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Kara Anstett
Sarah Lawrence College

Sharon Chen
Sarah Lawrence College

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Running Head: BECOME A GENETIC COUNSELOR

Becomeageneticcounselor.org: A Website to Facilitate Recruitment of African-
Americans and Latinos into the Genetic Counseling Profession

Kara Anstett and Sharon Chen

Sarah Lawrence College

"Submitted in partial completion of the Master of Science Degree at Sarah Lawrence

College" May 2015

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Abstract

This article describes the development of the website “Become a Genetic Counselor”. The website is created to facilitate the recruitment of underrepresented minorities (URM’s) into the genetic counseling profession, specifically African-Americans and Latinos. URM’s have been found to make decisions about future career paths earlier than Caucasians, as early as middle school or high school. Thus “Become a Genetic Counselor” is targeted to African-American and Latino students ranging from middle-school age through college age. URM’s have fewer family and social influences who know about genetic counseling, have fewer role models in the healthcare industries, and are more likely to have financial barriers to higher education. “Become a Genetic Counselor” is designed to be a comprehensive resource to address the barriers to entering into the genetic counseling profession encountered by URM’s. The website defines genetic counselors and genetic counseling, describes the work that genetic counselors do and the settings that they work in, provides detailed information about how to prepare for entering into a genetic counseling graduate program and how to finance the education, and introduces role models in the field, in the form of autobiographical interviews.

Introduction

The lack of diversity in the health care professions is a well-recognized and long-standing issue. While the general population of the United States has increasingly become more ethnically and culturally diverse, there has not been a concurrent increase in diversity among health professionals (American College of Physicians [ACP], 2010; Kumaravel, Tabangin, Sebera, & Warren, 2011). In particular, the field of genetic

counseling has suffered from underrepresentation of ethnic and racial minorities since its beginnings (Mittman & Downs, 2008), and of the health care professions, is notable for the lack of diversity in its ranks despite a significant number of initiatives and interventions to increase diversity over the last twenty-five years (Mittman & Downs, 2008). The National Society of Genetic Counselors (NSGC) biannual Professional Status Survey (PSS) conducted in 2014 reports only 1.7% of those surveyed identified as Latino and 1% as Black or African-American (AA) (NSGC PSS, 2014). Meanwhile, the population of Latinos and of AAs in the United States in 2013 was 17.1% and 13.2% respectively, and they make up the two fastest growing minority groups in the country (United States Census Bureau, 2013).

The significant ethnic and cultural discordance between genetic counselors and their patients creates concern about its effect on patient care. Research shows that racial and ethnic minorities receive lower quality health care even when access to insurance, income levels, disease severity and site of treatment are controlled for (ACP, 2010; Mittman & Downs, 2008). A growing body of literature supports the importance of a diverse healthcare workforce to address persistent disparities in health status and access to healthcare of ethnic and racial minorities. A twenty year review of published and unpublished initiatives to increase diversity in the genetic counseling profession opined that the diversity initiatives have thus far been “disjointed, sporadic, and variously lack realistic goals and effective implementation and evaluation strategies” (Mittman & Downs, 2008, p. 309). The review concluded that despite previous efforts, “the profession’s gender and ethnic and racial demographics remain relatively unchanged” (Mittman & Downs, 2008, p. 309).

In addition to the difficulty in recruiting underrepresented minority (URM) students, retention of these students is a challenge. URM students that enter genetic counseling graduate programs report experiencing barriers that negatively impact their educational experience, including feeling isolated and a sense of identity loss, as well as pressure to represent their minority group when they are one of few or the only URM student in a small program cohort (Shoonveld et al., 2007). If the current trend continues, as the genetic counseling profession grows larger, cultural disparities will also continue to grow, further hampering efforts to retain this needed community of genetic counselors following initial recruitment.

