

**Utilization of Health Professions Advising Services:  
Factors that Impact the Student Experience  
& Strategies for Improvement**

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## DEDICATION PAGE

My father was a high school drop out and my mother has never earned more than \$30,000 a year her entire life. Statistically speaking, I should not be here. I grew up with food insecurity and surrounded drugs, alcohol, mental illness and abuse. I left that environment and pursued higher education because I received unrelenting love from my mother. While she did not know how to support me and had no financial means to help me, she made up for everything by taking amazing care of my children over the past twelve years without asking for anything in return. She has been my biggest cheerleader my entire adult life. All of my success is attributed to her.

I failed most of my classes in eighth grade and was not college bound when I entered high school, but one teacher saw that I did not belong where I was and advocated for me to be placed in honors classes so that I had a chance to do more. Had she not taken that step, I would have finished high school and worked in retail. I am forever grateful to that woman for saying something.

My husband and I left the comfort of the midwest and drove to New York City at age 25 to start a new life with no jobs, no place to live and not much money. I had crazy big dreams that changed frequently. I always wanted more. My husband has never told me no. He has never held me back. He sends me to hotel rooms for quiet space to write while he stays home with the kids. He has always supported me and every thing that I think I need to do along my journey. I am forever grateful to him for letting me be who I am without ever holding me back. This capstone wouldn't have happened without his support.

I am where I am because people saw something in me. The insecurity, self-doubt, depression, and generational trauma I have carried for years constantly threatened this capstone. Numerous times, I said that I should not be doing this. My advisor, Chris Quinn-Trank was the last person who pulled me up and pushed me forward. A simple comment on an early draft of writing propelled me to keep going when I thought I should quit. She pushed me through this program. She both made me feel seen when my imposter syndrome made me want to disappear. I admire her more than she'll ever know.

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## EXECUTIVE SUMMARY

### Problem

The Health Professions Advising Center (HPAC) at the University of California-Riverside (UCR) wants to improve their outreach to pre-health students on campus. Within HPAC, it is unclear why some UCR students are not using HPAC's services. Because of the Center's desire to make their advising services accessible to all students, HPAC would like to better understand where pre-health students get their pre-health advising, what might deter a student from utilizing HPAC's services and how HPAC might increase outreach. With this information, HPAC would like to develop more targeted outreach and inclusive advising practices to ensure all students feel encouraged to use the free campus resource.

### Research Questions

To understand why UCR pre-health students do or do not use HPAC services and how HPAC can reach more students involves finding the answers to the following questions:

<b><i>Research Question 1</i></b>
What influences students' decisions to utilize this campus resource?
<b><i>Research Question 2</i></b>
What are the experiences of pre-health students at UCR? Are there differences between those who utilize HPAC and those who do not?
<b><i>Research Question 3</i></b>
Where do students get pre-health advising and information?
<b><i>Research Question 4</i></b>
What strategies could HPAC use to attract and support UCR pre-health students?

### Guiding Framework

Using the Social Cognitive Career Theory (SCCT), the analysis explores the relationship between students' characteristics, beliefs and choices and their decisions, in this case, to utilize HPAC (Brown, 1999). By combining the social-cognitive aspects with the actual experiences of the students, we can better understand how a student's decision is intertwined and whether a student pursues a resource is not simply a matter of choice. The theory goes on to show how the campus resource, in this case HPAC, can influence students' self-efficacy and outcome expectations, which in turn affects the way students engage with that campus resource. Because support is closely tied with students' self-efficacy, the expectations of the students before and after using HPAC influence their initial and continued use of the service.

### Project Design

A mixed-methods approach was used to collect qualitative data from six interviews and focus groups, as well as information about students’ tendencies to learn about and utilize various campus resources was identified via a survey.

**Findings**

Two themes emerged with three categories under each. *Access* in this project is thought of as what increases the likelihood of a student utilizing HPAC, including both physical barriers, such as scheduling systems, and psychological barriers, such as safety or feeling discouraged. The second theme, *Outreach*, describes how HPAC reaches students on campus. Participants suggested many ways HPAC can increase outreach, both physically and virtually. The data on how they currently acquire information provides insight into how HPAC can better reach them in the future.

