

**ACGME Program Requirements for Graduate Medical Education  
in Clinical Informatics  
Summary and Impact of Major Requirement Revisions**

Requirement #: I.B.5.

Requirement Revision (significant change only):

The program should ensure that fellows are not unduly burdened by required rotations at geographically distant sites. (Core)

Subspecialty-Specific Background and Intent: The Review Committee considers a participating site to be geographically distant if the distance between the site and the primary clinical site exceeds 60 miles. The Review Committee acknowledges that programs may need to use geographically distant sites to provide fellows with specific required educational experiences not available at the primary clinical site or other participating sites. It also notes that such rotations can be disruptive to fellow well-being; adversely impact faculty member/fellow team interactions and cohesion; diminish participation in educational experiences (e.g., conference attendance/participation, scholarly activity, and continuity of care); and be burdensome for fellows. Programs will need to consider these issues when using geographically distant sites and implement actions to mitigate them. Providing travel and/or housing reimbursement for fellows rotating at a required geographically distant site is one way the program can offset the potential adverse impact on fellow well-being. Programs will need to be transparent and inform fellows that geographically distant sites are used.

1. Describe the Review Committee's rationale for this revision:  
**The Review Committee acknowledges that programs may need to use geographically distant sites for education but created this new requirement so that programs are mindful of the potential burden associated with such experiences. The Subspecialty-Specific Background and Intent provides suggestions for ensuring compliance with this requirement.**
2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?  
**This should improve fellow education and fellow well-being.**
3. How will the proposed requirement or revision impact continuity of patient care?  
**This should improve continuity of care because programs will be more mindful of the number of geographically distant sites being used for fellow education. Fewer distant sites should positively impact continuity of care.**
4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?  
**This may necessitate additional institutional resources for programs that use geographically distant sites.**
5. How will the proposed revision impact other accredited programs?  
**N/A**

Program Requirement #: II.B.4.b-c)

Requirement Revision (significant change only):

II.B.4.b) In addition to the program director, programs must have the minimum number of core faculty members there must be at least two faculty members certified by the ABMS member board or AOA certifying board based on the number of approved fellow positions, as follows:- <sup>(Core)</sup>

<u>Number of Approved Positions</u>	<u>Minimum Number of Certified Core Faculty</u>
<u>1-3</u>	<u>1</u>
<u>4-6</u>	<u>3</u>
<u>7-9</u>	<u>4</u>
<u>10-12</u>	<u>6</u>
<u>13-15</u>	<u>8</u>
<u>16-18</u>	<u>10</u>

II.B.4.c) ~~At a minimum, The required core faculty members, in aggregate and excluding program leadership, must be provided with support equal to an average dedicated an aggregate~~ minimum of .1 FTE 10 percent/FTE for educational and administrative responsibilities that do not involve direct patient care. Support must be provided based on the program size as follows: <sup>(Core)</sup>

<u>Number of Approved Positions</u>	<u>Minimum Aggregate Support Required (FTE)</u>
<u>&lt;7</u>	<u>0.10</u>
<u>7-9</u>	<u>0.15</u>
<u>10-12</u>	<u>0.15</u>
<u>&gt;12</u>	<u>0.20</u>

~~Subspecialty-Specific Background and Intent: The Review Committee specified the minimum required number of core faculty members but did not specify how the aggregate FTE support should be distributed to allow programs, in partnership with their sponsoring institution, to allocate the support as they see fit.~~

~~Because an associate program director is also a core faculty member, the minimum dedicated time requirements for associate program directors are inclusive of core faculty activities. An additional 10 percent FTE for the core faculty position is not required. For example, if one core faculty member is named the associate program director for a 12 fellow program, the required minimum support for that position is 14 percent FTE.~~

The Review Committee created the table below to summarize the total minimum FTE for program director, associate program director(s), and core faculty members needed based on approved complement. The table also clarifies the minimum number of core faculty members necessary based on program size. Two examples are provided.

- A two-fellow program needs a program director and a minimum of one ABMS or AOA subspecialty-certified core faculty member (who is also the associate program director) and a total minimum FTE of 30 percent. This total minimum FTE is a sum of the minimum of 20 percent for the program director and an aggregate of 10 percent for the associate program director/other core faculty member.

• An eight-fellow program needs a program director and a minimum of four ABMS or AOA subspecialty-certified core faculty members (at least one being the associate program director) and a total minimum FTE of 58 percent. The total minimum FTE is a sum of the minimum of 25 percent/FTE for the program director, an aggregate of 13 percent/FTE for the associate program director(s), and an aggregate of 20 percent/FTE for the remaining core faculty members.

As long as the program meets the requirements for the minimum FTE for the program director, the minimum number of ABMS- or AOA-certified core faculty members, and the aggregate FTE for core faculty members and associate program director(s), programs may exercise flexibility in how the aggregate FTE for core faculty members and associate program director(s) is distributed. For instance, in the two-fellow program example, the program can allocate the aggregate 10 percent/FTE in whatever manner the program and institutional leadership feel works best.

