**  
171 **on evaluation;** <sup>(Core)</sup>  
172  
173 **II.A.4.f)**                    **monitor fellow supervision at all participating sites;** <sup>(Core)</sup>  
174  
175 **II.A.4.g)**                    **prepare and submit all information required and requested by**  
176 **the ACGME;** <sup>(Core)</sup>  
177  
178 **II.A.4.g).(1)**                    **This includes but is not limited to the program**  
179 **information forms and annual program fellow updates**  
180 **to the ADS, and ensure that the information submitted**  
181 **is accurate and complete.** <sup>(Core)</sup>  
182  
183 **II.A.4.h)**                    **ensure compliance with grievance and due process**  
184 **procedures as set forth in the Institutional Requirements and**  
185 **implemented by the sponsoring institution;** <sup>(Detail)</sup>  
186  
187 **II.A.4.i)**                    **provide verification of fellowship education for all fellows,**  
188 **including those who leave the program prior to completion;**  
189 <sup>(Detail)</sup>  
190  
191 **II.A.4.j)**                    **implement policies and procedures consistent with the**  
192 **institutional and program requirements for fellow duty hours**  
193 **and the working environment, including moonlighting,** <sup>(Core)</sup>  
194  
195 **II.A.4.j).(1)**                    **and, to that end, must:**  
196  
197 **II.A.4.j).(2)**                    **distribute these policies and procedures to the fellows**  
198 **and faculty;** <sup>(Detail)</sup>  
199  
200 **II.A.4.j).(3)**                    **monitor fellow duty hours, according to sponsoring**  
201 **institutional policies, with a frequency sufficient to**  
202 **ensure compliance with ACGME requirements;** <sup>(Core)</sup>  
203  
204 **II.A.4.j).(4)**                    **adjust schedules as necessary to mitigate excessive**

205		service demands and/or fatigue; and, <sup>(Detail)</sup>
206		
207	<b>II.A.4.j).(5)</b>	<b>if applicable, monitor the demands of at-home call and</b>
208		<b>adjust schedules as necessary to mitigate excessive</b>
209		<b>service demands and/or fatigue.</b> <sup>(Detail)</sup>
210		
211	<b>II.A.4.k)</b>	<b>monitor the need for and ensure the provision of back up</b>
212		<b>support systems when patient care responsibilities are</b>
213		<b>unusually difficult or prolonged;</b> <sup>(Detail)</sup>
214		
215	<b>II.A.4.l)</b>	<b>comply with the sponsoring institution’s written policies and</b>
216		<b>procedures, including those specified in the Institutional</b>
217		<b>Requirements, for selection, evaluation and promotion of</b>
218		<b>fellows, disciplinary action, and supervision of fellows;</b> <sup>(Detail)</sup>
219		
220	<b>II.A.4.m)</b>	<b>be familiar with and comply with ACGME and Review</b>
221		<b>Committee policies and procedures as outlined in the ACGME</b>
222		<b>Manual of Policies and Procedures;</b> <sup>(Detail)</sup>
223		
224	<b>II.A.4.n)</b>	<b>obtain review and approval of the sponsoring institution’s</b>
225		<b>GMEC/DIO before submitting information or requests to the</b>
226		<b>ACGME, including:</b> <sup>(Core)</sup>
227		
228	<b>II.A.4.n).(1)</b>	<b>all applications for ACGME accreditation of new</b>
229		<b>programs;</b> <sup>(Detail)</sup>
230		
231	<b>II.A.4.n).(2)</b>	<b>changes in fellow complement;</b> <sup>(Detail)</sup>
232		
233	<b>II.A.4.n).(3)</b>	<b>major changes in program structure or length of</b>
234		<b>training;</b> <sup>(Detail)</sup>
235		
236	<b>II.A.4.n).(4)</b>	<b>progress reports requested by the Review Committee;</b>
237		<sup>(Detail)</sup>
238		
239	<b>II.A.4.n).(5)</b>	<b>responses to all proposed adverse actions;</b> <sup>(Detail)</sup>
240		
241	<b>II.A.4.n).(6)</b>	<b>requests for increases or any change to fellow duty</b>
242		<b>hours;</b> <sup>(Detail)</sup>
243		
244	<b>II.A.4.n).(7)</b>	<b>voluntary withdrawals of ACGME-accredited</b>
245		<b>programs;</b> <sup>(Detail)</sup>
246		
247	<b>II.A.4.n).(8)</b>	<b>requests for appeal of an adverse action;</b> <sup>(Detail)</sup>
248		
249	<b>II.A.4.n).(9)</b>	<b>appeal presentations to a Board of Appeal or the</b>
250		<b>ACGME; and,</b> <sup>(Detail)</sup>
251		
252	<b>II.A.4.n).(10)</b>	<b>proposals to ACGME for approval of innovative</b>
253		<b>educational approaches.</b> <sup>(Detail)</sup>
254		
255	<b>II.A.4.o)</b>	<b>obtain DIO review and co-signature on all program</b>

- 256 information forms, as well as any correspondence or  
 257 document submitted to the ACGME that addresses: <sup>(Detail)</sup>  
 258
- 259 **II.A.4.o).(1)** program citations, and/or, <sup>(Detail)</sup>  
 260
- 261 **II.A.4.o).(2)** request for changes in the program that would have  
 262 significant impact, including financial, on the program  
 263 or institution. <sup>(Detail)</sup>  
 264
- 265 **II.B. Faculty**  
 266
- 267 **II.B.1. At each participating site, there must be a sufficient number of**  
 268 **faculty with documented qualifications to instruct and supervise all**  
 269 **fellows at that location.** <sup>(Core)</sup>  
 270
- 271 **II.B.1.a)** In addition to the program director, there must be at least two  
 272 faculty members. <sup>(Core)</sup>  
 273
- 274 **II.B.1.a).(1)** The faculty members and program director should equal at  
 275 least two FTE. <sup>(Detail)</sup>  
 276
- 277 **The faculty must:**  
 278
- 279 **II.B.1.b) devote sufficient time to the educational program to fulfill**  
 280 **their supervisory and teaching responsibilities; and to**  
 281 **demonstrate a strong interest in the education of fellows, and**  
 282 <sup>(Core)</sup>  
 283
- 284 **II.B.1.c) administer and maintain an educational environment**  
 285 **conducive to educating fellows in each of the ACGME**  
 286 **competency areas.** <sup>(Core)</sup>  
 287
- 288 **II.B.2. The physician faculty must have current certification in the**  
 289 **subspecialty of clinical informatics by a member board of the American**  
 290 **Board of Medical Specialties (ABMS), or possess qualifications**  
 291 **judged acceptable to the Review Committee.** <sup>(Core)</sup>  
 292
- 293 **II.B.2.a).(1)** At least one of the physician faculty members must be  
 294 certified in clinical informatics by a member board of the  
 295 ABMS. <sup>(Core)</sup>  
 296
- 297 **II.B.3. The physician faculty must possess current medical licensure and**  
 298 **appropriate medical staff appointment.** <sup>(Core)</sup>  
 299
- 300 **II.B.4. The nonphysician faculty must have appropriate qualifications in**  
 301 **their field and hold appropriate institutional appointments.** <sup>(Core)</sup>  
 302
- 303 **II.B.5. The faculty must establish and maintain an environment of inquiry**  
 304 **and scholarship with an active research component.** <sup>(Core)</sup>  
 305
- 306 **II.B.5.a) The faculty must regularly participate in organized clinical**