Our review of historical diversity initiatives in the field of genetic counseling identified an important gap in these efforts. Several authors have concluded that the creation of a website about the genetic counseling profession has the potential to be a valuable and effective tool for recruitment of URM students into the profession (Mittman et al., 2008; Owens, Tabangin, Huether, Vice Bowling & Warren, 2009; Schneider, Collins, Huether, & Warren, 2009; Kumaravel et al., 2011). This type of recruitment website has been successfully implemented by other healthcare professions, including an initiative supported by the American Association of Medical Colleges (AAMC) called “Aspiring Docs”. The “Aspiring Docs” website is the centerpiece of a campaign to encourage well-qualified Latino, AA and Native American college students to pursue a medical career. This website (www.aamc.org/students/aspiring/) provides both information and outreach to minority undergraduate students interested in medicine. In addition to providing information about medical careers and guidance about how to

prepare for and apply to medical schools, “Aspiring Docs” features “Inspiring Stories” of URM physicians and medical students about their journey into a medical career.

The Internet thus presents an important and largely untapped opportunity for diversity recruitment into the genetic counseling profession, with the flexibility to create dynamic content that can address recruitment issues specific to URM students.

The present paper describes the development of the website “Become a Genetic Counselor”, created to encourage and facilitate the recruitment of AAs and Latinos into the genetic counseling profession. This paper first describes persistent barriers to recruitment, as well as known factors that facilitate recruitment (which we will call “supports”) into genetic counseling and other healthcare professions encountered by URM students. We then describe how the identification of these obstacles and supports guided the development process of “Become a Genetic Counselor” and informed the creation of web content.

Program Objective

The purpose of the website “Become a Genetic Counselor” is to facilitate the recruitment of AA and Latino students into the genetic counseling profession through web content created to address known barriers and utilize known supports to healthcare recruitment within these populations.

Target Group and Stakeholders

Several studies have illustrated significant differences between the career making process of URM students and their Caucasian peers. AA college students tend to make a

career choice at an earlier age than Caucasians, with one study finding that the majority of AA students have chosen a career by their freshman year of college (Schneider et al., 2009). Overall, studies suggest recruitment of URM students should begin early, in high school or perhaps as young as middle school (Lacy, McCann, Miller, Solomon, Reuben, 2011). In addition, knowledge of genetic counseling as a career early in life is significantly correlated with consideration of genetic counseling as a career (Oh & Lewis, 2005).

Thus, the primary target group for “Become a Genetic Counselor” consists of middle school through college students that identify as AA and/or Latino. Web content was designed to be at an 8th grade readability level as measured by the Flesch-Kincaid readability test.

Parents of URM students may ultimately be the most instrumental in steering a student from potential applicant to practicing genetic counselor (Gibbons, Borders, Wiles, Stephan, & Davis, 2006; Schneider et al., 2009). “Become a Genetic Counselor” can also be a trusted and fundamental resource for the teachers and counselors who guide these prospective students. Thus, the secondary target group for this website consists of high school guidance counselors and teachers, college career counselors, and parents so they may use the website as a resource to help inform and guide URM students.

The stakeholders that could benefit as a result of “Become a Genetic Counselor” include genetic counseling training programs and the genetic counseling profession as a whole. It may also provide long-term benefits to the minority patients that use genetic counseling services, as a result of the profession becoming more culturally diverse and improving its cultural competency.

Needs Assessment: Barriers and Supports to African Americans and Latinos entering into Genetic Counseling and other Healthcare Fields

Our review of the literature identified both significant barriers and key supports to recruitment into genetic counseling that we group into the following categories: information accessibility, financial considerations, career resources, role models and family influences. These barriers and supports influence URM recruitment in a variety of healthcare fields, not only genetic counseling.

Information Accessibility

Information accessibility is a significant barrier to recruitment into genetic counseling. Prospective genetic counseling students have difficulty learning about the profession due to a lack of easily available, comprehensive resources about genetic counseling, and this difficulty is magnified for URM students (Schoonveld et al., 2007). This lack of information concerns both descriptions of the genetic counseling profession, as well as the steps by which one prepares to enter the career.