<u>Number of Approved Fellow Positions</u>	<u>Minimum Number of ABMS or AOA Subspecialty Certified Core Faculty Members (one being the Associate Program Director)</u>	<u>Minimum Support Required (FTE) for Program Director</u>	<u>Minimum Aggregate FTE for Associate Program Director(s)</u>	<u>Minimum Aggregate FTE for Core Faculty</u>	<u>Total Minimum FTE for Program Director, Associate Program Director, and Core Faculty</u>
<u>1-3</u>	<u>1</u>	<u>0.20</u>	<u>0.10</u>		<u>0.30</u>
<u>4-6</u>	<u>3</u>	<u>0.20</u>	<u>0.20</u>		<u>0.40</u>
<u>7-9</u>	<u>4</u>	<u>0.25</u>	<u>0.13</u>	<u>0.20</u>	<u>0.58</u>
<u>10-12</u>	<u>6</u>	<u>0.30</u>	<u>0.14</u>	<u>0.20</u>	<u>0.64</u>
<u>&gt;12</u>	<u>8</u>	<u>0.35</u>	<u>0.15</u>	<u>0.20</u>	<u>0.70</u>

- Describe the Review Committee's rationale for this revision:  
**The Review Committees are proposing revisions to the program director, associate program director, and core faculty full-time equivalent (FTE) requirements to address (1) feedback received regarding the 2022 requirement related to FTE support in the subspecialties, and (2) to establish symmetry between the multidisciplinary subspecialties and the recently approved revisions to the internal medicine subspecialty Program Requirements.**  
  
**The Review Committee for Internal Medicine received much input from thought leaders and organizations within the internal medicine subspecialty communities with concerns regarding potential unintended consequences resulting from the 2022 FTE faculty requirements. The input raised important questions that hadn't surfaced during the review and comment period when this program requirement**

was vetted in 2021. As a result, the Review Committee revisited the FTE requirements for core faculty and included Background and Intent language with an example to clarify expectations with the revised language. Despite some dissent, there was general agreement and support for the revised requirement and support for the Review Committee to consider increasing the minimum aggregate FTE for smaller-sized programs, particularly from the subspecialty societies/communities.

In addition, the Review Committee included a summary table in the Background and Intent that contains the total minimum FTE required for program director, associate program director, and core faculty to clearly stipulate FTE expectations for multiple program personnel in one central table within the Program Requirements.

2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?

**The ultimate outcome of graduate medical education is excellence in resident/fellow education and patient care. The Common and specialty-specific Program Requirements related to non-clinical teaching and administrative time and support are intended to ensure that the required core faculty members are able to devote a sufficient portion of their professional effort to didactics and administration of the program to ensure an effective and high-quality educational program.**

3. How will the proposed requirement or revision impact continuity of patient care?

**N/A**

4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?

**It is important to highlight that these requirements define the required minimum dedicated time for core faculty members' non-clinical teaching and administrative responsibilities. Programs for which the requirements for non-clinical teaching administrative time and support have increased will need, in partnership with their Sponsoring Institution, to provide additional support for administrative time as specified in the requirements.**

**Both provision of support for the time required for administrative responsibilities and flexibility regarding how this support is provided are important. Programs, in partnership with their Sponsoring Institution, may provide support for this time in a variety of ways. Examples of support may include, but are not limited to, salary support, supplemental compensation, educational value units, or relief of time from other professional duties. Those who are new to their role may need to devote additional time to program administrative responsibilities initially as they learn and become proficient in that role.**

5. How will the proposed revision impact other accredited programs?

**N/A**

Requirement #: III.A.1.a).(1)

Requirement Revision (significant change only):

III.A.1.a).(1) Prior to appointment in the program, each fellow ~~must~~ should have completed a residency program that satisfies the requirements in III.A.1. <sup>(Core)</sup>

Subspecialty-Specific Background and Intent: There may be specialty pathways that allow exceptions to this requirement. For example, the American Board of Preventive Medicine (ABPM) pathway allows surgical residents who have completed education and training in an ACGME-accredited fellowship in clinical informatics to sit for the ABPM's Initial Certification Examination in clinical informatics prior to obtaining primary certification in surgery from the American Board of Surgery. Programs seeking to allow such an exception should inquire with the respective ABMS member board prior to fellows starting the fellowship.

1. Describe the Review Committee's rationale for this revision:  
**The Review Committee has made this change and included the Subspecialty-Specific Background and Intent to address the ABMS approval of the American Board of Preventive Medicine's (ABPM) 2019 proposal to allow surgical residents to complete a clinical informatics program while they are in the surgical residency. The ABPM collaborated with the American Board of Surgery to address numerous requests from surgical residents who were seeking to pursue their interest in clinical informatics while concurrently working toward their certification in surgery. The change will permit flexibility for those residents who choose this pathway or other specialty pathways.**
2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?  
**N/A**
3. How will the proposed requirement or revision impact continuity of patient care?  
**N/A**
4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?  
**N/A**
5. How will the proposed revision impact other accredited programs?  
**N/A**

Requirement #: IV.B.1.b).(1).(b).(ii) – (vi)  
Requirement Revision (significant change only):

[Fellows must demonstrate competence in:]

