**New Application: Clinical Informatics**

401 North Michigan Avenue · Chicago, Illinois 60611 · United States · +1.312.755.7042 www.acgme-i.org

**Submission for Initial Accreditation:** This Advanced Specialty Application is for programs applying for **Initial Accreditation ONLY** and is used in conjunction with the Accreditation Data System (ADS).

All sections of the form applicable to the program must be completed for it to be accepted for review. The information provided should describe the existing program. For items that do not apply, indicate “N/A” in the space provided. Where patient numbers are requested, provide exact numbers as requested and indicate the exact dates for the data entered. If any requested information is unavailable, an explanation must be given, and it should also be indicated as unavailable in the appropriate place on the form. Once the form is complete, number the pages sequentially in the bottom center.

The program director is responsible for the accuracy of the information supplied in this form, and must sign it. It must also be signed by the designated institutional official (DIO) of the Sponsoring Institution, who will submit the application electronically in ADS.

Review the International Foundational Program Requirements for Graduate Medical Education and Advanced Specialty Program Requirements for Graduate Medical Education in Clinical Informatics . The International Foundational, Advanced Specialty, and Institutional Requirements may be downloaded from the ACGME International website: [www.acgme-i.org](http://www.acgme-i.org/).

Email questions regarding the form’s content to acgme-i@acgme-i.org.

Email questions regarding ADS to ADS@acgme.org (type the program number in the subject line).

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| --- |
| Program Name: Click here to enter text. |

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**Introduction**

**Duration and Scope of Education**

|  |
| --- |
| * + - 1. What will be the length, in months, of the educational program?

Choose a length. |

* + - 1. How will the program ensure all fellows complete the educational program within 48 months of matriculation? (Limit 250 words)

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**Institutions**

**Sponsoring Institution**

1. Will the fellowship function as an integral part of an ACGME-I-accredited residency program?

 [ ] YES [ ] NO

If ‘YES,’ with which ACGME-I-accredited residency will it be associated? For information on independent subspecialty status, email acgme-i@acgme-i.org (Limit 300 words)

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Explain if ‘NO.’ (Limit 250 words)

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| Click here to enter text. |

1. What is the institutional policy that will be in place ensuring educational resources are committed to the program and ensuring collaboration among the multiple disciplines and professions involved in educating fellows? (Limit 400 words)

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1. Will the Sponsoring Institution sponsor only one clinical informatics fellowship? [ ] YES [ ] NO

Explain if ‘NO.’ (Limit 250 words)

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**Program Personnel and Resources**

**Program Director**

1. Will the program director:
2. ensure that each fellow’s individualized learning plan includes documentation of Milestones evaluations? [ ] YES [ ] NO
3. have at least three years of experience in the practice of clinical informatics? [ ] YES [ ] NO
4. have experience in clinical informatics education? [ ] YES [ ] NO

Explain any ‘NO’ responses. (Limit 250 words)

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1. How will the program director ensure that fellows’ semi-annual evaluation includes review of their learning e-portfolio, including information technology (IT) applications used, projects participated in, presentations, team/committee work, courses taken? (Limit 400 words)

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**Faculty**

1. List all faculty members and their full-time equivalent (FTE) positions. Add rows as needed.

|  |  |
| --- | --- |
| Faculty Member Name | FTE Position |
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1. Will all faculty members listed above have at least two years of experience in clinical informatics?

 [ ] YES [ ] NO

Explain if ‘NO.’ (Limit 250 words)

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| Click here to enter text. |

**Resources**

* + 1. Will the following be available to the program?
1. Classrooms [ ] YES [ ] NO
2. Computers [ ] YES [ ] NO
3. Internet access [ ] YES [ ] NO
4. Meeting rooms [ ] YES [ ] NO
5. Visual and other educational aids [ ] YES [ ] NO
6. Work/study space for fellows [ ] YES [ ] NO

Explain any ‘NO’ responses. (Limit 250 words)

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| Click here to enter text. |