While much of this information is currently available on the Internet, our assessment of the existing online resources for prospective genetic counseling students is that they are fragmented across several websites, with web content that is predominantly geared for an older audience – either soon-to-be college graduates or current genetic counseling graduate school students. Thus, younger prospective students searching for specific information about genetic counseling may be required to explore many different websites, a time consuming process which is likely to yield limited information that may be difficult to comprehend. In addition, the information that is found may not be relevant to a younger audience, students for whom graduate school is not yet a tangible reality.

Financial Considerations

The high cost of undergraduate and graduate education is a barrier for many students, not only URM students. However, URM households are under greater financial strain when funding higher education due to generally lower household incomes compared to Caucasian households (Kaiser Family Foundation; Schneider et al., 2009), less experience with significant debt, and fewer resources to cope with the financial burdens (Cregler, Clark, & Jackson, 1994; Gabard, Baumeister Parikh, Takahashi, Wells, & Canfield, 1997; Kaiser Family Foundation; Schneider et al., 2009).

Specific to the genetic counseling profession, the high cost of completing a genetic counseling program is a barrier to students (Schoonveld et al., 2007). Tuition and the school application process creates financial strain for URM students of other healthcare professions, including dentistry (Veal, Perry, Stavisky, and D'Abreu Herbet, 2004). These URM dentistry students also encounter difficulties in learning about different funding options and effectively utilizing available funding. Many students are unaware of forms of funding that do not need to be repaid, and instead assume loans are the only option. Compounding this issue, students are unaware of the services available to help them navigate the qualification and application process for obtaining financial aid (Veal, et al., 2004).

Career Resources

High school teachers and school counselors are one of the top resources utilized by high school students to obtain career information, and URM students rely more on their school counselor as a career information resource compared to Caucasians students (Alexitch, Kobussen, & Stookey, 2004; Kniveton 2004; Schneider et al., 2009). Yet,

school counselors and biology teachers – valuable resources for a potential genetic counseling student – encounter major barriers when it comes to discussing genetic counseling as a career option with their students. The majority of school counselors have never heard of genetic counseling or don't have enough information about the profession to recommend it to their students at all (Kumaravel et al., 2011). High school teachers who are familiar with genetic counseling and do present information about the profession to students also report encountering difficulties, citing a lack of resources or information about the profession as well as time and curriculum restrictions (Owens et al., 2009).

Role Models

The current homogeneity of the field of genetic counseling is a barrier to diversity recruitment. URM students have fewer career mentors with which they have a shared ethnic, racial or cultural background and can have difficulty imagining how they fit into a field that contains so few similar in background to themselves (Schoonveld et al., 2007). This barrier is echoed in other healthcare fields. Role model scarcity is a concern for Hispanic health care students and URM post-secondary students in STEM fields, and there are perceived barriers to AA students accessing shadowing opportunities in kinesiology-based allied health careers (Barfield, Cobler, Lam, Zhang, and Chitiyo, 2012; Blackwell, 1987; Cason et al, 2008; Jacobi, 1991).

Family Influences

The influence of family on guidance and recruitment into health care careers can be either a barrier or a support, depending upon different factors and conditions. A “collective culture of family” (Cason et al., 2008, p.48) influences the success of efforts to recruit in the Hispanic population. Thus, if family members are supportive of a URM

student's career choice, this can be a positive influence on a student's decision to pursue a career. On the other hand, family members can play a strong role in deterring a student from a particular career path. Schoonveld et al. (2007) found that students experience mixed, or a lack of support from their family regarding their choice of genetic counseling as a career, citing reasons such as the fact that family members didn't know anything about genetic counseling and preferred that participants instead pursue medical or law degrees, or other careers with more prestige and higher salaries.

Parents of URM students, particularly those of Hispanic origin, can heavily influence a student's career making process. Early education for parents on the funding of higher education and the benefits of a career following post-secondary training can make a lasting difference on student recruitment to health professions (Cason et al., 2008).