Access		Outreach	
<b>Finding One: Student Perceptions</b>	Students felt discouraged Students were told by others that they were discouraged (n=3)	<b>Finding Four: Visibility</b>	Unaware of Social Media Presence Unaware of HPAC’s location (n=4)
<b>Finding Two: Barriers</b>	Scheduling process Availability of appointments Unable to choose advisor of choice (n=3)	<b>Finding Five: Student Utilization of Other Programs</b>	SOM Research Programs/pathway Programs (n=6)
<b>Finding Three: Low Urgency</b>	Limited/unsure of plans for future utilization Students did not see the value in going (n=6)	<b>Finding Six: Unfamiliar with Services</b>	Unaware that HPAC serves their intended career. (n=1)

**Recommendations**

The Director of HPAC has created a center with a robust website and many opportunities for students to learn how to navigate the process. Despite the challenges of working remotely for almost two years, the center remained open and able to serve UCR’s pre-health population. It is clear that UCR and HPAC are committed to improving the experience of pre-health students on campus. The findings from this evaluation produced several recommendations to help HPAC improve their accessibility to all students and increase their outreach across campus in an effort to ensure all UCR pre-health students can utilize the free advising resources available to them.

The recommendations are based on findings from the evaluation and were developed from literature and by exploring advising models at similar institutions across California. Based on the work of Oyewole (2001), two main recommendations were developed:

- 1. Implementing quality control measures through data analysis, continuous training and taking a proactive approach to ensuring HPAC has a strong reputation on campus.**
- 2. Improving visibility both on campus and virtually by collaborating with some of the partner organizations that students utilize most, creating a stronger presence online, and increasing campus outreach by tabling at events**

<b>Implementing Quality Control</b>	<b>Improving Visibility</b>
Data Analysis	Collaborations
Continuous Training	Online Presence
Reputation Renovation	Campus Outreach

## INTRODUCTION

For students pursuing health professions, the competitive path to a health career can be daunting, so many universities offer pre-health advising offices to assist students with developing timelines, understanding pre-requisite courses, finding experiences, and application preparation. Unlike academic advising offices, whose primary goal is to help students graduate, pre-health advising offices focus additionally on the preparation for health profession schools. Where offered, these services are free to undergraduates and sometimes alumni. Utilization of these services is presumed to lead to increased acceptance rates to health profession programs. For schools that serve predominantly underrepresented students in healthcare, the pathway from undergraduate to professional school is even more vital, as increases in the diversity of health professionals improves health disparities in underserved communities (Kington, et al, 2001, Oyewole, 2001). Underrepresented students are typically thought of as racial minorities in healthcare, but throughout this project, underrepresented students may include first-generation as well.

While several elements impact a pre-health student's pursuit of a health career, such as access to content-appropriate coursework, research, clinical opportunities, and strong letters of recommendation, one service pulls all of these elements together: pre-health advising. Oyewole (2001) writes, "effective undergraduate pre-health advising programs play a unique and important role in the successful advancement of underrepresented minorities to careers in the health professions." This capstone looks closely at one university's pre-health advising office to help them gain insight into how their current students utilize their services and what may increase access to more of their students.

### **About University of California, Riverside**

The University of California, Riverside (UCR) is one of nine UCs across the California system and serves over 26,000 undergraduates. The UCR website highlights that they are the number one university in the country for social mobility because of their efforts to recruit and graduate students from historically underrepresented communities, including first-generation, low-income and underrepresented students. Currently, 41% of UCR undergrads are underrepresented in medicine (URM) as defined by the American Association of Medical Colleges (AAMC).<sup>1</sup> Many of UCR's initiatives over the last two decades highlight their focus on serving their students' needs. The University became the first Hispanic Serving Institution (HSI) in 2008. In 2009, the Health Professions Advising Center (HPAC) was founded, and by 2013, the first class was admitted to their new School of Medicine. In 2016, leadership launched a campus-wide initiative to better serve their first-generation students, who make up 56% of their

