**New Application: Medical Genetics and Genomics**

**Review Committee for Medical Genetics and Genomics**

**ACGME**

**Oversight**

**Resources**

1. Describe the facilities and resources (including space, equipment, support personnel, funding) that will be utilized for resident education in the basic sciences. [PR. 1.8.c.]

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2. Provide the data requested below for each cytogenetics laboratory that will contribute significantly to the education of residents. [PR 1.8.a.]

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| 12-Month Period Covered by Statistics | From: Click here to enter a date. | To: Click here to enter a date. |

| **Name of Laboratory** | **Lab** | **Lab** | **Lab** |
| --- | --- | --- | --- |
| Address  | Address | Address | Address |
| Name of Laboratory Director | Director | Director | Director |
| **Source of Sample** | **Number of Cases** | **Number of Cases** | **Number of Cases** |
| Bloods | # | # | # |
| Skin biopsies | # | # | # |
| Amniotic fluid | # | # | # |
| Chorionic villi | # | # | # |
| Bone marrows | # | # | # |
| List other: | # | # | # |
| Column Total | # | # | # |
| **Type of Technique** | **Number of Cases** | **Number of Cases** | **Number of Cases** |
| High resolution analysis  | # | # | # |
| FISH - Prenatal interphase analysis | # | # | # |
| FISH - Cancer | # | # | # |
| FISH - Constitutional deletions | # | # | # |
| FISH - Constitutional rearrangements | # | # | # |
| Microarray | # | # | # |
| List other: specify | # | # | # |
| Other: specify | # | # | # |
| Other: specify | # | # | # |
| Other: specify | # | # | # |
| Other: specify | # | # | # |
| **Total** | **#** | **#** | **#** |

3. Provide the data requested below for each clinical biochemical genetics laboratory that will contribute significantly to the education of residents. [PR 1.8.a.]

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| 12-Month Period Covered by Statistics | From: Click here to enter a date. | To: Click here to enter a date. |

| **Name of Laboratory** | **Lab** | **Lab** | **Lab** |
| --- | --- | --- | --- |
| Address  | Address | Address | Address |
| Name of Laboratory Director | Director | Director | Director |
| **Test** | **Number of Analyses** | **Analytic Method** | **Number of Analyses** | **Analytic Method** | **Number of Analyses** | **Analytic Method** |
| Newborn Screening | # | Method | # | Method | # | Method |
| Amino Acid Analysis | # | Method | # | Method | # | Method |
| Organic Acid Analysis | # | Method | # | Method | # | Method |
| Acylcarnitine profile | # | Method | # | Method | # | Method |
| Mucopolysaccharide Screening | # | Method | # | Method | # | Method |
| Enzyme analyses | # | Method | # | Method | # | Method |
| 1. Enzyme analyses.
 | # | Method | # | Method | # | Method |
| 1. Enzyme analyses.
 | # | Method | # | Method | # | Method |
| 1. Enzyme analyses.
 | # | Method | # | Method | # | Method |
| Other small molecule disorders | # | Method | # | Method | # | Method |
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| 1. Small molecule
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| 1. Small molecule
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| Prenatal Diagnosis: Disorders | # | Method | # | Method | # | Method |
| 1. Prenatal diagnosis
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| 1. Prenatal diagnosis
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| 1. Prenatal diagnosis
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| List Other: specify | # | Method | # | Method | # | Method |
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1. Provide the data requested below for each clinical molecular genetics laboratory that will contribute significantly to the education of residents. Duplicate table as necessary. [PR 1.8.a.]

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| 12-Month Period Covered by Statistics | From: Click here to enter a date. | To: Click here to enter a date. |

| **Name of Laboratory** | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| --- | --- | --- | --- |
| Address  | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| Name of Laboratory Director | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| **Name of Disease** | **Diagnostic Methods** | **# Probands** | **# Tests Performed** | **Diagnostic Methods** | **# Probands** | **# Tests Performed** | **Diagnostic Methods** | **# Probands** | **# Tests Performed** |
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5. Concisely describe the space for patient care activities and facilities for record storage and retrieval that will be utilized by the program. [PR 1.8.b.]

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6. Concisely describe the office space, meeting rooms, classrooms, laboratory space, and research facilities that will be utilized by the program. [PR 1.8.c.]