In creating specific web content to address the barriers and to support the recruitment of URMs, we hope "Become a Genetic Counselor" will serve as a powerful resource to break down the obstacles identified and create a well-defined path for students to enter into the genetic counseling profession.

Content Design

Information Accessibility

Presenting information that is comprehensive, easily accessed, and concisely written is the fundamental key to addressing the barrier of information accessibility. The "Become a Genetic Counselor" homepage explains the purpose of our website so that users can immediately ascertain the type of information they can expect to find. The

homepage links to the Basics section which includes: “What is a Genetic Counselor?”, “What do Genetic Counselors do?” and “Is a Career in Genetic Counseling Right for Me”? This section clearly and simply defines the genetic counseling profession and prompts the user to begin to consider whether or not genetic counseling is a good career fit for them. The user can then delve further into the website by exploring the “Where We Work” section.

The “Where We Work” section is dedicated to explaining what genetic counselors do and the workplaces and specialties in which genetic counselors work. The types of workplaces are grouped into “Clinical Work” for genetic counselors that see patients in the clinic, “Laboratory Work” for genetic counselors that work in industry, “Public Health or Community Work” for genetic counselors that work in advocacy and research, and “Job Market” to discuss the outlook and future of the profession. “Clinical Work” is further divided into separate specialty subpages: prenatal, pediatrics, cancer, cardiology, and general adult. Prenatal, pediatrics, and cancer were chosen because they are the top three specialties identified by genetic counselors as their main area of work, and cardiology was chosen because it is an emergent specialty (NSGC PSS, 2014). For each specialty, a detailed description of the role of the genetic counselor and what typically happens during an appointment is included, as well as examples of genetic conditions and emotional concerns the patient may experience. Hyperlinks to fictional case examples using historical or fictional figures are contained within the pediatric, cancer and general adult specialty subpages. The case examples are given prominence through the inclusion of a hyperlink within the revolving image carousel on the homepage which sends the user to a main landing page for all the case examples of the website. This landing page

includes an image of the case example patient, and a brief description of how genetic counseling is relevant to that patient. Fictional case examples include a pediatric genetic counseling case featuring Alexei Romanov of the Russian royal family, one of the descendants of Queen Victoria known to have Hemophilia B, and an adult genetic counseling case featuring Abraham Lincoln being assessed for the possibility of Marfan syndrome. We also include a cancer genetic counseling case featuring a fictional AA woman with a family history of breast and ovarian cancer. We created this fictional woman in order to include a patient of concordant ethnicity to our target audience. Also, as breast cancer is a prevalent disease affecting approximately 1 in 8 women in the United States, using a model patient may help prompt the user to think of those they know in their family and their community affected by cancer. The intention in presenting this case example is to provide a more intimate understanding about how cancer genetic counseling can be helpful to individuals and families. There are plans to add additional genetic counseling case examples, including a prenatal case featuring a fictional Latino couple receiving a diagnosis of spina bifida in their unborn child. This case example will allow us to include another patient of ethnicity concordant with our target audience and will give us the opportunity to highlight how an early diagnosis and genetic counseling can improve patient outcome.

Financial Considerations

In an effort to address misinformation and lack of information about funding options available to undergraduate and graduate students, our website includes a guide to different types of funding for higher education. These funding sources include: financial aid, student loans, scholarships, work-study employment, and help from family. The goal

of this section is to compare and contrast funding options and summarize each funding type in a concise manner. For example, the difference between funding that must be repaid and funding in the form of gift aid is explained, with information about how one qualifies for and applies for each of them. Hyperlinks to outside resources operated by government and college organizations that provide more specific funding information are provided, as well as suggestions about where one might investigate further for funding options. The FAFSA is discussed specifically, as this is how American college students apply for and qualify for financial aid and federal student loans issued by the U.S. Department of education, the single largest source of financial aid in the United States (“About Us”, n.d.). There is also information gleaned from genetic counseling program websites about what funding or income sources may be available to genetic counseling students specifically, or other students at the graduate level. These include the possibility of scholarships and grants awarded by a school or genetic counseling program, and positions such as teaching assistantships or part-time employment on a school campus in order to offset expenses.