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<sup>1</sup> The AAMC definition of underrepresented in medicine is: "Underrepresented in medicine means those racial and ethnic populations that are underrepresented in the medical profession relative to their numbers in the general population." <https://www.aamc.org/what-we-do/equity-diversity-inclusion/underrepresented-in-medicine>

student population. Their Future Fluent plan, published in 2021, states that in order to close the achievement gap, UCR will, “Identify and eliminate barriers that have historically hampered underserved populations from pursuing graduate study, including economic disparities, discrimination, lack of role models and mentors, misperceptions about graduate school, and insufficient career and professional development” (UCR Strategic Plan, 2021). This last specific goal highlights the need to take a closer look at an essential campus resource that supports many of UCR’s most promising students: the pre-health population.

### **About the Health Professions Advising Center**

As a unit in Undergraduate Education under the Student Engagement portfolio, HPAC provides advising and support for students and alumni from any academic background pursuing graduate and professional schools in the health professions. The HPAC budget allows for two full-time professional staff, assisted by one part-time graduate student and four part-time student staff. HPAC’s goal, stated in their 2021 Executive Summary, is to educate students on a variety of health care careers and to help them prepare for their career interests. UCR’s pre-health students have access to the HPAC advisors through workshops, videos, and individual appointments. HPAC doesn’t require a minimum GPA or test score to access their services. Pre-Health students are encouraged to utilize HPAC, but it is not required. Because the university does not have a way to track all pre-health students, the HPAC director is unable to know exactly how many students identify as pre-health, but they estimate that 5,000 students per year are pursuing a health career at UCR. At this time, the advisors do not have any demographic data on who is pre-health at UCR to compare against who uses their services.

The demand for services at HPAC is high. At any given time, advisors are scheduled out more than 30 days. In 2020, UCR had over 980 applicants to all of the health professions. In 2021, they saw an 8% increase in the allopathic medical school applicant pool with 286 students applying, the largest group. To address the wait time for a pre-health student to see an advisor, beginning fall 2014, HPAC implemented a two-tier appointment option. All students are required to attend or watch a workshop before making an appointment. While the campus was closed during the Covid-19 pandemic, the workshops were changed to pre-recorded videos posted on YouTube that the students were required to watch before meeting a staff advisor. After campus reopened, students were required to attend an *Introduction to Health Professions* workshop via Zoom before they scheduled a 30-minute appointment with an HPAC advisor. Additionally, prior to March 2020, students could “drop in” to see a peer ambassador in the office. From 2020 through winter of 2022, peer ambassadors continued to advise remotely over Zoom along with the professional staff.



**Table One: Number of Participants for 2020-21 HPAC Events**

<b>Advising Appointments</b>	827
<b>Workshop Attendance</b>	3,455

### Stakeholders

This project is operating under the assumption that increased utilization of HPAC services will lead to increases in acceptance rates to health profession programs. Increased acceptance rates amongst UCR graduates to health profession programs has long-lasting positive outcomes for UCR. UCR's focus on social mobility makes HPAC a prime department on campus to address this issue. In 2021, 22% of UCR's medical school applicants were accepted<sup>2</sup>. Of their 2021 medical school applicants, 18% (n=51) qualified for the AAMC's Fee Assistance Program, indicating a low-income status. Of those 51 UCR applicants who qualified for fee assistance, only 12 were accepted to medical schools.<sup>3</sup> Helping HPAC reach more students from low-income backgrounds assists UCR in reaching its mission in increasing social mobility for its undergraduates.