- 307 **discussions, rounds, journal clubs, and conferences.** <sup>(Detail)</sup>  
308  
309 **II.B.5.b) Some members of the faculty should also demonstrate**  
310 **scholarship by one or more of the following:**  
311  
312 **II.B.5.b).(1) peer-reviewed funding;** <sup>(Detail)</sup>  
313  
314 **II.B.5.b).(2) publication of original research or review articles in**  
315 **peer-reviewed journals, or chapters in textbooks;** <sup>(Detail)</sup>  
316  
317 **II.B.5.b).(3) publication or presentation of case reports or clinical**  
318 **series at local, regional, or national professional and**  
319 **scientific society meetings; or,** <sup>(Detail)</sup>  
320  
321 **II.B.5.b).(4) participation in national committees or educational**  
322 **organizations.** <sup>(Detail)</sup>  
323  
324 **II.B.5.c) Faculty should encourage and support fellows in scholarly**  
325 **activities.** <sup>(Core)</sup>  
326  
327 **II.C. Other Program Personnel**  
328  
329 **The institution and the program must jointly ensure the availability of all**  
330 **necessary professional, technical, and clerical personnel for the effective**  
331 **administration of the program.** <sup>(Core)</sup>  
332  
333 **II.C.1. Administrative support must include a program coordinator to provide**  
334 **adequate administrative and technological support to the fellowship.** <sup>(Detail)</sup>  
335  
336 **II.D. Resources**  
337  
338 **The institution and the program must jointly ensure the availability of**  
339 **adequate resources for fellow education, as defined in the specialty**  
340 **program requirements.** <sup>(Core)</sup>  
341  
342 **II.D.1. There must be space and equipment for the educational program,**  
343 **including meeting rooms, classrooms, computers, Internet access, visual**  
344 **and other educational aids, and work/study space.** <sup>(Detail)</sup>  
345  
346 **II.D.2. The primary clinical site must operate a clinical information system that is**  
347 **able to:** <sup>(Core)</sup>  
348  
349 **II.D.2.a) collect, store, retrieve, and manage health and wellness data and**  
350 **information;** <sup>(Core)</sup>  
351  
352 **II.D.2.b) provide clinical decision support; and,** <sup>(Core)</sup>  
353  
354 **II.D.2.c) support ambulatory, inpatient, and remote care settings, as**  
355 **needed.** <sup>(Core)</sup>  
356  
357 **II.E. Medical Information Access**

358  
359 **Fellows must have ready access to specialty-specific and other appropriate**  
360 **reference material in print or electronic format. Electronic medical literature**  
361 **databases with search capabilities should be available.** <sup>(Detail)</sup>  
362

363 **III. Fellow Appointments**

364  
365 **III.A. Eligibility Criteria**

366  
367 **The program director must comply with the criteria for fellow eligibility as**  
368 **specified in the Institutional Requirements.** <sup>(Core)</sup>  
369

370 **III.A.1.** Prior to appointment in the program, each fellow must have successfully  
371 completed an ACGME-accredited residency program. <sup>(Core)</sup>  
372

373 **III.B. Number of Fellows**

374  
375 **The program's educational resources must be adequate to support the**  
376 **number of fellows appointed to the program.** <sup>(Core)</sup>  
377

378 **III.B.1.** **The program director may not appoint more fellows than approved**  
379 **by the Review Committee, unless otherwise stated in the specialty-**  
380 **specific requirements.** <sup>(Core)</sup>  
381

382 **III.C. Fellow Transfers**

383  
384 **III.C.1.** **Before accepting a fellow who is transferring from another program,**  
385 **the program director must obtain written or electronic verification of**  
386 **previous educational experiences and a summative competency-**  
387 **based performance evaluation of the transferring fellow.** <sup>(Detail)</sup>  
388

389 **III.C.2.** **A program director must provide timely verification of fellowship**  
390 **education and summative performance evaluations for fellows who**  
391 **may leave the program prior to completion.** <sup>(Detail)</sup>  
392

393 **III.D. Appointment of Fellows and Other Learners**

394  
395 **The presence of other learners (including, but not limited to, residents from**  
396 **other specialties, subspecialty fellows, PhD students, and nurse**  
397 **practitioners) in the program must not interfere with the appointed fellows'**  
398 **education.** <sup>(Core)</sup>  
399

400 **III.D.1.** **The program director must report the presence of other learners to**  
401 **the DIO and GMEC in accordance with sponsoring institution**  
402 **guidelines.** <sup>(Detail)</sup>  
403

404 **IV. Educational Program**

405  
406 **IV.A. The curriculum must contain the following educational components:**

407  
408 **IV.A.1. Overall educational goals for the program, which the program must**

409		<b>make available to fellows and faculty;</b> <sup>(Core)</sup>
410		
411	<b>IV.A.2.</b>	<b>Competency-based goals and objectives for each assignment at</b>
412		<b>each educational level, which the program must distribute to fellows</b>
413		<b>and faculty at least annually, in either written or electronic form;</b> <sup>(Core)</sup>
414		
415	<b>IV.A.3.</b>	<b>Regularly scheduled didactic sessions;</b> <sup>(Core)</sup>
416		
417	<b>IV.A.4.</b>	<b>Delineation of fellow responsibilities for patient care, progressive</b>
418		<b>responsibility for patient management, and supervision of fellows</b>
419		<b>over the continuum of the program; and,</b> <sup>(Core)</sup>
420		
421	<b>IV.A.5.</b>	<b>ACGME Competencies</b>
422		
423		<b>The program must integrate the following ACGME competencies</b>
424		<b>into the curriculum:</b> <sup>(Core)</sup>
425		
426	<b>IV.A.5.a)</b>	<b>Patient Care and Procedural Skills</b>
427		
428	<b>IV.A.5.a).(1)</b>	<b>Fellows must be able to provide patient care that is</b>
429		<b>compassionate, appropriate, and effective for the</b>
430		<b>treatment of health problems and the promotion of</b>
431		<b>health. Fellows must:</b> <sup>(Outcome)</sup>
432		
433	IV.A.5.a).(1).(a)	demonstrate competence in the leverage of
434		information and communication technology to:
435		<sup>(Outcome)</sup>
436		
437	IV.A.5.a).(1).(a).(i)	use informatics across the dimensions of
438		health care: health promotion, disease
439		prevention, diagnosis, and treatment of
440		individuals and their families across the
441		lifespan;
442		
443	IV.A.5.a).(1).(a).(ii)	use informatics tools to improve
444		assessment, interdisciplinary care planning,
445		management, coordination, and follow-up of
446		patients;
447		
448	IV.A.5.a).(1).(a).(iii)	use informatics tools, such as electronic
449		health records or personal health records, to
450		facilitate the coordination and
451		documentation of key events in patient care,
452		such as family communication, consultation
453		around goals of care, immunizations,
454		advance directive completion, and
455		involvement of multiple team members as
456		appropriate; and,
457		
458	IV.A.5.a).(1).(a).(iv)	use informatics tools to promote
459		confidentiality and security of patient data.

