

# GENETIC COUNSELING



# 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.



# 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



## EXPANSION IN SPECIALTIES BETWEEN 2014 AND 2016



## GENETIC COUNSELORS WORK IN A VARIETY OF SETTINGS



Universities



Hospitals



Laboratories



Non-Profits & Government

# 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](#)



# 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.



# SAMPLE CURRICULUM

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

	Fall	Spring
Year 1	<ul style="list-style-type: none"> <li>• Embryology (Structures)</li> <li>• Molecules, Cells &amp; Genomics</li> <li>• Genetic Counseling I</li> <li>• Introduction to Ethical Responsibility of Genetic Counselors</li> <li>• Biostatistics</li> </ul>	<ul style="list-style-type: none"> <li>• Medical Genetics</li> <li>• Ethical Issues in Clinical Research for the Genetic Counselor</li> <li>• Genetic Counseling II</li> <li>• Introduction to Interviewing &amp; Counseling Methods</li> <li>• Culture, Illness &amp; Community Health</li> <li>• Clinical Rotations</li> <li>• Psychosocial Supervision</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>• Impact of Illness on Patients &amp; Families</li> <li>• Genetic Counseling III</li> <li>• Practical Analysis of Your Personal Genome</li> <li>• Medicine, Social Justice, and Public Health</li> <li>• Clinical Rotations</li> <li>• Psychosocial Supervision</li> <li>• Thesis</li> </ul>	<ul style="list-style-type: none"> <li>• Clinical Rotations</li> <li>• Psychosocial Supervision</li> <li>• Thesis</li> </ul>

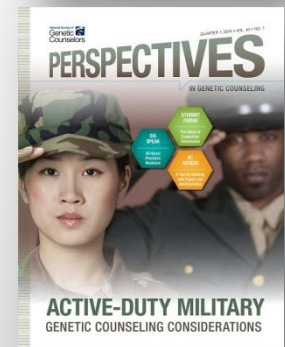
# SAMPLE CURRICULUM

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

	Fall	Spring	Summer
Year 1	<ul style="list-style-type: none"> <li>• Intro to the Genetic Counseling Profession</li> <li>• Intro to Counseling Techniques</li> <li>• Embryology &amp; Teratology</li> <li>• Preconception &amp; Prenatal Genetic Counseling</li> <li>• Intro to the Research Process</li> <li>• Interprofessional Practice</li> <li>• Seminar</li> <li>• Fieldwork</li> </ul>	<ul style="list-style-type: none"> <li>• Pediatric &amp; Adult Genetic Counseling</li> <li>• Cancer Genetic Counseling</li> <li>• Laboratory Methods</li> <li>• Interprofessional Project</li> <li>• Seminar</li> <li>• Fieldwork</li> </ul>	<ul style="list-style-type: none"> <li>• Metabolism</li> <li>• Risk Assessment</li> <li>• Fieldwork</li> <li>• Capstone</li> <li>• Interprofessional Ethics</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>• Ethical, Legal, Social &amp; Cultural Topics for Genetic Counselors</li> <li>• Advanced Counseling Techniques</li> <li>• Advanced Clinical &amp; Medical Genetics</li> <li>• Fieldwork</li> <li>• Seminar</li> <li>• Processing Group</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced Genetic Counseling Profession</li> <li>• Seminar</li> <li>• Fieldwork</li> <li>• Processing Group</li> </ul>	

# PUBLICATIONS AND ARTICLES OF INTEREST

- [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](http://ABGC.net)
- American Board of Medical Genetics and Genomics: [ABMGG.org](http://ABMGG.org)
- National Society of Genetic Counselors: [NSGC.org](http://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](http://ASHG.org)
- Association of Genetic Counseling Program Directors: [AGCPD.org](http://AGCPD.org)