While roughly thirty percent of Americans are Black, Hispanic or Native American/Pacific Islander, these groups make up only seven percent of the STEM workforce (Toven-Lindsey, et al, 2015). Because there is a significant overlap between first-generation, underrepresented and low-income students (Kington, et al, 2001), improving UCR's overall pre-health applicants' access to resources should contribute to increased enrollment of underrepresented students in the health professions, a goal shared broadly across institutions. In 2021, of UCR's 286 medical school applicants, 34% (n=97) identified as a URM<sup>4</sup>, whereas nationally, only 16% of those who enrolled in medical school were underrepresented (AAMC, 2022). Amongst all universities nationally, UCR ranks 20th for having the most Latino/a applicants to medical schools (*See Appendix A*), making UCR an ideal pathway university for increasing diversity into health professions.

Within the Inland Empire, where there is a physician shortage and a need for health providers who can provide linguistically and culturally appropriate care, UCR serves as a pathway to the University of California-Riverside School of Medicine, where local students will be trained and are encouraged to stay in the region in an effort to close the healthcare shortage gap. In UCR's 2021 medical school applicant pool, 64% (n=41) matriculated into a California medical school. A 1975 study conducted by Davidson and Montoya found that in California,

<sup>2</sup> According to the AAMC, 42% of all applicants successfully matriculate into a medical school.

<sup>3</sup> 12% of the national applicant pool who entered medical school in 2021 qualified for fee assistance (AAMC, 2022)

<sup>4</sup> UCR's total student population is around 41% URM.

“minority physicians were more likely than white physicians to be practicing in or adjacent to areas designated as having a health care personnel shortage (53% vs. 26%).” California, as a whole, serves a very diverse patient population and is struggling to meet the need of culturally competent health providers to serve their immigrant, farm worker, and/or undocumented populations. Hispanic-serving institutions, such as UCR, are an essential source of future health professionals who share the backgrounds of the patients who lack adequate care in their communities (Kington, et al, 2001). Discovering ways that HPAC can better serve the entire pre-health population at UCR has long-lasting, national implications for better health and economic outcomes.

Many stakeholders will benefit from HPAC reaching more students. The stakeholders for this study can be broken down into three categories: Campus, Statewide, Nationally. The chart below highlights how each stakeholder could benefit from HPAC improving their access and impact on more students.

**Table Two: Outline of Constituents**

<b>Campus</b>	
<b>UCR Students</b>	Their access to quality advisors means improved chances of a successful application process, resulting in career attainment and social mobility.
<b>HPAC</b>	Increased utilization demonstrates a demand for services, and increases in acceptance rates to health profession schools demonstrates effective advising strategies.
<b>School of Medicine</b>	Stronger UCR applicants result in more and better prepared medical students.
<b>Regional</b>	
<b>UC System</b>	More UC students matriculating into health professions schools means greater UC representation nationally
<b>Inland Empire</b>	An increase in diverse health professionals who return to their communities to work may result in improved health outcomes and lower health disparities.
<b>Underserved Patients</b>	Patients who require linguistically and culturally appropriate care may see improved health outcomes with a more diverse health care workforce.
<b>National</b>	
<b>Health Profession Workforce</b>	A more diverse health profession workforce may result in more ideas influencing national policies, research and advocacy.

## THE PROBLEM

Although UCR has demonstrated excellence at addressing social mobility with its total student population, it remains unclear how all pre-health students engage and benefit from the services provided. Engagement on campus has shown to have positive effects on persistence towards graduation (Pascarella & Terenzini, 2005); however, when campuses fail to serve all of their students equally, impacted students are less likely to graduate and thus might have less motivation to pursue professional school. Oyewole (2001) writes that underrepresented students are at the greatest risk of not receiving services because they are not as assertive in seeking the resources. Because applying to health professions programs is not intuitive, any disparity in utilization of resources may have long-lasting ramifications for many stakeholders.

Because of HPAC's desire to make their advising services accessible to all students, HPAC would like to better understand where pre-health students get their pre-health advising, what might deter a student from utilizing HPAC's services and how HPAC might increase outreach. With this information, HPAC would like to develop more targeted outreach and inclusive advising practices to ensure all students feel empowered and able to use the free campus resource.