460		(Outcome)
461		
462	IV.A.5.a).(1).(b)	demonstrate skill in fundamental programming, data base design, and user interface design;
463		(Outcome)
464		
465		
466	IV.A.5.a).(1).(c)	demonstrate competence in the identification of changes needed in organizational processes and clinician practices to optimize health system operational effectiveness;
467		(Outcome)
468		
469		
470		
471	IV.A.5.a).(1).(d)	demonstrate competence in the analysis of patient care workflow and processes to identify information system features that will support improved quality, efficiency, effectiveness, and safety of clinical services;
472		(Outcome)
473		
474		
475		
476		
477	IV.A.5.a).(1).(e)	demonstrate competence in the assessment of user needs for a clinical information or telecommunication system or application;
478		(Outcome)
479		
480		
481	IV.A.5.a).(1).(f)	combine an understanding of informatics concepts, methods, and tools to develop, implement, and refine clinical decision support systems; and,
482		(Outcome)
483		
484		
485		
486	IV.A.5.a).(1).(g)	evaluate the impact of information system implementation and use on patient care and users.
487		(Outcome)
488		
489		
490	<b>IV.A.5.a).(2)</b>	<b>Fellows must be able to competently perform all medical, diagnostic, and surgical procedures considered essential for the area of practice.</b>
491		(Outcome)
492		
493		
494	<b>IV.A.5.b)</b>	<b>Medical Knowledge</b>
495		
496		<b>Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. Fellows:</b>
497		(Outcome)
498		
499		
500		
501		must demonstrate knowledge of:
502		
503	IV.A.5.b).(1)	fundamental informatics vocabulary, concepts, models, and theories;
504		(Outcome)
505		
506	IV.A.5.b).(2)	the health care environment, to include how business processes and financial considerations, including resourcing information technology, influence health care delivery and the flow of data among the major domains of the health system;
507		(Outcome)
508		
509		
510		

511		
512	IV.A.5.b).(3)	how information systems and processes enhance or
513		compromise the decision making and actions of health
514		care team members; <sup>(Outcome)</sup>
515		
516	IV.A.5.b).(4)	process improvement or change management for health
517		care processes; <sup>(Outcome)</sup>
518		
519	IV.A.5.b).(5)	fundamental information system concepts, including
520		project management, the life cycle of information systems,
521		the constantly evolving capabilities of information
522		technology and health care, and the technical and non-
523		technical issues surrounding system implementation;
524		<sup>(Outcome)</sup>
525		
526	IV.A.5.b).(6)	the impact of clinical information systems on users and
527		patients; <sup>(Outcome)</sup>
528		
529	IV.A.5.b).(7)	strategies to support clinician users and promote clinician
530		adoption of systems; <sup>(Outcome)</sup>
531		
532	IV.A.5.b).(8)	clinical decision support, use, and implementation; <sup>(Outcome)</sup>
533		
534	IV.A.5.b).(9)	evaluation of information systems to provide feedback for
535		system improvement; <sup>(Outcome)</sup>
536		
537	IV.A.5.b).(10)	leadership in organizational change, fostering
538		collaboration, communicating effectively, and managing
539		large scale projects related to clinical information systems;
540		and, <sup>(Outcome)</sup>
541		
542	IV.A.5.b).(11)	risk management and mitigation related to patient safety
543		and privacy. <sup>(Outcome)</sup>
544		
545	<b>IV.A.5.c)</b>	<b>Practice-based Learning and Improvement</b>
546		
547		<b>Fellows must demonstrate the ability to investigate and</b>
548		<b>evaluate their care of patients, to appraise and assimilate</b>
549		<b>scientific evidence, and to continuously improve patient care</b>
550		<b>based on constant self-evaluation and life-long learning.</b>
551		<sup>(Outcome)</sup>
552		
553		<b>Fellows are expected to develop skills and habits to be able</b>
554		<b>to meet the following goals:</b>
555		
556	<b>IV.A.5.c).(1)</b>	<b>identify strengths, deficiencies, and limits in one's</b>
557		<b>knowledge and expertise;</b> <sup>(Outcome)</sup>
558		
559	<b>IV.A.5.c).(2)</b>	<b>set learning and improvement goals;</b> <sup>(Outcome)</sup>
560		
561	<b>IV.A.5.c).(3)</b>	<b>identify and perform appropriate learning activities;</b>

562		(Outcome)
563		
564	<b>IV.A.5.c).(4)</b>	<b>systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;</b> (Outcome)
565		
566		
567		
568	<b>IV.A.5.c).(5)</b>	<b>incorporate formative evaluation feedback into daily practice;</b> (Outcome)
569		
570		
571	<b>IV.A.5.c).(6)</b>	<b>locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems;</b> (Outcome)
572		
573		
574		
575	<b>IV.A.5.c).(7)</b>	<b>use information technology to optimize learning; and,</b> (Outcome)
576		
577		
578	<b>IV.A.5.c).(8)</b>	<b>participate in the education of patients, families, students, fellows and other health professionals.</b> (Outcome)
579		
580		
581		
582	<b>IV.A.5.d)</b>	<b>Interpersonal and Communication Skills</b>
583		
584		
585		<b>Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.</b> (Outcome)
586		
587		
588		
589		<b>Fellows are expected to:</b>
590		
591	<b>IV.A.5.d).(1)</b>	<b>communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds;</b> (Outcome)
592		
593		
594		
595	<b>IV.A.5.d).(2)</b>	<b>communicate effectively with physicians, other health professionals and health related agencies;</b> (Outcome)
596		
597		
598	<b>IV.A.5.d).(2).(a)</b>	Fellows must demonstrate the ability to serve as a liaison between information technology professionals, administrators, and clinicians. (Outcome)
599		
600		
601		
602	<b>IV.A.5.d).(3)</b>	<b>work effectively as a member or leader of a health care team or other professional group;</b> (Outcome)
603		
604		
605	<b>IV.A.5.d).(4)</b>	<b>act in a consultative role to other physicians and health professionals; and,</b> (Outcome)
606		
607		
608	<b>IV.A.5.d).(5)</b>	<b>maintain comprehensive, timely, and legible medical records, if applicable.</b> (Outcome)
609		
610		
611	<b>IV.A.5.e)</b>	<b>Professionalism</b>
612		

613 **Fellows must demonstrate a commitment to carrying out**  
614 **professional responsibilities and an adherence to ethical**  
615 **principles.** <sup>(Outcome)</sup>

616  
617 **Fellows are expected to demonstrate:**

618  
619 **IV.A.5.e).(1)** **compassion, integrity, and respect for others;** <sup>(Outcome)</sup>

620  
621 **IV.A.5.e).(2)** **responsiveness to patient needs that supersedes self-**  
622 **interest;** <sup>(Outcome)</sup>