Career Resources

“Become a Genetic Counselor” addresses students, school counselors, teachers and parents’ needs for career resources through the “How Do I...” section. This section consists of subpages with details about preparing for becoming a genetic counselor while in high school and college, where to find shadowing or volunteer experiences, how to prepare for the GRE’s, deciding where to apply for school, and navigating the application process. Links to other resources are provided, including a link to the Accreditation

Council of Genetic Counseling (ACGC) website list of all accredited genetic counseling programs listed by state.

Role Models

As a first step to address perceived role model scarcity in genetic counseling, our website puts a face to current AA and Latino genetic counselors. In the “Faces of Genetic Counseling” section, we present to the audience ethnically concordant genetic counselors who have taken the journey from prospective student to professional genetic counselor. This section consists of autobiographies written by the genetic counselors in the form of personal stories. Interview questions for these biographies were created with the intent of eliciting personal reflection on themes from the literature regarding diversity recruitment in healthcare professions, and the shared experiences of prospective genetic counseling students. AA and Latino genetic counselors were recruited through personal networks and encouraged to provide as much detail as possible in their responses.

The role model biographies include answers to questions about how they first learned about genetic counseling, the role their family played in the career-making process, challenges they experienced in preparation for and during genetic counseling training, which specialty they work in, what they enjoy about being a genetic counselor, how they think greater diversity in the profession may benefit the field, and any advice they may have for students interested in genetic counseling.

We were successful in recruiting and completing two role model biographies for “Become a Genetic Counselor” by the time of publication. Ana Morales, a cardiovascular genetic counselor currently working in Ohio, is of Puerto Rican origin and provides the unique perspective of an international student who completed her undergraduate training

in Puerto Rico before coming to the United States. As a genetic counselor with a passion for research and translational medicine, Ms. Morales highlights how genetic counselors can work in the research setting, a role that is not always obvious to those first learning about the profession, as it currently makes up only 3.6% of the clinical workforce (NSGC PSS, 2014).

The other role model biography is of Matthew Thomas, an AA man originally from Virginia, who returned there for employment following his graduate training. Mr. Thomas also currently works in cardiology and adds a male perspective to “Become a Genetic Counselor”.

Significantly, in sharing their unique experiences and journeys, our role model genetic counselors reference several of the barriers that we have described in this paper, including information access and family barriers. Mr. Thomas cites difficulty in learning more about genetic counseling upon first hearing of the profession. He notes that he queried his biotechnology professor about the profession but that even his professor “didn’t know any more about it than I did”. In addition, he shares the challenges he experienced in locating shadowing experience, a difficulty many prospective students experience while preparing to enter a genetic counseling graduate program. When asked about her family’s reaction to her choice of genetic counseling as a career, Ms. Morales explains “They were surprised because they had never heard about genetic counseling, and I guess everyone, including my friends, kind of assumed I would pursue a PhD in science. I had to give a very detailed explanation to help them understand my career.”

Family

“Become a Genetic Counselor” will serve as a valuable resource to families of prospective students. For students whose families are unfamiliar with genetic counseling, a resource that can help elucidate the profession will be critical in garnering support from relatives. Families may look through the website together, or students may use information they learn on the website to help describe the profession. Additionally, the existence of this cohesive, professional website will legitimize the profession to relatives who are unfamiliar with it.

Web Design

The focus of this initial pilot project is on content development and execution, and thus this took precedence over choices in web development and visual appearance. After thorough research into the available website builders currently on the market, we decided upon the use of Nationbuilder®. Nationbuilder® is a subscription based website builder that focuses on providing services for activist and political movements. It is highly customizable in its choice of page templates and has options for added interactive functionality. Because the primary goal of Nationbuilder® is to foster recruitment, it also automatically generates a database of user information when viewers decide to contact the web developers, or sign up for a website feature, such as a newsletter. This will be a valuable tool for staying connected with website users over the long term.