When students have access to information that will inform their decisions, they increase their likelihood of success. Unfortunately, much research has indicated that students from underrepresented backgrounds, including low-income and first-generation students, often do not utilize campus resources at the same rate as their peers. Some research suggests the underutilization of campus resources is the result of students' struggles with their own identity and co-cultural communication (Orbe and Groscurth, 2004; Lowery-Hart and Pacheco, 2011) due to a mismatch of cultures between students and institutions (Stephens et al., 2012). It is unclear at this time why some UCR students are not using HPAC's services; however, if UCR pre-health students do not gain access to pre-health information during their college careers, they may make avoidable mistakes, such as missing a required course or misunderstanding the timeline, which could contribute to a greater disparity in acceptance rates to health profession programs.

## LITERATURE REVIEW

Differential utilization of campus resources by college students from varied backgrounds has been widely studied. First-generation status is one of several identities researchers have studied extensively, indicating that first-gen students often experience difficulty accessing resources, such as faculty mentors and/or research experience (Tate, et al, 2015, White, 2011).

First-generation college students carry more doubt about their ability to succeed in college and after graduation than their peers (Pratt et al., 2019). Several studies show findings that first-generation college students expressed lower confidence or self-efficacy regarding their ability to perform well academically, pursue STEM fields and pursue graduate school (Burns, et al, 2020; Pratt, et al, 2017). Another body of literature exists that highlights the impact that campus services, such as advising, has on students' self-efficacy. This perspective is critical because it assumes a less student-deficit approach. Barr, et al (2008) begin to highlight some of the ways universities affect students' persistence levels toward medical schools in their study of Stanford's pre-medical students, citing advising as one of the two major areas of concern.

The following search terms were used in several databases to identify literature for this review: "career advising", "higher education", "pre-health", "pre-med", "advising", "social capital", "self-efficacy", " and "minority students". Articles that include studies on international colleges were not included because the path to health professions differs drastically in other countries. The literature was divided into two large concepts: How students' identities and backgrounds affect their utilization of campus resources, and how campus resources affect students' decision making. Under each of those, several key findings were found.

### **Student Backgrounds & Campus Resource Utilization**

Access to resources matters when it comes to pre-health student success. Much of the nuanced approach to preparing for a health career is not common knowledge. Access is not simply the presence of those resources, but additionally feeling safe and having the motivation to go to those spaces. Literature indicates that students' unique identities and backgrounds influence the way in which they respond to various obstacles they might face throughout their journey. Oyewole (2001) identified five categories strongly tied to college student outcomes: 1. Economic circumstances 2. Level of parental income 3. Racial and ethnic prejudice/discrimination 4. Cultural attributes at home/community 5. Quality/amount of college resources available. The first four relate to what students bring into college with them that affect their engagement, but Oyewole (2001) goes on to say that these external factors alone are not responsible for how students engage.

White (2011) conducted a study looking at how first-generation college students engage in the classroom. The study found that even though students knew that participation affected their grade and they should engage in class, they still chose not to due to their insecurity about their readiness. The students' in his study reported being very aware of the need to engage and yet they made a deliberate choice not to, which was attributed to their background as first-generation students. Because students' backgrounds affect the way in which they interact with campus resources, it is important for those advising students to consider how students from differing backgrounds could perceive them. Stephens, et al (2012) looked at how institutional

culture affects student success and found that campuses where independence is the dominant culture had a negative effect on first-generation students, many of whom come from a more collectivist culture. This is an important concept to explore as consideration is given to why students may or may not utilize an advising center or where students may seek their information.

Where and how students access their information is dependent on who they are. From national and community organizations, such as MiMentor and the Association of American Medical Colleges (AAMC) to homegrown pathway programs at various health profession schools, students have access to advising resources from many sources. The expertise of advising may vary, depending on the source. Many universities, including UCR, use peer advisors; however, there is still some degree of uncertainty about the efficacy of peer advising with pre-health advising. A 2018 program evaluation found that first-generation students gained social capital not from professional resources, but rather from peer mentors. Moschetti, et al (2018) conducted a program evaluation at one HSI in Southern California where they aimed to measure the impact of the peer mentoring program on Latina/o students' perceived connection to the university, belief in their own success, along with several other measures. The researchers assumed that the students being studied possess low social capital and that they would view peer mentors as a source to develop their social capital. They spent three years studying 458 undergraduates enrolled in two classes in two different departments. They used a mixed methods approach to answer five research questions that primarily focused on the students' perceptions about the helpfulness of the peer mentoring program as it relates to them feeling connected to campus. From a statistical analysis, they were able to conclude that there were significant differences in campus connection between mentored and non-mentored Latina/o students' pre and post test scores.