623  
624 **IV.A.5.e).(3)** **respect for patient privacy and autonomy;** <sup>(Outcome)</sup>

625  
626 **IV.A.5.e).(4)** **accountability to patients, society and the profession;**  
627 <sup>(Outcome)</sup>

628  
629 **IV.A.5.e).(4).(a)** **Fellows must demonstrate the ability to recognize**  
630 **the causes and prevention of security breaches and**  
631 **their consequences to the individual, system,**  
632 **organization, and society at large.** <sup>(Outcome)</sup>

633  
634 **IV.A.5.e).(5)** **sensitivity and responsiveness to a diverse patient**  
635 **population, including but not limited to diversity in**  
636 **gender, age, culture, race, religion, disabilities, and**  
637 **sexual orientation; and,** <sup>(Outcome)</sup>

638  
639 **IV.A.5.e).(6)** **sensitivity to the impact information system changes have**  
640 **on practice patterns and physician-patient relations.** <sup>(Outcome)</sup>

641  
642 **IV.A.5.f)** **Systems-based Practice**

643  
644 **Fellows must demonstrate an awareness of and**  
645 **responsiveness to the larger context and system of health**  
646 **care, as well as the ability to call effectively on other**  
647 **resources in the system to provide optimal health care.**  
648 <sup>(Outcome)</sup>

649  
650 **Fellows are expected to:**

651  
652 **IV.A.5.f).(1)** **work effectively in various health care delivery**  
653 **settings and systems relevant to their clinical**  
654 **specialty;** <sup>(Outcome)</sup>

655  
656 **IV.A.5.f).(2)** **coordinate patient care within the health care system**  
657 **relevant to their clinical specialty;** <sup>(Outcome)</sup>

658  
659 **IV.A.5.f).(3)** **incorporate considerations of cost awareness and**  
660 **risk-benefit analysis in patient and/or population-**  
661 **based care as appropriate;** <sup>(Outcome)</sup>

662  
663 **IV.A.5.f).(4)** **advocate for quality patient care and optimal patient**

664		<b>care systems;</b> <sup>(Outcome)</sup>
665		
666	<b>IV.A.5.f).(5)</b>	<b>work in interprofessional teams to enhance patient safety and improve patient care quality;</b> <sup>(Outcome)</sup>
667		
668		
669	<b>IV.A.5.f).(6)</b>	<b>participate in identifying system errors and implementing potential systems solutions;</b> <sup>(Outcome)</sup>
670		
671		
672	IV.A.5.f).(6).(a)	Fellows must demonstrate the ability to recognize one's own role and the role of systems in prevention and disclosure of medical error. <sup>(Outcome)</sup>
673		
674		
675		
676	IV.A.5.f).(7)	identify, evaluate, and implement systems improvement based on clinical practice or patient and family satisfaction data in personal practice, in team practice, and within institutional settings; <sup>(Outcome)</sup>
677		
678		
679		
680		
681	IV.A.5.f).(8)	demonstrate knowledge of the various settings and related structures for organizing, regulating, and financing care for patients; <sup>(Outcome)</sup>
682		
683		
684		
685	IV.A.5.f).(9)	analyze the impact of business strategies on information technology; <sup>(Outcome)</sup>
686		
687		
688	IV.A.5.f).(10)	analyze patient care workflow and processes; <sup>(Outcome)</sup>
689		
690	IV.A.5.f).(11)	identify information system features that will support improved quality, efficiency, effectiveness, and safety of clinical services; <sup>(Outcome)</sup>
691		
692		
693		
694	IV.A.5.f).(12)	analyze systems for potential unintended consequences of changes; and, <sup>(Outcome)</sup>
695		
696		
697	IV.A.5.f).(13)	demonstrate awareness of issues related to patient privacy. <sup>(Outcome)</sup>
698		
699		
700	IV.A.6.	Curriculum Organization and Fellow Experiences
701		
702	IV.A.6.a)	Fellows must participate in planning and in conducting conferences. <sup>(Detail)</sup>
703		
704		
705	IV.A.6.b)	Fellows must have clearly defined, written descriptions of responsibilities and a reporting structure for all educational assignments. <sup>(Core)</sup>
706		
707		
708		
709	IV.A.6.c)	Educational assignments must be designed to provide fellows with exposure to different types of clinical and health information systems. <sup>(Core)</sup>
710		
711		
712		
713	IV.A.6.d)	Educational assignments should have a particular focus (or foci), such as: <sup>(Detail)</sup>
714		

715		
716	IV.A.6.d).(1)	bioinformatics/computational biology; <sup>(Detail)</sup>
717		
718	IV.A.6.d).(2)	laboratory information systems/pathology informatics; <sup>(Detail)</sup>
719		
720	IV.A.6.d).(3)	remote systems/telemedicine; <sup>(Detail)</sup>
721		
722	IV.A.6.d).(4)	algorithm development; <sup>(Detail)</sup>
723		
724	IV.A.6.d).(5)	diagnostics; <sup>(Detail)</sup>
725		
726	IV.A.6.d).(6)	imaging; <sup>(Detail)</sup>
727		
728	IV.A.6.d).(7)	public health informatics; <sup>(Detail)</sup>
729		
730	IV.A.6.d).(8)	clinical translational research; <sup>(Detail)</sup>
731		
732	IV.A.6.d).(9)	regulatory informatics; <sup>(Detail)</sup>
733		
734	IV.A.6.d).(10)	information technology business strategy and management; <sup>(Detail)</sup>
735		
736		
737	IV.A.6.d).(11)	data organization/user interface; and, <sup>(Detail)</sup>
738		
739	IV.A.6.d).(12)	specialty-specific focus. <sup>(Detail)</sup>
740		
741	IV.A.6.e)	Educational assignments should be conducted within at least three of the following settings: inpatient, ambulatory, remote applications, government agencies, industry, health record banking, or consulting firms. <sup>(Detail)</sup>
742		
743		
744		
745		
746	IV.A.6.f)	Each fellow must have an individualized learning plan that is specific to his or her primary specialty. <sup>(Core)</sup>
747		
748		
749	IV.A.6.g)	Fellows should have long-term assignments to integrate their knowledge and prior experience in a clinical setting that poses real-world clinical informatics challenges. <sup>(Core)</sup>
750		
751		
752		
753	IV.A.6.g).(1)	Each fellow must participate as a member of at least one interdisciplinary team that is addressing clinical informatics needs for the health system. <sup>(Core)</sup>
754		
755		
756		
757	IV.A.6.g).(1).(a)	This experience must include analyzing issues, planning, and implementing recommendations from the team. <sup>(Detail)</sup>
758		
759		
760		
761	IV.A.6.g).(1).(b)	The interdisciplinary team should include physicians, nurses, other health care professionals, administrators, and information technology/system personnel. <sup>(Detail)</sup>
762		
763		
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765		