* + 1. Will the primary clinical site operate a clinical information system that is able to:
1. collect health and wellness data and information? [ ] YES [ ] NO
2. manage health and wellness data and information? [ ] YES [ ] NO
3. provide clinical decision support? [ ] YES [ ] NO
4. store health and wellness data and information? [ ] YES [ ] NO
5. support ambulatory care settings? [ ] YES [ ] NO
6. support inpatient care settings? [ ] YES [ ] NO
7. support remote care settings? [ ] YES [ ] NO

Explain any ‘NO’ responses. (Limit 250 words)

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**Eligibility Criteria**

1. How will the program ensure all appointed fellows have completed an ACGME-I-accredited residency program or another residency program acceptable to the Sponsoring Institution’s Graduate Medical Education Committee? (Limit 300 words)

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**Specialty-Specific Educational Program**

**ACGME-I Competencies**

**Professionalism**

1. How will graduating fellows demonstrate a commitment to carrying out professional responsibilities, an adherence to ethical principles, and high standards of ethical behavior, including maintaining appropriate professional boundaries and relationships with other physicians and other health care team members and avoiding conflicts of interest?

Describe how these skills will be evaluated. (Limit 300 words)

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1. How will graduating fellows demonstrate the ability to recognize the causes and prevention of security breaches and their consequences to the individual, the system, the organization, and society at large?

Describe how these skills will be evaluated. (Limit 300 words)

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1. How will graduating fellows demonstrate sensitivity to the impact information system changes have on practice patterns, physician-patient relations, and physician work-life balance?

Describe how these skills will be evaluated. (Limit 300 words)

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**Patient Care and Procedural Skills**

1. How will graduating fellows demonstrate the ability to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health?

Describe how this will be evaluated. (Limit 300 words)

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1. How will graduating fellows demonstrate competence in the practice of health promotion, disease prevention, diagnosis, care, and treatment of patients of all genders, from adolescence to old age, during health and all stages of illness?

Describe how this will be evaluated. (Limit 400 words)

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1. How will fellows demonstrate competence in leveraging information and communication technology to incorporate informatics principles across the dimensions of health care, including the following?
2. Diagnosis and treatment of individuals and their families across the lifespan
3. Disease prevention
4. Health promotion

Describe how competence will be assessed in each of the areas listed. (Limit 300 words)

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| Click here to enter text. |

1. How will fellows demonstrate competence in leveraging information and communication technology to use informatics tools to improve the following?
2. Assessment
3. Coordination of care
4. Follow-up of patients
5. Interdisciplinary care planning
6. Management of patients

Provide examples of how competence will be assessed in three of the five areas listed. (Limit 300 words)

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1. How will fellows demonstrate competence in leveraging information and communication technology to use informatics tools, such as electronic health records or personal health records, to facilitate the coordination and documentation of key events in patient care, such as patient family communication, consultation around goals of care, immunizations, advance directive completion, and involvement of multiple team members as appropriate? (Limit 300 words)

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| Click here to enter text. |

1. How will fellows demonstrate competence in leveraging information and communication technology to promote confidentiality and security of patient data? (Limit 300 words)

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1. How will fellows demonstrate skill in the following?
2. Database design
3. Fundamental programming
4. User interface design

Describe how skill will be assessed in each of the areas listed. (Limit 300 words)

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1. How will graduating fellows demonstrate competence in the following?
2. Analysis of patient care workflow and processes to identify information system features that support improved quality, efficiency, effectiveness, and safety of clinical services
3. Assessment of user needs for a clinical information or telecommunication system or application
4. Identification of changes needed in organizational processes and clinician practices to optimize health system operational effectiveness
5. Project management and software engineering related to the development and management of IT projects pertinent to patient care

Provide examples of how competence will be assessed in three of the four of the areas listed. (Limit 300 words)

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1. How will graduating fellows demonstrate competence in their ability to:
2. combine an understanding of informatics concepts, methods, and health IT to develop, implement, and refine clinical decision support systems; and,
3. evaluate the impact of information system implementation and use on patient care and users?