The design of the website includes a homepage greeting the viewer, with a revolving carousel of images featuring specific pages in other areas of the site. A top navigation menu categorizes the website into 5 major sections: “Basics”, “Where We

Work”, “How do I..?”, “Paying for School”, and “Faces of Genetic Counseling”. There are also additional menu buttons to navigate to the website’s “Mission Statement” and a “Contact Us” form. Each top navigation menu item is further divided into subsections within a drop-down menu. Most sections are designed so that the user may click between subpages in whichever order they wish, while the “How do I..?” section is arranged to promote navigation in chronological order, to guide the user through the preparation needed to enter into a genetic counseling training program, from high school through to the application process.

Evaluation Plan

Upon completion of the “Become a Genetic Counselor” prototype website, we will survey two groups of participants: 1) freshman and sophomore college students between the ages of 18-22 years old who identify as AA and/or Latino with an interest in science, medicine or psychology, and 2) high school career counselors.

College student participants will be recruited from the Mercy College Collegiate Science and Technology Entry Program (CSTEP), located at Mercy College’s Dobbs Ferry, New York campus. An initiative of New York State, the CSTEP program was created for the purpose of increasing the number of URM students in health, math, technology, and science careers (Collegiate Science and Technology Entry Program [CSTEP], 2015). Students who are New York State residents, demonstrate financial need, and identify as AA, Hispanic/Latino, American Indian, or Alaskan Native are eligible to participate in CSTEP. We will provide the recruitment flyer to Mercy College and their administration will assist in distributing the flyers to CSTEP students taking science

classes. Mercy College will also assist in reserving available space on their campus to conduct the study. We intend to survey two separate groups of a maximum of 15 students each with the two groups meeting on separate days and/or times. Students will be administered a pre-survey asking demographic questions and assessing prior knowledge of and interest in genetic counseling. They will then be shown the prototype of the website and administered a post-survey assessing knowledge of the profession and how to prepare for a genetic counseling program, as well as interest in genetic counseling as a possible career. Following the post-survey, we will hold a focus group discussion to discuss opinions about specific sections of the website, and suggestions for improvement, which will be audio-recorded. This portion of the study has been approved by the ANDRUS Institutional Review Board and the Mercy College Institutional Review Board.

Though high school students are also members of this website's target audience, their feedback was not sought at this time due to the challenges of consent and assent when including minors in research studies and the time limitations associated with our academic institution's deadlines.

High school career counselor participants will be recruited by personal networking through the Sarah Lawrence College Director of Admission & Coordinator of Multicultural Recruitment. Both current and former high school counselors will be accepted for the survey. Counselors will be asked to independently review the prototype website in advance. A one-hour telephone or in-person qualitative interview will then be conducted. This interview will be audio-recorded, transcribed and will be subject to

thematic analysis. This portion of the study has been approved by the ANDRUS Institutional Review Board.

Information gained from evaluation of these two target groups will be used to guide refinement and further development of “Become a Genetic Counselor”. In addition, through the use of Google Analytics, we will be capable of monitoring web traffic after the web site is launched. Google Analytics allows us to track web traffic not only in terms of webpage visits but also the manner in which any particular user navigates through different pages of the website. This will give feedback as to which pages are most popular and how far users navigate before leaving the website. We can then identify page topics that are more or less popular to users and gain information about how web organization and design may be altered to better serve users. For example, based on web traffic analysis, we may find it beneficial to modify the website to increase viewership of webpages that are infrequently accessed by users. In this way, we will be capable of making real time changes to web content and web design, adapting it to better serve our audience over time.

Discussion

We encountered challenges in the development process of “Become a Genetic Counselor”. There were concerns about how much detail should be included as there was a desire to be comprehensive without overwhelming the audience with information. There were also concerns about not wanting to duplicate information already available on other useful websites. Thus, it was decided to include hyperlinks to trusted websites giving the user the option of seeking out additional information. We also struggled to

create content at an appropriate reading level for our target audience, as the use of medical and genetics terminology increases the calculated Flesh-Kincaid reading level when using readability software. There were also difficulties in hiring a graduate writing student unfamiliar with the genetic counseling profession. Extensive editing was needed in order to correct misconceptions about genetic counseling and thus the web content creative process took longer than anticipated, putting the web development process behind schedule.