IV.B.1.b).(1).(b).(ii) the use of health IT tools and processes to support continuity of communication and information across transitions of care; <sup>(Core)</sup>

IV.B.1.b).(1).(b).(iii) developing, implementing, evaluating and/or integrating portals and other patient-facing health informatics applications (e.g., disease management, patient education, behavior modification); <sup>(Core)</sup>

IV.B.1.b).(1).(b).(iv)	<u>participating in the design, evaluation, implementation, and/or support of telehealth systems;</u> <sup>(Core)</sup>
IV.B.1.b).(1).(b).(v)	<u>accessing and incorporating information from emerging data sources (e.g., imaging, bioinformatics, internet of things, patient-generated, social determinants);</u> <sup>(Core)</sup>
IV.B.1.b).(1).(b).(vi)	<u>assessing and prioritizing the integration of data from medical devices (e.g., pumps, telemetry monitors, patient devices) into information systems;</u> <sup>(Core)</sup>

- Describe the Review Committee's rationale for this revision:  
**The patient care areas were updated to be consistent with and to reflect the curricular components that have been developed by the clinical informatics community. These components clarify the experiences required to ensure the specific skills required for education in the subspecialty.**
- How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?  
**These areas fall within the scope of the clinical informatics specialist. Requiring fellows to demonstrate competence in these established areas will ensure that fellows have a standard minimum knowledge and level of competence required.**
- How will the proposed requirement or revision impact continuity of patient care?  
**N/A**
- Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?  
**N/A**
- How will the proposed revision impact other accredited programs?  
**N/A**

Requirement #: IV.B.1.c).(1).(l) – (n)

Requirement Revision (significant change only):

[Fellows must demonstrate sufficient knowledge in the following areas:]

IV.B.1.c).(1).(l)	<u>leveraging processes and principles of project management to facilitate the successful completion of projects;</u> <sup>(Core)</sup>
IV.B.1.c).(1).(m)	<u>health IT implementations and upgrades;</u> <sup>(Core)</sup> and,
IV.B.1.c).(1).(n)	<u>providing clinical input into data matching strategies and maintenance of master patient index to ensure integrity of patient data sourced across multiple systems.</u> <sup>(Core)</sup>

- Describe the Review Committee's rationale for this revision:  
**The medical knowledge areas were updated to be consistent with and to reflect the curricular components that have been developed by the subspecialty community.**

2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?  
**These medical knowledge areas fall within the scope of the clinical informatics specialist. Requiring fellows to demonstrate knowledge of these established areas will ensure that fellows have a standard minimum knowledge and level of competence.**
3. How will the proposed requirement or revision impact continuity of patient care?  
**N/A**
4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?  
**N/A**
5. How will the proposed revision impact other accredited programs?  
**N/A**

Requirement #: IV.C. Curriculum Organization and Fellow Experiences

Requirement Revision (significant change only):

Subspecialty-Specific Background and Intent: For additional guidance regarding curriculum development, programs are encouraged to review the specific subcompetencies and curricular elements in the ACGME Clinical Informatics Milestones document or refer to the relevant certifying board or the appropriate specialty society.

1. Describe the Review Committee's rationale for this revision:  
**The American Medical Informatics Association (AMIA) and its Community of Clinical Informatics Program Directors requested the Review Committees to include subcompetencies and curricular elements in the proposed revision of the Program Requirements. This request was based on the results of a rigorous practice analysis of physicians certified in clinical informatics by the American Board of Preventive Medicine and AMIA. This report was published in a "Clinical Informatics Subspecialty Delineation of Practice" in 2019. In addition, AMIA had consensus from the clinical informatics program directors that these additional subcompetencies should be incorporated into the ACGME Milestones and Program Requirements. Based on this report and subsequent publication, the 2022 Clinical Informatics Milestones include these additional subcompetencies, as well as a [supplemental guide](#) that references the following publication: *Journal of the American Medical Informatics Association April 30, 2019* <https://academic.oup.com/jamia/article/26/7/586/5481062>.**  
  
**However, with regard to the proposed Program Requirements, the Review Committee was unable to include all of the recommended subcompetencies and curricular elements specific to the ACGME Competency areas of Professionalism, Practice-based Learning and Improvement, Interpersonal and Communication Skills, and Systems-based Practice in the proposed revision based on guidance from the ACGME Committee on Requirements regarding inclusion of specialty-specific curricular requirements. Specifically, "The Committee on Requirements has reiterated its position that specialty-specific**

**Program Requirements should address required competencies and curricular elements in a broad manner and avoid including a prescribed curriculum. The ACGME does not set specific curricula, which is established by the individual programs to meet the requirements of the relevant certifying board and informed by the appropriate specialty society, in addition to reflecting the mission of the Sponsoring Institution and the needs of the community it serves.” Therefore, the Review Committees have opted to propose this new Subspecialty-Specific Background and Intent to provide guidance regarding curriculum development.**

2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?  
**N/A**
3. How will the proposed requirement or revision impact continuity of patient care?  
**N/A**
4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?  
**N/A**
5. How will the proposed revision impact other accredited programs?  
**N/A**