Describe how competence will be assessed in each of the areas listed. (Limit 250 words)

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**Medical Knowledge**

1. How will graduating fellows demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care?

Describe how knowledge will be evaluated. (Limit 400 words)

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1. How will graduating fellows demonstrate knowledge of 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? (Limit 300 words)

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1. How will graduating fellows demonstrate knowledge of the following?
	1. Clinical decision design, support, use, and implementation
	2. Evaluation of information systems to provide feedback for system improvement
	3. Fundamental informatics vocabulary, concepts, models, and theories
	4. How information systems and processes enhance or compromise the decision-making and actions of health care team members
	5. Process improvement or change management for health care processes
	6. Risk management and mitigation related to patient safety and privacy
	7. Strategies to support clinician users and promote clinician adoption of systems
	8. The impact of clinical information systems on users and patients
	9. The various settings and related structures for organizing, regulating, and financing care for patients

Provide examples of how competence will be assessed in five of the nine areas listed. (Limit 500 words)

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1. How will graduating fellows demonstrate knowledge of information management skills, including project management, the life cycle of information systems, the constantly evolving capabilities of IT and health care, and the technical and non-technical issues surrounding system implementation?

Describe how this will be evaluated. (Limit 400 words)

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1. How will graduating fellows demonstrate knowledge of leadership in organizational change, fostering collaboration, communicating effectively, and managing large-scale projects related to clinical information systems?

Describe how this will be evaluated. (Limit 400 words)

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**Practice-based Learning and Improvement**

* + - 1. How will graduating fellows demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning?

Describe how these skills will be evaluated. (Limit 300 words)

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**Interpersonal and Communication Skills**

1. How will graduating fellows demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals?

Describe how these skills will be evaluated. (Limit 300 words)

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| Click here to enter text. |

1. How will graduating fellows demonstrate the ability to serve as a liaison among IT professionals, administrators, and clinicians. (Limit 300 words)

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| Click here to enter text. |

**Systems-based Practice**

1. How will graduating fellows demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care?

Describe how these skills will be evaluated. (Limit 300 words)

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1. How will graduating fellows demonstrate the ability to recognize their own role and the role of systems in prevention and disclosure of medical error?

Describe how this will be evaluated. (Limit 300 words)

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1. How will graduating fellows demonstrate the ability to identify, evaluate, and implement systems improvement based on clinical practice or patient and patient family satisfaction data in personal practice, in team practice, and within institutional settings?

Describe how this will be evaluated. (Limit 300 words)

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| Click here to enter text. |

1. How will graduating fellows demonstrate the ability to:
	1. analyze patient care workflow and processes;
	2. demonstrate awareness of issues related to patient privacy;
	3. identify information system features that will support improved quality, efficiency, effectiveness, and safety of clinical services;
	4. identify potential unintended consequences of new system and process implementation, as well as changes to existing systems and processes; and,
	5. query and analyze data repositories/warehouses?

Provide examples of how skill will be assessed in three of the five areas listed. (Limit 300 words)

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| Click here to enter text. |

**Regularly Scheduled Educational Activities**

1. Complete Appendix A., Formal Didactic Sessions by Academic Year, and attach to submission.
2. Will didactic sessions be delivered at the primary clinical site or through distance education with partnered and approved educational institutions [ ] YES [ ] NO

Explain if ‘NO.’ (Limit 250 words)

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| Click here to enter text. |

1. How will the program ensure each fellow has an opportunity to plan and conduct conferences? (Limit 300 words)

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**Clinical Experiences**

* + - 1. How will the program ensure each fellow has clearly defined, written descriptions of responsibilities and a reporting structure for all educational assignments? (Limit 300 words)

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* + - 1. How will the program ensure educational assignments are designed to provide fellows with exposure to different types of clinical and health information systems? (Limit 400 words)

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| Click here to enter text. |