Looking ahead, we plan to make changes and refine content based upon feedback gathered from the initial evaluation process. We plan to further develop the “Faces of Genetic Counseling” section of the website by recruiting more URM genetic counselors to share their stories. There are plans to expand “Become a Genetic Counselor” to include Native Americans, as well as to include men, who currently make up only 4% of practicing genetic counselors (NSGC PSS, 2014). We also plan to add content and features that we believe will add value for our audience, including an events calendar, educational topics in genetics, links to outside resources about genetics concepts and topics, and a section of the website dedicated to materials for classroom presentations. This section will include standard presentation files about genetic counseling for both high school and college audiences so that teachers, career counselors, and genetic counselors have accessible resources to give presentations about this profession. For those that are not comfortable giving a presentation on genetic counseling to their students, we also plan to create videos of these presentations. We hope that by creating these resources we can increase the frequency of exposure to genetic counseling in classroom settings. We also plan to develop a network of genetic counselor “pen pal”

mentors. Through this network, interested students may be paired with a genetic counselor with a similar background in order to ask questions and learn first-hand about the experiences of preparing for genetic counseling training and being a genetic counselor. After piloting this pen pal network and recruiting a substantial number of genetic counselors in order to meet demand, we plan to implement a matching program to connect prospective students to a genetic counselor pen pal through this website.

We are cognizant of a fundamental limitation of our website: it will be utilized only by those who are already aware of genetic counseling. Genetic counseling is a profession that faces the challenge of reduced visibility and layperson awareness and understanding, compared to other health care professions such as medicine or physical therapy. Significantly, it has been found that URM students are less likely to be aware of genetic counseling compared to Caucasians, (Oh & Lewis, 2005) and yet are just as likely to be interested in genetic counseling as a career upon learning about it. Therefore, as a greater goal, we hope to promote greater awareness of the genetic counseling profession among URM students, their families and the school counselors, teachers and other influential people in their lives. Gaining awareness of genetic counseling is the first step before a potential student may be recruited into the genetic counseling pipeline.

