Genetic Counselors & The Job Market

• Genetic counselors are health professionals with specialized training in medical genetics and counseling who evaluate and understand a family's risk of an inherited medical condition, then use this understanding to provide personalized help patients and families may need to make decisions about their medical/genetic health.

• In 2016, the median salary for a genetic counselor was $74,120. Employment is projected to grow much faster than average.

• Genetic Counseling was listed among the “25 Amazing Healthcare Support Jobs” and as one of the “100 Best Jobs” in 2017, by US News and World Report.

nsgc.org/page/frequently-asked-questions-students#resources & www.bls.gov/ooh/healthcare/genetic-counselors.htm
WHAT DO GENETIC COUNSELORS DO?

In their work, Genetic Counselors typically:

• Interview patients to get comprehensive individual family and medical histories
• Evaluate genetic information to identify patients or families at risk for specific genetic disorders
• Write detailed consultation reports to provide information on complex genetic concepts for patients or referring physicians
• Discuss testing options and the associated risks, benefits, and limitations with patients, families, and other healthcare providers
• Counsel patients and family members by providing information, education, or reassurance regarding genetic risks and inherited conditions
• Participate in professional organizations or conferences to keep abreast of developments in genetics and genomics
IS GENETIC COUNSELING FOR YOU?

• Are you a people-person?
• Do you like helping others?
• Are you compassionate?
• Are you a good listener?
• Are you a good communicator?
• Do you like the sciences or psychology?
• Are you interested in medicine or healthcare, but aren’t sure if you want to go to medical school?
WORK ENVIRONMENT

SPECIALTY AREAS
- Prenatal
- Pediatric
- Neurogenetics
- Metabolic
- Disease
- General
- Testing
- Adult
- Cardiology

EXPANSION IN SPECIAL(562,316),(875,420)(562,276),(875,380)(562,235),(875,339)(562,194),(875,300)
- 48% Prenatal
- 43% Cancer
- 25% Pediatrics
- 29% Metabolic
- 35% Disease
- 12% Testing

GENETIC COUNSELORS WORK IN A VARIETY OF SETTINGS
- Universities
- Hospitals
- Laboratories
- Non-Profits & Government

www.nsgc.org/p/cm/lid/fid=68
Selected Accredited Genetic Counseling Programs

- Boston University School of Medicine
- Brandeis University
- Case Western Reserve University
- Emory University School of Medicine
- National Human Genome Research Institute @ Johns Hopkins
- Icahn School of Medicine at Mt. Sinai
- Northwestern University Medical School
- Stanford University School of Medicine
- University of Michigan
- University of Pittsburgh

gceducation.org/Pages/Accredited-Programs.aspx
GENERAL APPLICATION REQUIREMENTS

• Prerequisite coursework may include: biology, chemistry, organic chemistry, biochemistry, genetics, statistics and psychology
• The Graduate Record Examination (GRE) (and TOEFL for international)
• Undergrad and grad transcripts
• Letters of recommendation (usually three)
• Personal statement
• Advocacy experience volunteering as a counselor or working with individuals who have a genetic condition or disability (e.g., crisis counseling, bereavement counseling)
• Shadowing or speaking to a genetic counselor to show you have explored the field is highly recommended
• Research and/or laboratory experience can also strengthen an application
• Applications typically open in the fall prior to matriculation with deadlines between December and February
TIPS FOR A STRONG APPLICATION

- The most common undergrad majors accepted are biology, genetics and psychology.
- The average GPA of admitted students is 3.5 with GRE scores in the 60-70% range.
- Those who apply to 4 or more programs are more likely to be admitted than those who apply to 1-2. Well qualified applicants appear to be likely to be as successful when they apply to 4-6 schools as when they apply to more than 6 schools.
- Applicants who take time off after completing their undergrad degree are viewed favorably.
- Contact individual programs to make sure you are familiar with and are fulfilling their specific requirements.
GENETIC COUNSELING ADMISSIONS MATCH

• All programs require an interview.
• Students are placed into programs through a Match process.
• The Genetic Counseling Admissions Match has been established to enhance the process of placing applicants into positions in masters-level genetic counseling programs that are accredited by the Accreditation Council for Genetic Counseling (ACGC). The Match uses an algorithm that takes into account both applicants’ and programs’ preferences. Applicants and programs submit ranked lists of preferred placements to NMS; match results are released to both applicants and programs simultaneously in late April.