766	IV.A.6.g).(1).(c)	Each fellow should be an active participant in a team or teams for at least 12 months. <sup>(Detail)</sup>
767		
768		
769	IV.A.6.h)	Fellows should spend at least one half-day per week maintaining their skills in their primary specialty areas. <sup>(Detail)</sup>
770		
771		
772	IV.A.6.h).(1)	The program should not require that the fellows provide more than, on average, 12 hours per week in clinical practice outside the requirements of the clinical informatics program. <sup>(Detail)</sup>
773		
774		
775		
776		
777	<b>IV.B.</b>	<b>Fellows' Scholarly Activities</b>
778		
779	<b>IV.B.1.</b>	<b>The curriculum must advance fellows' knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.</b> <sup>(Core)</sup>
780		
781		
782		
783	<b>IV.B.2.</b>	<b>Fellows should participate in scholarly activity.</b> <sup>(Core)</sup>
784		
785	<b>IV.B.3.</b>	<b>The sponsoring institution and program should allocate adequate educational resources to facilitate fellow involvement in scholarly activities.</b> <sup>(Detail)</sup>
786		
787		
788		
789	<b>V.</b>	<b>Evaluation</b>
790		
791	<b>V.A.</b>	<b>Fellow Evaluation</b>
792		
793	<b>V.A.1.</b>	<b>The program director must appoint the Clinical Competency Committee.</b> <sup>(Core)</sup>
794		
795		
796	<b>V.A.1.a)</b>	<b>At a minimum the Clinical Competency Committee must be composed of three members of the program faculty.</b> <sup>(Core)</sup>
797		
798		
799	<b>V.A.1.a).(1)</b>	<b>Others eligible for appointment to the committee include faculty from other programs and non-physician members of the health care team.</b> <sup>(Detail)</sup>
800		
801		
802		
803	<b>V.A.1.b)</b>	<b>There must be a written description of the responsibilities of the Clinical Competency Committee.</b> <sup>(Core)</sup>
804		
805		
806	<b>V.A.1.b).(1)</b>	<b>The Clinical Competency Committee should:</b>
807		
808	<b>V.A.1.b).(1).(a)</b>	<b>review all resident evaluations semi-annually;</b> <sup>(Core)</sup>
809		
810		
811	<b>V.A.1.b).(1).(b)</b>	<b>prepare and assure the reporting of Milestones evaluations of each resident semi-annually to ACGME; and,</b> <sup>(Core)</sup>
812		
813		
814		

815	<b>V.A.1.b).(1).(c)</b>	<b>advise the program director regarding resident progress, including promotion, remediation, and dismissal.</b> <sup>(Detail)</sup>
816		
817		
818		
819	<b>V.A.2.</b>	<b>Formative Evaluation</b>
820		
821	<b>V.A.2.a)</b>	<b>The faculty must evaluate fellow performance in a timely manner during each rotation or similar educational assignment, and document this evaluation at completion of the assignment.</b> <sup>(Core)</sup>
822		
823		
824		
825		
826	<b>V.A.2.b)</b>	<b>The program must:</b>
827		
828	<b>V.A.2.b).(1)</b>	<b>provide objective assessments of competence in patient care and procedural skills, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice based on the specialty-specific Milestones;</b> <sup>(Core)</sup>
829		
830		
831		
832		
833		
834		
835	<b>V.A.2.b).(2)</b>	<b>use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff);</b> <sup>(Detail)</sup>
836		
837		
838	<b>V.A.2.b).(3)</b>	<b>document progressive fellow performance improvement appropriate to educational level; and,</b> <sup>(Core)</sup>
839		
840		
841		
842	<b>V.A.2.b).(4)</b>	<b>provide each fellow with documented semiannual evaluation of performance with feedback.</b> <sup>(Core)</sup>
843		
844		
845	<b>V.A.2.b).(4).(a)</b>	The semiannual evaluation should include review of an individualized learning e-portfolio, which may include IT applications used, projects participated in, presentations given, team/committee work, courses taken, externships, or other educational product. <sup>(Detail)</sup>
846		
847		
848		
849		
850		
851		
852	<b>V.A.2.c)</b>	<b>The evaluations of fellow performance must be accessible for review by the fellow, in accordance with institutional policy.</b> <sup>(Detail)</sup>
853		
854		
855		
856	<b>V.A.3.</b>	<b>Summative Evaluation</b>
857		
858	<b>V.A.3.a)</b>	<b>The specialty-specific Milestones must be used as one of the tools to ensure fellows are able to practice core professional activities without supervision upon completion of the program.</b> <sup>(Core)</sup>
859		
860		
861		
862		
863	<b>V.A.3.b)</b>	<b>The program director must provide a summative evaluation for each fellow upon completion of the program.</b> <sup>(Core)</sup>
864		
865		

- 866 **This evaluation must:**  
867  
868 **V.A.3.b).(1)** **become part of the fellow’s permanent record**  
869 **maintained by the institution, and must be accessible**  
870 **for review by the fellow in accordance with**  
871 **institutional policy;** <sup>(Detail)</sup>  
872  
873 **V.A.3.b).(2)** **document the fellow’s performance during the final**  
874 **period of education; and,** <sup>(Detail)</sup>  
875  
876 **V.A.3.b).(3)** **verify that the fellow has demonstrated sufficient**  
877 **competence to enter practice without direct**  
878 **supervision.** <sup>(Detail)</sup>  
879  
880 **V.B. Faculty Evaluation**  
881  
882 **V.B.1.** **At least annually, the program must evaluate faculty performance as**  
883 **it relates to the educational program.** <sup>(Core)</sup>  
884  
885 **V.B.2.** **These evaluations should include a review of the faculty’s clinical**  
886 **teaching abilities, commitment to the educational program, clinical**  
887 **knowledge, professionalism, and scholarly activities.** <sup>(Detail)</sup>  
888  
889 **V.B.3.** **This evaluation must include at least annual written confidential**  
890 **evaluations by the fellows.** <sup>(Detail)</sup>  
891  
892 **V.C. Program Evaluation and Improvement**  
893  
894 **V.C.1.** **The program director must appoint the Program Evaluation**  
895 **Committee (PEC).** <sup>(Core)</sup>  
896  
897 **V.C.1.a)** **The Program Evaluation Committee:**  
898  
899 **V.C.1.a).(1)** **must be composed of at least two program faculty**  
900 **members and should include at least one resident;**  
901 <sup>(Core)</sup>  
902  
903 **V.C.1.a).(2)** **must have a written description of its responsibilities;**  
904 **and,** <sup>(Core)</sup>  
905  
906 **V.C.1.a).(3)** **should participate actively in:**  
907  
908 **V.C.1.a).(3).(a)** **planning, developing, implementing, and**  
909 **evaluating educational activities of the**  
910 **program;** <sup>(Detail)</sup>  
911  
912 **V.C.1.a).(3).(b)** **reviewing and making recommendations for**  
913 **revision of competency-based curriculum goals**  
914 **and objectives;** <sup>(Detail)</sup>  
915  
916 **V.C.1.a).(3).(c)** **addressing areas of non-compliance with**