* + - 1. Complete the table below to indicate the educational foci that will be available to fellows:

|  |  |
| --- | --- |
| **Educational Focus** | **Check if Available** |
| Algorithm development |[ ]
| Bioinformatics/computational biology |[ ]
| Clinical translational research |[ ]
| Data organization/user interface |[ ]
| Diagnostics |[ ]
| Health IT user interface design |[ ]
| Imaging informatics and radiology information systems |[ ]
| Information technology business strategy and management |[ ]
| Laboratory information systems/pathology informatics |[ ]
| Public health informatics |[ ]
| Regulatory informatics |[ ]
| Remote systems/telemedicine |[ ]
| Specialty specific focus |[ ]

If other educational foci not listed above will be available, describe those here. (Limit 250 words)

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* + - 1. How will the program ensure each fellow has an individualized learning plan that allows for demonstration of competence in all required areas within the specified length of the educational program? (Limit 300 words)

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| Click here to enter text. |

* + - 1. Will fellows’ individualized learning plans:
				1. be specific to their primary specialty? [ ] YES [ ] NO
				2. incorporate their area of focus? …….. [ ] YES [ ] NO

Explain any ‘NO’ responses. (Limit 250 words)

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| Click here to enter text. |

1. Will fellows have long-term assignments? [ ] YES [ ] NO
	1. If ‘YES,’ how will these assignments be planned to integrate knowledge and prior experience in a clinical setting that poses real-world clinical informatics challenges? (Limit 300 words)

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* 1. Explain if ‘NO.’ (Limit 250 words)

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1. Will each fellow participate as a member of at least one interdisciplinary team addressing clinical informatics needs for the health system? [ ] YES [ ] NO
	1. Explain if ‘NO.’ (Limit 250 words)

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| Click here to enter text. |

1. If ‘YES’ to Question 7 above, will the experience include the following?
	1. Analyzing issues [ ] YES [ ] NO
	2. Planning and implementing recommendations from the team [ ] YES [ ] NO
2. If ‘YES’ to Question 7 above, will the team include the following?
	1. Administrators [ ] YES [ ] NO
	2. Information technology/system personnel [ ] YES [ ] NO
	3. Nurses [ ] YES [ ] NO
	4. Other health care professionals [ ] YES [ ] NO
	5. Physicians [ ] YES [ ] NO

Explain any ‘NO’ responses. (Limit 250 words)

|  |
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| Click here to enter text. |

1. How will the program ensure educational assignments are conducted within at least three different settings? (Limit 300 words)

|  |
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1. How will the program ensure that fellows maintain current medical licensure and/or certification to practice in their primary specialty while they are in the educational program? (Limit 300 words)

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Appendix A. Formal Didactic Sessions by Academic Year

For each year of the fellowship, attach (Label: Appendix A.) a list of all scheduled didactic courses (including discussion groups, seminars and conferences, grand rounds, basic science, skills labs, and journal club) at all participating sites to which fellows will rotate using the format below. If attended by fellows from multiple years, list in each year, but provide a full description *only the first time it is listed*.

Number sessions **consecutively** from the first year through the final year so that the scheduled didactic sessions can be easily referenced throughout the application. **Be brief and use the outline that follows**.

Year in the Program:

Number: Title:

a) Type of Format (e.g., seminar, conference, discussion groups)

b) Required or elective

c) Brief description (three or four sentences)

d) Frequency, length of session, and total number of sessions

**Example:**

|  |
| --- |
| Y-101. Introduction to Clinical Informaticsa) Seminarb) Required Y-1c) Survey of contemporary methods of clinical informatics, including current issuesd) Weekly, for 8 sessions02. Departmental Grand Roundsa) Discussion groupsb) Required, Y-1, Y-2, Y-3; Elective c) Clinical case presentations, sponsored by each departmental division, followed by discussion and review of contemporary state of knowledge. Format includes fellow presentations and discussions with additional faculty discussant.d) Twice monthly, 24 sessions |

If fellow attendance will be monitored, explain how this will be accomplished and how feedback will be given regarding non-attendance. (Limit 250 words)

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| Click here to enter text. |