icahn.mssm.edu/education/masters/genetic-counseling/admissions
# Sample Curriculum

*Master of Science in Genetic Counseling at Icahn School of Medicine at Mt. Sinai*

<table>
<thead>
<tr>
<th>Year 1 (Fall)</th>
<th>Year 1 (Spring)</th>
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<tbody>
<tr>
<td>• Embryology (Structures)</td>
<td>• Medical Genetics</td>
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<tr>
<td>• Molecules, Cells &amp; Genomics</td>
<td>• Ethical Issues in Clinical Research for the Genetic Counselor</td>
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<tr>
<td>• Genetic Counseling I</td>
<td>• Genetic Counseling II</td>
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<tr>
<td>• Introduction to Ethical Responsibility of Genetic Counselors</td>
<td>• Introduction to Interviewing &amp; Counseling Methods</td>
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<tr>
<td>• Biostatistics</td>
<td>• Culture, Illness &amp; Community Health</td>
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<td>• Clinical Rotations</td>
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<td>• Psychosocial Supervision</td>
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<td>Year 2</td>
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<tr>
<td>• Impact of Illness on Patients &amp; Families</td>
<td>• Clinical Rotations</td>
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<tr>
<td>• Genetic Counseling III</td>
<td>• Psychosocial Supervision</td>
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<tr>
<td>• Practical Analysis of Your Personal Genome</td>
<td>• Thesis</td>
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<tr>
<td>• Medicine, Social Justice, and Public Health</td>
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## Sample Curriculum

**Master of Science in Genetic Counseling at MGH Institute of Health Professions**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td><strong>Year 1</strong></td>
<td></td>
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<tr>
<td>• Intro to the Genetic Counseling Profession</td>
<td>• Pediatric &amp; Adult Genetic Counseling</td>
<td>• Metabolism</td>
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<tr>
<td>• Intro to Counseling Techniques</td>
<td>• Cancer Genetic Counseling</td>
<td>• Risk Assessment</td>
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<tr>
<td>• Embryology &amp; Teratology</td>
<td>• Laboratory Methods</td>
<td>• Fieldwork</td>
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<tr>
<td>• Preconception &amp; Prenatal Genetic Counseling</td>
<td>• Interprofessional Project</td>
<td>• Capstone</td>
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<tr>
<td>• Intro to the Research Process</td>
<td>• Seminar</td>
<td>• Interprofessional Ethics</td>
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<td>• Interprofessional Practice</td>
<td>• Fieldwork</td>
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<td>• Seminar</td>
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<tr>
<td>• Fieldwork</td>
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<tr>
<td><strong>Year 2</strong></td>
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<tr>
<td>• Ethical, Legal, Social &amp; Cultural Topics for Genetic Counselors</td>
<td>• Advanced Genetic Counseling Profession</td>
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<tr>
<td>• Advanced Counseling Techniques</td>
<td>• Seminar</td>
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<tr>
<td>• Advanced Clinical &amp; Medical Genetics</td>
<td>• Fieldwork</td>
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<td>• Fieldwork</td>
<td>• Processing Group</td>
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23andMe’s New Genetic Test for Cancer Could Create a False Illusion of Safety
The Verge, Mar 2018

CRISPR’D Food, Coming Soon to a Supermarket Near You
Wired, Mar 2018

Over 2,000 benefit from HMC Genetic Counseling & Testing Service
The Peninsula, Mar 2018

Genetic Counseling Field to Rapidly Expand
CNBC, Aug 2017

Breast Cancer Patients Face Genetic Counseling Gaps
NextAvenue, Jul 2017

Lifeworks interview with genetic counselor Barbara Biesecker
LifeWorks, 2005
FOR ADDITIONAL INFORMATION

• American Board of Genetic Counseling: ABGC.net
• American Board of Medical Genetics and Genomics: ABMGG.org
• National Society of Genetic Counselors: NSGC.org
  • What is Genetic Counseling
  • Explore a Career as a Genetic Counselor
  • Simulated genetic counseling sessions (videos)
• American Society of Human Genetics: ASHG.org
• Association of Genetic Counseling Program Directors: AGCPD.org
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This resource was developed by the Office of Health Professions Advising at Princeton University and may be shared for educational purposes.