- 917 ACGME standards; and, <sup>(Detail)</sup>
- 918
- 919 **V.C.1.a).(3).(d)** reviewing the program annually using
- 920 evaluations of faculty, residents, and others, as
- 921 specified below. <sup>(Detail)</sup>
- 922
- 923 **V.C.2.** The program, through the PEC, must document formal, systematic
- 924 evaluation of the curriculum at least annually, and is responsible for
- 925 rendering a written and Annual Program Evaluation (APE). <sup>(Core)</sup>
- 926
- 927 The program must monitor and track each of the following areas:
- 928
- 929 **V.C.2.a)** resident performance; <sup>(Core)</sup>
- 930
- 931 **V.C.2.b)** faculty development; <sup>(Core)</sup>
- 932
- 933 **V.C.2.c)** graduate performance, including performance of program
- 934 graduates on the certification examination; <sup>(Core)</sup>
- 935
- 936 **V.C.2.d)** program quality; and, <sup>(Core)</sup>
- 937
- 938 **V.C.2.d).(1)** Residents and faculty must have the opportunity to
- 939 evaluate the program confidentially and in writing at
- 940 least annually, and <sup>(Detail)</sup>
- 941
- 942 **V.C.2.d).(2)** The program must use the results of residents' and
- 943 faculty members' assessments of the program
- 944 together with other program evaluation results to
- 945 improve the program. <sup>(Detail)</sup>
- 946
- 947 **V.C.2.e)** progress on the previous year's action plan(s). <sup>(Core)</sup>
- 948
- 949 **V.C.3.** The PEC must prepare a written plan of action to document
- 950 initiatives to improve performance in one or more of the areas listed
- 951 in section V.C.2., as well as delineate how they will be measured and
- 952 monitored. <sup>(Core)</sup>
- 953
- 954 **V.C.3.a)** The action plan should be reviewed and approved by the
- 955 teaching faculty and documented in meeting minutes. <sup>(Detail)</sup>
- 956
- 957 **VI. Fellow Duty Hours in the Learning and Working Environment**
- 958
- 959 **VI.A. Professionalism, Personal Responsibility, and Patient Safety**
- 960
- 961 **VI.A.1.** Programs and sponsoring institutions must educate fellows and
- 962 faculty members concerning the professional responsibilities of
- 963 physicians to appear for duty appropriately rested and fit to provide
- 964 the services required by their patients. <sup>(Core)</sup>
- 965
- 966 **VI.A.2.** The program must be committed to and responsible for promoting
- 967 patient safety and fellow well-being in a supportive educational

968		environment. <sup>(Core)</sup>
969		
970	<b>VI.A.3.</b>	<b>The program director must ensure that fellows are integrated and actively participate in interdisciplinary clinical quality improvement and patient safety programs. <sup>(Core)</sup></b>
971		
972		
973		
974	<b>VI.A.4.</b>	<b>The learning objectives of the program must:</b>
975		
976	<b>VI.A.4.a)</b>	<b>be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; and, <sup>(Core)</sup></b>
977		
978		
979		
980	<b>VI.A.4.b)</b>	<b>not be compromised by excessive reliance on fellows to fulfill non-physician service obligations. <sup>(Core)</sup></b>
981		
982		
983	<b>VI.A.5.</b>	<b>The program director and institution must ensure a culture of professionalism that supports patient safety and personal responsibility. <sup>(Core)</sup></b>
984		
985		
986		
987	<b>VI.A.6.</b>	<b>Fellows and faculty members must demonstrate an understanding and acceptance of their personal role in the following:</b>
988		
989		
990	<b>VI.A.6.a)</b>	<b>assurance of the safety and welfare of patients entrusted to their care; <sup>(Outcome)</sup></b>
991		
992		
993	<b>VI.A.6.b)</b>	<b>provision of patient- and family-centered care; <sup>(Outcome)</sup></b>
994		
995	<b>VI.A.6.c)</b>	<b>assurance of their fitness for duty; <sup>(Outcome)</sup></b>
996		
997	<b>VI.A.6.d)</b>	<b>management of their time before, during, and after clinical assignments; <sup>(Outcome)</sup></b>
998		
999		
1000	<b>VI.A.6.e)</b>	<b>recognition of impairment, including illness and fatigue, in themselves and in their peers; <sup>(Outcome)</sup></b>
1001		
1002		
1003	<b>VI.A.6.f)</b>	<b>attention to lifelong learning; <sup>(Outcome)</sup></b>
1004		
1005	<b>VI.A.6.g)</b>	<b>the monitoring of their patient care performance improvement indicators; and, <sup>(Outcome)</sup></b>
1006		
1007		
1008	<b>VI.A.6.h)</b>	<b>honest and accurate reporting of duty hours, patient outcomes, and clinical experience data. <sup>(Outcome)</sup></b>
1009		
1010		
1011	<b>VI.A.7.</b>	<b>All fellows and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. They must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient's care to another qualified and rested provider. <sup>(Outcome)</sup></b>
1012		
1013		
1014		
1015		
1016		
1017	<b>VI.B.</b>	<b>Transitions of Care</b>
1018		

- 1019 **VI.B.1.** Programs must design clinical assignments to minimize the number  
1020 of transitions in patient care. <sup>(Core)</sup>  
1021
- 1022 **VI.B.2.** Sponsoring institutions and programs must ensure and monitor  
1023 effective, structured hand-over processes to facilitate both  
1024 continuity of care and patient safety. <sup>(Core)</sup>  
1025
- 1026 **VI.B.3.** Programs must ensure that fellows are competent in communicating  
1027 with team members in the hand-over process. <sup>(Outcome)</sup>  
1028
- 1029 **VI.B.4.** The sponsoring institution must ensure the availability of schedules  
1030 that inform all members of the health care team of attending  
1031 physicians and fellows currently responsible for each patient's care.  
1032 <sup>(Detail)</sup>  
1033
- 1034 **VI.C.** Alertness Management/Fatigue Mitigation  
1035
- 1036 **VI.C.1.** The program must:  
1037
- 1038 **VI.C.1.a)** educate all faculty members and fellows to recognize the  
1039 signs of fatigue and sleep deprivation; <sup>(Core)</sup>  
1040
- 1041 **VI.C.1.b)** educate all faculty members and fellows in alertness  
1042 management and fatigue mitigation processes; and, <sup>(Core)</sup>  
1043
- 1044 **VI.C.1.c)** adopt fatigue mitigation processes to manage the potential  
1045 negative effects of fatigue on patient care and learning, such  
1046 as naps or back-up call schedules. <sup>(Detail)</sup>  
1047
- 1048 **VI.C.2.** Each program must have a process to ensure continuity of patient  
1049 care in the event that a fellow may be unable to perform his/her  
1050 patient care duties. <sup>(Core)</sup>  
1051
- 1052 **VI.C.3.** The sponsoring institution must provide adequate sleep facilities  
1053 and/or safe transportation options for fellows who may be too  
1054 fatigued to safely return home. <sup>(Core)</sup>  
1055
- 1056 **VI.D.** Supervision of Fellows  
1057
- 1058 **VI.D.1.** In the clinical learning environment, each patient must have an  
1059 identifiable, appropriately-credentialed and privileged attending  
1060 physician (or licensed independent practitioner as approved by each  
1061 Review Committee) who is ultimately responsible for that patient's  
1062 care. <sup>(Core)</sup>  
1063
- 1064 **VI.D.1.a)** This information should be available to fellows, faculty  
1065 members, and patients. <sup>(Detail)</sup>  
1066
- 1067 **VI.D.1.b)** Fellows and faculty members should inform patients of their  
1068 respective roles in each patient's care. <sup>(Detail)</sup>  
1069

