

Job title

Genetic Counselor

General overview

A genetic counselor performs the duties of a general counselor such as providing support, education, and reassurance to patients and families in need, but specifically targets genetic diseases. They can specialize in several different areas such as oncology, neurology and pediatrics. Their main goal is to assess a patient's family history, and discuss the risks, benefits and limitations associated with genetic testing (Government of Canada, 2013). They also interpret the laboratory results and communicate these findings to the patient and family and provide an individualized treatment or screening plan. Another task is to read the current literature and attend conferences within their specialized area to stay up to date with the current treatment or screening options available (O*Net, 2010).

Job duties and responsibilities

Most genetic counselors are employed by medical centers, hospitals and clinics, but other employers can be universities or biotechnology companies (Career cruising, 2013). Most genetic counselors are full time workers, but some are contract workers hired for a fixed amount of time (usually six months) and are paid hourly (Career cruising, 2013; O*Net, 2010). This difference depends on the type of work they are being hired to do, as well as their experience in the field. New graduates tend to be on contract, where as individuals who have been working in this area longer tend to be on salary (Career cruising, 2013).

General duties and responsibilities in this job include first gaining a general knowledge of the genetic disease, possible screening methods and treatment option, and staying current by reading up to date scientific literature. A genetic counselor will always have an initial meeting with the client and their family to gain knowledge about their family's genetic history using a pedigree. Genetic counselors explain to the client and their family information about the disease and possible outcomes. Once the client gets screened, it is the genetic counselor's responsibility to analyze the DNA sequence and interpret the results. They will then do a follow up appointment with the client and convey the results in a way that the patient and their family will understand the complex concepts. They will also provide personal assistance, medical attention and emotional support for the patient as well as their family members, and outline possible prevention or treatment plans. They will then do follow up appointments all throughout the clients life, if they test positive for the genetic disease. They must also keep a record of all clients and attend conferences on relevant subject matter (Government of Canada, 2013; O*Net, 2010).

Typical workday

Genetic Counselors typically work eight to nine hours a day five days a week, but it is not uncommon to work overtime as well depending on how large their case load is, or whether or not they need to attend conferences (CAGC, 2006; Career cruising, 2013). Typically, genetic counselors have an office in a hospital or clinical setting (Government of Canada, 2013; O*Net, 2010).

Genetic counselors primarily interact with clients, but they also have a team of administrative office workers such as a receptionist and data entry clerk. They also interact with other medical professional and family physicians to work cohesively to help their patients (O*Net, 2010). Patients usually get referred to genetic counselors by their family practitioner, or health care professional. It is then the genetic counselors responsibility to provide information

and counselling services as needed depending on the results and the individual's emotional state. A genetic counsellor may also work closely with surgeons, depending on whether or not the individual needs surgery as well as physical rehabilitation doctors to ensure the patient is getting the quality care they need given the circumstances of the disease (CAGC, 2006; Career cruising, 2013).

A typical day includes reading up on current literature in the area of the disease, meeting with clients and their families to discuss results or treatment and screening options. They also analyze the genetic sequences to screen for genetic markers related to specific diseases. They finish by writing up reports on all their clients (Career cruising, 2013).

Tools in this occupation include a bench top centrifuge used to isolate DNA fragments, cryostats to keep the DNA fragments frozen, (Thermo Fisher Scientific Inc, 2013), a darkfield microscope to view the DNA (Anderson, 2010), a DNA sequence analyzer that interprets the sequence of the DNA (BC Media Services, 1996), gel documentation systems to store and replicate the sequences of DNA (Life Technologies Corporation, 2013) and a computer to input the data (O*Net, 2010).

Technology required in this job is basic software such as Microsoft word, Excel, and PowerPoint to create presentations, spreadsheets and general documents. Other technologies required are analytical software such as SPSS, and an internet browser (O*Net, 2010).

Educational requirements and other qualifications

A Master degree in genetics is the minimal requirement to apply for this type of work, but most often employees in this job need a Ph. D. or an M.D. (Government of Canada, 2013; O*Net, 2010). It is most common to earn a bachelors degree in genetic counselling but there is also the option to get into a master's program with a bachelor's degree in a related area such as biology, genetics, nursing or psychology. A masters degree in genetic counselling (two years of coursework and practical training in hospitals) is the next step followed by working under a genetic counsellor for a minimum of five years (Career cruising, 2013; University of British Columbia, 2013). To become a fully licensed genetic counselor, the individual must have minimum five years working experience and write a certification exam available through the Canadian Association of Genetic Counsellors (Government of Canada, 2013; CAGC, 2006).

To ensure that candidates are always staying current, their licence expires every ten years. They must renew through a re-examination test or an accumulation of credits (CAGC, 2006).

Some of the top areas of knowledge to succeed in this job include biology, medicine, psychology, therapy and counselling as well as English (O*Net, 2010; University of British Columbia, 2013).

Related skills, interests, and qualities

Some of the top skills needed for this job include reading comprehension and writing to help understand how to read scientific journals as well as speaking and communicating with others in a comprehensive way to convey important information. Active listening, meaning giving full attention to the individual without interrupting, and complex problem solving with critical thinking skills which is the ability to identify a problem and review related information to help evaluate different options and possible solutions are also essential. Social perceptiveness which is defined as being aware of others and understanding why they may react in different ways in different situations is also useful (O*Net, 2010).

Interests suggested for this job from the Holland codes include the need to be social i.e. working well with others and the need to investigate i.e. working with ideas and math equations (O*Net, 2010).

Genetic counselors must be emotionally mature, understanding and non-judgmental. Strong oral communication and listening skills are key. It can be emotionally draining to deal with ongoing client issues, especially when the disease the client has currently has no cure. Someone well suited for this job needs to be able to be compassionate, but not get emotionally attached to clients (Career cruising, 2013).

Relevance of Psychology undergraduate degree

The basic elements of psychology used in this degree are how to interpret people's behaviours. Statistics and knowledge on how to read journal articles are also relevant skills to help the clinician understand and stay current with the literature (O*Net, 2010; University of British Columbia, 2013).

Some of the following courses would be beneficial to take to help prepare for a job in Genetic counseling; Introduction to psychology for basic and general information about how psychology works; Research Methods and Statistics to gain an understanding of how to read and interpret journal articles and understand how statistics work; Social Psychology to understand how people will react in different situations and how to prevent negative behaviors surrounding stress; Health Psychology to learn about different diseases and how individuals deal with stress and health related issues; Forensic Psychology for information on the interpretation of DNA; Developmental Psychology to understand how children develop and how to deliver complex information in a way that children can better understand and Psychology of Motivation and Emotion to better understand how people stay motivated when faced with difficult situations.

Salary potential

Genetic counsellors typically make 27.31 hourly if on contract (Career cruising, 2013), and 56.800 annually (O*Net, 2010). Their salary can fall anywhere from \$40, 000 to \$85, 000 (Government of Canada, 2013; O*Net, 2010).

Job outlook

Projected growth between 2010 and 2020 is 10-19% with around 32,800 job openings. Top industries of employment include health care and social assistance, government and educational services (Government of Canada, 2013; O*Net, 2010). Because this is a relatively new field of research, job outlook is difficult to find and determine, but is definitely becoming a growing field of interest.

To apply

Volunteer experience in genetic clinics is crucial to getting a permanent job within this field (CAGC, 2006; University of British Columbia, 2013).

To know more...

Go to the Canadian Association of Genetic Counselors <https://cagc-accg.ca/> (CAGC, 2006).

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