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7. Provide the data requested below for each participating site where medical genetics residents actively participate in patient care. Enter the number of patients/families seen at each site during the most recently completed academic year. Add tables as necessary. [PR 1.8.e.]

a) **Participating Site #1:** July 1, 20## to June 30, 20##

|  | **#** | **Total # involving resident participation** |
| --- | --- | --- |
| Pediatric (non-metabolic) | # | # |
| Metabolic | # | # |
| Prenatal | # | # |
| Adult/Cancer | # | # |
| **Total** | **#** | **#** |

b) **Participating Site #2:** July 1, 20## to June 30, 20##

|  | **#** | **Total # involving resident participation** |
| --- | --- | --- |
| Pediatric (non-metabolic) | # | # |
| Metabolic | # | # |
| Prenatal | # | # |
| Adult/Cancer | # | # |
| **Total** | **#** | **#** |

c) **Participating Site #3:** July 1, 20## to June 30, 20##

|  | **#** | **Total # involving resident participation** |
| --- | --- | --- |
| Pediatric (non-metabolic) | # | # |
| Metabolic | # | # |
| Prenatal | # | # |
| Adult/Cancer | # | # |
| **Total** | **#** | **#** |

d) Identify the space and equipment available to the program at each participating site to meet the educational goals of the program. [PR 1.8.c.-1.8.d.]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Space/Equipment** | **Site #1** | **Site #2** | **Site #3** | **Site #4** |
| Meeting room(s) | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Classroom(s) | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Faculty offices | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Resident offices | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Research facilities | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Record storage and retrieval facility | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Computer-based diagnostic system | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Audiovisual equipment | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |

8. Summarize resident access to computer-based genetics diagnostic systems and variant interpretation databases. [PR 1.8.d.]

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**Other Learners and Other Care Providers**

1. How many medical genetics and genomics learners at participating sites have been involved in ABMGG-approved areas of education during the last five years? [PR 1.11.]

|  |  |  |
| --- | --- | --- |
| **Category of Education** | **Current Number** | **Total During Previous 5 Years** |
| Clinical Genetics and Genomics | # | # |
| Clinical Cytogenetics and Genomics | # | # |
| Clinical Biochemical Genetics | # | # |
| Clinical Molecular Genetics and Genomics | # | # |
| Medical Biochemical Genetics | # | # |
| Molecular Genetic Pathology | # | # |

2. What other types of learners (e.g., genetic counseling students, medical students, residents from other programs, graduate students) are involved in medical genetics and genomics education in program sites? What impact do they have on the educational resources that are available for genetics? What is the planned nature and extent of these learners’ interactions with the program residents? [CPR 1.11.]

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**Personnel**

**Other Program Personnel**

1. Concisely summarize the technical, clerical, and other non-physician personnel who will provide support for the administrative and educational conduct of the program. Is the support of the program in this area satisfactory at all program sites? [PR 2.13.a.]

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2. Working with Other Health Care Professionals

a) Summarize the opportunities residents will have to work with genetic counselors, nurses, nutritionists, and other health care professionals who are involved in the provision of clinical medical genetics and genomics services. [PR 2.13.a.]

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1. If program will offer a combined medical genetics and genomics program (for example, pediatrics/medical genetics and genomics), include a narrative description and block diagram or longitudinal chart of a typical resident's assignments. How will the program ensure that the joint program satisfies all the accreditation requirements for clinical medical genetics and genomics? How will that joint program differ from the clinical medical genetics and genomics program? What will be the maximum number of residents on the genetic service at any one time? How will the site and/or the combined program determine which specialty the resident is designated as at any given time?

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4. If the program does not currently offer a combined medical genetics and genomics program, are there any plans to develop a joint program with another medical specialty?

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**Educational Program**

**ACGME Competencies**

**Professionalism**

1. Briefly describe the learning activity(ies), other than lecture, by which residents develop a commitment to carrying out professional responsibilities and an adherence to ethical principles, including: compassion, integrity, and respect for others; responsiveness to patient needs that supersedes self-interest; cultural humility; respect for patient privacy and autonomy; accountability to patients, society, and the profession; and sensitivity and responsiveness to a diverse patient population, including to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation. [PR 4.3.-4.3.f.] (Limit response to 400 words)

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**Patient Care and Procedural Skills**

1. How will the members of the faculty ensure that residents have an opportunity to assume increasing responsibility for patient management as they progress through the program? [PR 6.9.]