- 1070 **VI.D.2.**                    **The program must demonstrate that the appropriate level of**
- 1071 **supervision is in place for all fellows who care for patients.** <sup>(Core)</sup>
- 1072
- 1073                                **Supervision may be exercised through a variety of methods. Some**
- 1074 **activities require the physical presence of the supervising faculty**
- 1075 **member. For many aspects of patient care, the supervising**
- 1076 **physician may be a more advanced resident or fellow. Other**
- 1077 **portions of care provided by the fellow can be adequately**
- 1078 **supervised by the immediate availability of the supervising faculty**
- 1079 **member or fellow physician, either in the institution, or by means of**
- 1080 **telephonic and/or electronic modalities. In some circumstances,**
- 1081 **supervision may include post-hoc review of fellow-delivered care**
- 1082 **with feedback as to the appropriateness of that care.** <sup>(Detail)</sup>
- 1083
- 1084 **VI.D.3.**                    **Levels of Supervision**
- 1085
- 1086                                **To ensure oversight of fellow supervision and graded authority and**
- 1087 **responsibility, the program must use the following classification of**
- 1088 **supervision:** <sup>(Core)</sup>
- 1089
- 1090 **VI.D.3.a)**                    **Direct Supervision – the supervising physician is physically**
- 1091 **present with the fellow and patient.** <sup>(Core)</sup>
- 1092
- 1093 **VI.D.3.b)**                    **Indirect Supervision:**
- 1094
- 1095 **VI.D.3.b).(1)**                    **with direct supervision immediately available – the**
- 1096 **supervising physician is physically within the hospital**
- 1097 **or other site of patient care, and is immediately**
- 1098 **available to provide Direct Supervision.** <sup>(Core)</sup>
- 1099
- 1100 **VI.D.3.b).(2)**                    **with direct supervision available – the supervising**
- 1101 **physician is not physically present within the hospital**
- 1102 **or other site of patient care, but is immediately**
- 1103 **available by means of telephonic and/or electronic**
- 1104 **modalities, and is available to provide Direct**
- 1105 **Supervision.** <sup>(Core)</sup>
- 1106
- 1107 **VI.D.3.c)**                    **Oversight – the supervising physician is available to provide**
- 1108 **review of procedures/encounters with feedback provided**
- 1109 **after care is delivered.** <sup>(Core)</sup>
- 1110
- 1111 **VI.D.4.**                    **The privilege of progressive authority and responsibility, conditional**
- 1112 **independence, and a supervisory role in patient care delegated to**
- 1113 **each fellow must be assigned by the program director and faculty**
- 1114 **members.** <sup>(Core)</sup>
- 1115
- 1116 **VI.D.4.a)**                    **The program director must evaluate each fellow’s abilities**
- 1117 **based on specific criteria. When available, evaluation should**
- 1118 **be guided by specific national standards-based criteria.** <sup>(Core)</sup>
- 1119
- 1120 **VI.D.4.b)**                    **Faculty members functioning as supervising physicians**

1121		should delegate portions of care to fellows, based on the
1122		needs of the patient and the skills of the fellows. <sup>(Detail)</sup>
1123		
1124	<b>VI.D.4.c)</b>	<b>Fellows should serve in a supervisory role of junior residents</b>
1125		<b>in recognition of their progress toward independence, based</b>
1126		<b>on the needs of each patient and the skills of the individual</b>
1127		<b>resident or fellow. <sup>(Detail)</sup></b>
1128		
1129	<b>VI.D.5.</b>	<b>Programs must set guidelines for circumstances and events in</b>
1130		<b>which fellows must communicate with appropriate supervising</b>
1131		<b>faculty members, such as the transfer of a patient to an intensive</b>
1132		<b>care unit, or end-of-life decisions. <sup>(Core)</sup></b>
1133		
1134	<b>VI.D.5.a)</b>	<b>Each fellow must know the limits of his/her scope of</b>
1135		<b>authority, and the circumstances under which he/she is</b>
1136		<b>permitted to act with conditional independence. <sup>(Outcome)</sup></b>
1137		
1138	<b>VI.D.5.a).(1)</b>	<b>In particular, PGY-1 residents should be supervised</b>
1139		<b>either directly or indirectly with direct supervision</b>
1140		<b>immediately available. <sup>(Core)</sup></b>
1141		
1142	<b>VI.D.6.</b>	<b>Faculty supervision assignments should be of sufficient duration to</b>
1143		<b>assess the knowledge and skills of each fellow and delegate to</b>
1144		<b>him/her the appropriate level of patient care authority and</b>
1145		<b>responsibility. <sup>(Detail)</sup></b>
1146		
1147	<b>VI.E.</b>	<b>Clinical Responsibilities</b>
1148		
1149		<b>The clinical responsibilities for each fellow must be based on PGY-level,</b>
1150		<b>patient safety, fellow education, severity and complexity of patient</b>
1151		<b>illness/condition and available support services. <sup>(Core)</sup></b>
1152		
1153	<b>VI.F.</b>	<b>Teamwork</b>
1154		
1155		<b>Fellows must care for patients in an environment that maximizes effective</b>
1156		<b>communication. This must include the opportunity to work as a member of</b>
1157		<b>effective interprofessional teams that are appropriate to the delivery of care</b>
1158		<b>in the specialty. <sup>(Core)</sup></b>
1159		
1160	<b>VI.G.</b>	<b>Fellow Duty Hours</b>
1161		
1162	<b>VI.G.1.</b>	<b>Maximum Hours of Work per Week</b>
1163		
1164		<b>Duty hours must be limited to 80 hours per week, averaged over a</b>
1165		<b>four-week period, inclusive of all in-house call activities and all</b>
1166		<b>moonlighting. <sup>(Core)</sup></b>
1167		
1168	<b>VI.G.1.a)</b>	<b>Duty Hour Exceptions</b>
1169		
1170	<b>VI.G.1.a).(1)</b>	<b>A Review Committee may grant exceptions for up to 10</b>
1171		<b>percent or a maximum of 88 hours to individual</b>