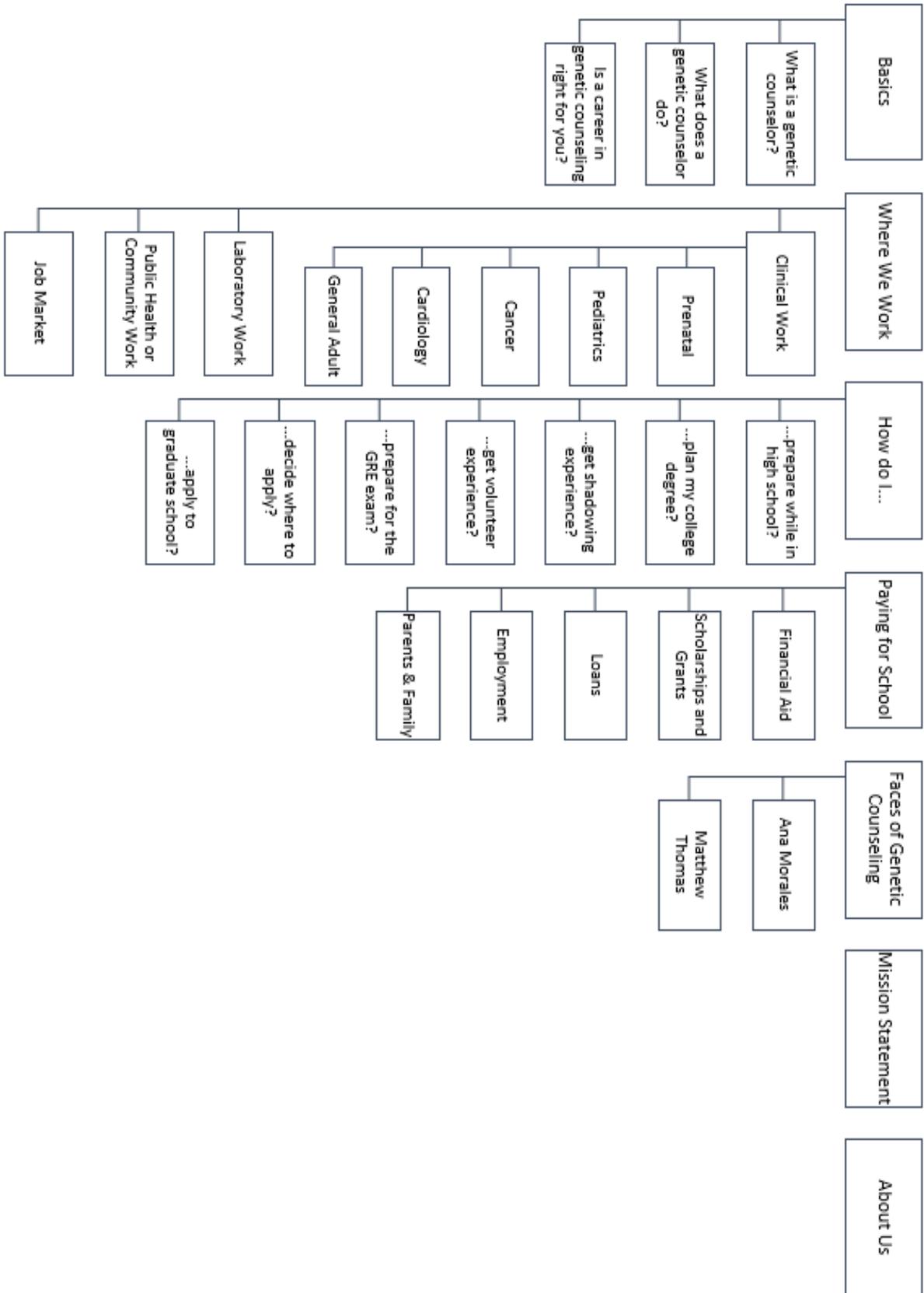
To that end, we have plans to market this website to our target audience, thus increasing awareness of the genetic counseling profession. We envision promoting the use of “Become a Genetic Counselor” as a part of presentations about healthcare career options in middle- and high-schools, colleges and career fairs. With the procurement of additional long-term funding, we will be capable of exploring further marketing initiatives in the future.

In conclusion, “Become a Genetic Counselor” is a first step in developing a comprehensive intervention for the recruitment of URM students into the genetic counseling profession. A comprehensive web resource can be an important source of information in the genetic counseling recruitment pipeline for prospective students.

Table 1: Summary of evidence-based barriers and factors that influence the career-making process of URM students and “Become a Genetic Counselor” web content designed to address such factors.

Barrier or Facilitating Factor	Aspect of website addressing this factor
Career Information Resources	<ul style="list-style-type: none"> • Target audience for this website is high school and college students in freshman and sophomore year • Include factual information on the genetic counseling career based upon what is taught about genetics at this education level • Reading level is tailored towards audience of 16-22 year olds • Case examples give a detailed look into the role of a genetic counselor • Can serve as a resource to career counselors and teachers that have little background knowledge about the profession.
Family	<ul style="list-style-type: none"> • Can serve as a resource to these trusted figures that have little background knowledge about the profession. • Thoughtful & professional content legitimizes the profession.
Role Models	<ul style="list-style-type: none"> • Inspirational interviews of currently practicing GCs on their journey into the profession, challenges of becoming a GC, and what they enjoy about their career • Recruited GCs that identified as African American or Latino
Financial Barriers	<ul style="list-style-type: none"> • Provide verified/trustworthy information on college funding options at undergraduate and graduate level • Link to outside websites with funding information

Table 2: Website plan for “Become a Genetic Counselor”.



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