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2. Indicate the settings and activities in which residents will demonstrate competence in each of the following areas of patient care. Also indicate the method used to assess competence.

| **Competency Area** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| Completing comprehensive genetics-focused physical examinations[PR 4.4.a.] | Click here to enter text. | Click here to enter text. |
| Selecting diagnostic studies including interpreting laboratory data generated from biochemical genetic, cytogenetic and genomic, and molecular genetic and genomic analyses[PR 4.4.b.] | Click here to enter text. | Click here to enter text. |
| Conducting medical interviews including taking and interpreting a complete family history, including construction of a pedigree[PR 4.4.c.] | Click here to enter text. | Click here to enter text. |
| Making informed decisions are diagnostic and therapeutic interventions based on patient and family information and preferences, up-to-date scientific evidence, and clinical judgment by:[PR 4.4.d.] | Click here to enter text. | Click here to enter text. |
| Appropriately using consultants and referrals[PR 4.4.d.1.] | Click here to enter text. | Click here to enter text. |
| Demonstrating awareness of the limits in their own knowledge and expertise[PR 4.4.d.2.] | Click here to enter text. | Click here to enter text. |
| Demonstrating effective and appropriate clinical problem-solving skills[PR 4.4.d.3.] | Click here to enter text. | Click here to enter text. |
| Using information technology to support patient care decisions and patient education[PR 4.4.d.4.] | Click here to enter text. | Click here to enter text. |
| Developing and implementing patient management plans, including:[PR 4.4.e.] | Click here to enter text. | Click here to enter text. |
| Prescribing medications and performing medical interventions essential for the care of patients with heritable disorders[PR 4.4.e.1.] | Click here to enter text. | Click here to enter text. |
| Assisting patients in accomplishing their personal health goals[PR 4.4.e.2.] | Click here to enter text. | Click here to enter text. |

**Medical Knowledge**

1. Indicate the activity(ies) (lectures, conferences, journal clubs, clinical teaching rounds, etc.) in which residents will demonstrate expertise in their knowledge in each of the following areas. Also indicate the method(s) that will be used to assess competence.

| **Area of Expertise** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| Current medical information and scientific evidence for patient care [PR 4.6.a] |
| Results from genetics and genomics laboratory tests[PR 4.6.a.1.] | Click here to enter text. | Click here to enter text. |
| Quantitative risk assessment[PR 4.6.a.2.] | Click here to enter text. | Click here to enter text. |
| Bioinformatics[PR 4.6.a.3.] | Click here to enter text. | Click here to enter text. |
| Basic economic and business principles needed to function effectively in the practice setting[PR 4.6.b.] | Click here to enter text. | Click here to enter text. |
| Biochemical genetics[PR 4.6.c.] | Click here to enter text. | Click here to enter text. |
| Cytogenetics and genomics[PR 4.6.d.] | Click here to enter text. | Click here to enter text. |
| Mendelian and non-mendelian genetics[PR 4.6.e.] | Click here to enter text. | Click here to enter text. |
| Molecular genetics and genomics[PR 4.6.f.] | Click here to enter text. | Click here to enter text. |
| Population and quantitative genetics[PR 4.6.g.] | Click here to enter text. | Click here to enter text. |

**Practice-based Learning and Improvement**

1. Briefly describe one planned learning activity in which residents engage to identify strengths, deficiencies, and limits in their knowledge and expertise (self-reflection and self-assessment); set learning and improvement goals; and identify and perform appropriate learning activities to achieve self-identified goals (life-long learning). [PR 4.7. – 4.7.c. ] (Limit response to 400 words)

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2. Briefly describe one planned quality improvement activity or project that will allow residents to demonstrate an ability to analyze, improve, and change practice or patient care, including activities aimed at reducing health care disparities. Describe planning, implementation, evaluation, and provisions of faculty member support and supervision that will guide this process. [PR 4.7.d.] (Limit response to 400 words)

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3. Briefly describe how residents will receive and incorporate formative evaluation feedback into daily practice. (If a specific tool is used to evaluate these skills have it available for review by the site visitor.) [PR 4.7.e.] (Limit response to 400 words)

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4. Briefly describe one example of a learning activity in which residents engage to develop the skills needed to use information technology to locate, appraise, and assimilate evidence from scientific studies and apply it to their patients' health problems. [PR 4.7.f.] (Limit response to 400 words)

The description should include:

* Locating information
* Appraising information
* Assimilating evidence information (from scientific studies)
* Applying information to patient care

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5. Describe how residents will obtain and use information about a specific patient population in the community to improve one’s own practice. [PR 4.7.g.] (Limit response to 400 words)

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**Interpersonal and Communication Skills**

1. Briefly describe one learning activity in which residents develop competence in communicating effectively with patients and families across a broad range of socioeconomic circumstances, cultural backgrounds, language capabilities, and with physicians, other health professionals, and health-related agencies. [PR 4.8.a.] (Limit response to 400 words)

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2. Briefly describe one learning activity in which residents develop their skills and habits to work effectively as a member or leader of a health care team or other professional group. In the example, identify the members of the team, responsibilities of the team members, and how team members communicate to accomplish responsibilities. [PR 4.8.c.] (Limit response to 400 words)

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3. Briefly describe how residents will demonstrate competence in educating patients, families, students, residents, and other health professionals. [PR 4.8.d.] (Limit response to 400 words)

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1. Briefly describe how residents will be provided with opportunities to act in a consultative role to other physicians and health professionals. [PR 4.8.e.] (Limit response to 400 words)

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5. Briefly describe how residents will be provided with opportunities to maintain comprehensive, timely, and legible health care records, if applicable [PR 4.8.f.] (Limit response to 400 words)

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6. Briefly describe how residents will be provided with opportunities to create and sustain a professional and therapeutic relationship with patients and their families. [PR 4.8.h.] (Limit response to 400 words)

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7. Briefly describe how residents will be provided with opportunities to counsel and educate patients and their families in order to assist them to: take measures needed to enhance or maintain health and function, and to prevent disease and injury; participate actively in their care; and make informed decisions, interpret risk assessment, and understand the use of predictive testing. [PRs 4.8.i.-4.8.i.3.] (Limit response to 400 words)

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**Systems-based Practice**

1. Describe the learning activity(ies) through which residents achieve competence in the elements of systems-based practice: working effectively in various health care delivery settings and systems, coordinating patient care within the health care system; incorporating considerations of value, equity, cost awareness, delivery and payment, and risk-benefit analysis in patient care; advocating for quality patient care and optimal patient care systems; and working in interprofessional teams to enhance patient safety and care quality. [PR 4.9.-4.9.d.] (Limit response to 400 words)

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2. Describe an activity that fulfills the requirement for experiential learning in identifying system errors and implementing potential systems solutions. [PR 4.9.d.] (Limit response to 400 words)

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3. Briefly describe how residents will be provided with opportunities to assist patients in navigating the complexities of a health care system. [PR 4.9.i.] (Limit response to 400 words)

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4. Briefly describe how residents will be provided with opportunities to promote optimal patient health and function, and prevent disease and injury in populations. [PR 4.9.j.] (Limit response to 400 words)

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**Curriculum Organization and Resident Experiences**

1. Describe the basic science program and the manner in which the basic sciences will be integrated with other aspects of a resident's experience. [PR 4.11.a.]

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2. Provide a list of the planned lectures and other didactic sessions. [PR 4.11.b.]

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3. Provide a list of the planned clinical conferences, seminars, journals clubs, rounds, and other didactic sessions. Comment on the levels of teaching staff participation and resident attendance at these sessions. Provide a list of topics and speakers as appropriate. [PR 4.11.a.]

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4. Describe the manner in which residents will gain experience with the evaluation and counseling of adults with or at risk for genetic disorders, including (a) the settings in which such disorders are seen, and (b) the types of such disorders that will be seen by residents. [PR 4.11.b.9., 4.8.i.]

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5. Describe the manner in which residents will gain experience in the diagnosis and management of pregnant patients whose fetus may be at risk for genetic disorder or birth defect. [PR 1.8.e.]

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6. Describe the manner in which residents will gain experience in the diagnosis and counseling of patients with heritable forms of cancer. [PR 4.11.c.1.]

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7. Describe the manner in which residents will gain experience in the diagnosis and management of patients with metabolic diseases. [PR 4.11.c.2.]

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9. What is the planned nature and extent of resident experience during their assignments to the (a) biochemical laboratory, (b) molecular genetic laboratory, and (c) cytogenetics and genomics laboratory? Describe the plan for resident participation in the working conferences of these laboratories and the ongoing discussions of laboratory data during other clinical conferences. [PR 4.11.e.

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