1172		<b>programs based on a sound educational rationale.</b>
1173		(Detail)
1174		
1175	<b>VI.G.1.a).(2)</b>	<b>In preparing a request for an exception the program</b>
1176		<b>director must follow the duty hour exception policy</b>
1177		<b>from the ACGME Manual on Policies and Procedures.</b>
1178		(Detail)
1179		
1180	<b>VI.G.1.a).(3)</b>	<b>Prior to submitting the request to the Review</b>
1181		<b>Committee, the program director must obtain approval</b>
1182		<b>of the institution's GMEC and DIO.</b> (Detail)
1183		
1184	<b>VI.G.2.</b>	<b>Moonlighting</b>
1185		
1186	<b>VI.G.2.a)</b>	<b>Moonlighting must not interfere with the ability of the fellow</b>
1187		<b>to achieve the goals and objectives of the educational</b>
1188		<b>program.</b> (Core)
1189		
1190	<b>VI.G.2.b)</b>	<b>Time spent by fellows in Internal and External Moonlighting</b>
1191		<b>(as defined in the ACGME Glossary of Terms) must be</b>
1192		<b>counted towards the 80-hour Maximum Weekly Hour Limit.</b>
1193		(Core)
1194		
1195	<b>VI.G.2.c)</b>	<b>PGY-1 residents are not permitted to moonlight.</b> (Core)
1196		
1197	<b>VI.G.3.</b>	<b>Mandatory Time Free of Duty</b>
1198		
1199		<b>Fellows must be scheduled for a minimum of one day free of duty</b>
1200		<b>every week (when averaged over four weeks). At-home call cannot</b>
1201		<b>be assigned on these free days.</b> (Core)
1202		
1203	<b>VI.G.4.</b>	<b>Maximum Duty Period Length</b>
1204		
1205	<b>VI.G.4.a)</b>	<b>Duty periods of PGY-1 residents must not exceed 16 hours in</b>
1206		<b>duration.</b> (Core)
1207		
1208	<b>VI.G.4.b)</b>	<b>Duty periods of PGY-2 residents and above may be</b>
1209		<b>scheduled to a maximum of 24 hours of continuous duty in</b>
1210		<b>the hospital.</b> (Core)
1211		
1212	<b>VI.G.4.b).(1)</b>	<b>Programs must encourage fellows to use alertness</b>
1213		<b>management strategies in the context of patient care</b>
1214		<b>responsibilities. Strategic napping, especially after 16</b>
1215		<b>hours of continuous duty and between the hours of</b>
1216		<b>10:00 p.m. and 8:00 a.m., is strongly suggested.</b> (Detail)
1217		
1218	<b>VI.G.4.b).(2)</b>	<b>It is essential for patient safety and fellow education</b>
1219		<b>that effective transitions in care occur. Fellows may be</b>
1220		<b>allowed to remain on-site in order to accomplish these</b>
1221		<b>tasks; however, this period of time must be no longer</b>
1222		<b>than an additional four hours.</b> (Core)

1223		
1224	<b>VI.G.4.b).(3)</b>	<b>Fellows must not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty.</b> <sup>(Core)</sup>
1225		
1226		
1227		
1228	<b>VI.G.4.b).(4)</b>	<b>In unusual circumstances, fellows, on their own initiative, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family.</b> <sup>(Detail)</sup>
1229		
1230		
1231		
1232		
1233		
1234		
1235		
1236		
1237	<b>VI.G.4.b).(4).(a)</b>	<b>Under those circumstances, the fellow must:</b>
1238		
1239	<b>VI.G.4.b).(4).(a).(i)</b>	<b>appropriately hand over the care of all other patients to the team responsible for their continuing care; and,</b> <sup>(Detail)</sup>
1240		
1241		
1242		
1243	<b>VI.G.4.b).(4).(a).(ii)</b>	<b>document the reasons for remaining to care for the patient in question and submit that documentation in every circumstance to the program director.</b> <sup>(Detail)</sup>
1244		
1245		
1246		
1247		
1248		
1249	<b>VI.G.4.b).(4).(b)</b>	<b>The program director must review each submission of additional service, and track both individual fellow and program-wide episodes of additional duty.</b> <sup>(Detail)</sup>
1250		
1251		
1252		
1253		
1254	<b>VI.G.5.</b>	<b>Minimum Time Off between Scheduled Duty Periods</b>
1255		
1256	<b>VI.G.5.a)</b>	<b>PGY-1 residents should have 10 hours, and must have eight hours, free of duty between scheduled duty periods.</b> <sup>(Core)</sup>
1257		
1258		
1259	<b>VI.G.5.b)</b>	<b>Intermediate-level residents should have 10 hours free of duty, and must have eight hours between scheduled duty periods. They must have at least 14 hours free of duty after 24 hours of in-house duty.</b> <sup>(Core)</sup>
1260		
1261		
1262		
1263		
1264	<b>VI.G.5.c)</b>	<b>Residents in the final years of education must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods.</b> <sup>(Outcome)</sup>
1265		
1266		
1267		
1268		<b>Clinical informatics fellows are considered to be in the final years of education.</b>
1269		
1270		
1271	<b>VI.G.5.c).(1)</b>	<b>This preparation must occur within the context of the 80-hour, maximum duty period length, and one-day-off-in-seven standards. While it is desirable that</b>
1272		
1273		

1274 residents in their final years of education have eight  
1275 hours free of duty between scheduled duty periods,  
1276 there may be circumstances when these fellows must  
1277 stay on duty to care for their patients or return to the  
1278 hospital with fewer than eight hours free of duty. <sup>(Detail)</sup>

1279  
1280 **VI.G.5.c).(1).(a)** Circumstances of return-to-hospital activities  
1281 with fewer than eight hours away from the  
1282 hospital by residents in their final years of  
1283 education must be monitored by the program  
1284 director. <sup>(Detail)</sup>

1285  
1286 **VI.G.6.** Maximum Frequency of In-House Night Float  
1287  
1288 Fellows must not be scheduled for more than six consecutive nights  
1289 of night float. <sup>(Core)</sup>

1290  
1291 **VI.G.7.** Maximum In-House On-Call Frequency  
1292  
1293 PGY-2 residents and above must be scheduled for in-house call no  
1294 more frequently than every-third-night (when averaged over a four-  
1295 week period). <sup>(Core)</sup>

1296  
1297 **VI.G.8.** At-Home Call

1298  
1299 **VI.G.8.a)** Time spent in the hospital by fellows on at-home call must  
1300 count towards the 80-hour maximum weekly hour limit. The  
1301 frequency of at-home call is not subject to the every-third-  
1302 night limitation, but must satisfy the requirement for one-day-  
1303 in-seven free of duty, when averaged over four weeks. <sup>(Core)</sup>

1304  
1305 **VI.G.8.a).(1)** At-home call must not be so frequent or taxing as to  
1306 preclude rest or reasonable personal time for each  
1307 fellow. <sup>(Core)</sup>

1308  
1309 **VI.G.8.b)** Fellows are permitted to return to the hospital while on at-  
1310 home call to care for new or established patients. Each  
1311 episode of this type of care, while it must be included in the  
1312 80-hour weekly maximum, will not initiate a new “off-duty  
1313 period”. <sup>(Detail)</sup>

1314  
1315 \*\*\*

1316  
1317 **\*Core Requirements:** Statements that define structure, resource, or process elements essential to every  
1318 graduate medical educational program.

1319 **Detail Requirements:** Statements that describe a specific structure, resource, or process, for achieving  
1320 compliance with a Core Requirement. Programs in substantial compliance with the Outcome  
1321 Requirements may utilize alternative or innovative approaches to meet Core Requirements.

1322 **Outcome Requirements:** Statements that specify expected measurable or observable attributes  
1323 (knowledge, abilities, skills, or attitudes) of residents or fellows at key stages of their graduate medical  
1324 education.