Outside of formal advising structures, students can turn to online platforms for their pre-health information. In an article written about the use of technology in modern college classrooms, Shawn Peters comments about students from diverse backgrounds sometimes feeling "deflated and defeated" sitting in a traditional, uncomfortable classroom. His points about advising students stress that moving much of the traditional work to digital platforms is meeting students where they already are. His opinion piece makes sense when looking at the abundance of online resources for pre-health students. Social media, such as Instagram, Reddit, Discord, Slack and others, is full of information and resources for people pursuing health careers. A search using hashtags #premed #futuredoctor and #premedlife will quickly reveal a plethora of users giving advice. Some are professionals charging fees for their services while others are peers sharing their journey and information. Current health profession students often create accounts with this purpose. While information available online is accessible for all, there is some risk of inaccurate information being shared from peer to peer. Additionally, the volume of information could be difficult to process or organize according to an individual's timeline, resulting in additional stress. However, the presence of so much information online is a threat to

pre-health advisors, such as those in HPAC, because students who might be resistant to using the Center's resources now have access to the same information from their phones.

Having reliable information channels is necessary to successfully navigate the path to health profession careers, and offices like HPAC are implemented on college campuses to create greater equity for students who lack the social capital coming in, but when students do not feel motivated or comfortable using the free campus resources, they are at a disadvantage. Literature on social capital posits that having access to reliable information that provides both virtual and in-person, relationships, and networks is essential (Kasemsap, 2014). Pre-health advisors have access to national listservs, professional development conferences, and benefit from relationships with admissions representatives to learn how to provide the most up to date and accurate recommendations, therefore having a unique opportunity to serve as a bridge to this knowledge for students who enter college without the social capital to navigate this path. When campus resources exist but students fail to utilize them, both the student and the campus suffers. In the case of pre-health advising, the stakeholders affected by fewer underrepresented students pursuing a health profession extends far beyond campus.

### **Campus Resources Influence on Students' Decisions**

While students' characteristics and backgrounds coming into college can influence their relationships with campus resources, another body of literature examines the effect college resources have on students' persistence toward a health career and self-efficacy, which is, in short, "an individual's estimation about her or his ability to perform particular skills or constellations of skills" (Tate, et al, 2015). In a 2001 study using survey results to assess students' perceptions of their pre-health advisors, several questions were asked related to how the quality of advising services affected students. While the participant groups were divided between being content with their advisors and not satisfied, the most relevant finding was a negative relationship between the institution's size and students' perceptions of how minority needs were being met through programs and support. Students from larger schools indicated lower support and lower ratings for the quality of information provided (Oyeole, 2001). Because many large institutions produce many pre-health students, the size of the institution affecting students' perceptions is an important finding that will need to be explored further.

First-generation pre-health students who may come into college doubting their ability to perform well and navigate the complicated path to a health profession may carry additional stress related to the perceptions of others. When that stress is paired with overt discouragement or a lack of resources, there can be detrimental effects. In an ADEA study using focus groups with undergraduate pre-dental students, accessing information emerged as one of their three key findings. Their participants reported "overwhelming negative experiences" with their pre-health advisors, stating that advisors were ill-prepared to help them with dental-specific knowledge and

that they felt discouraged. These students reported avoiding advising altogether (Burns, et al, 2020).

According to defense theory, humans who feel psychologically threatened will resort to actions that protect themselves from encountering mental harm (Hart, 2014). In the case of pre-health advising, mental harm can take the shape of advisors encouraging students to pursue a different path, either subtly or overtly, or worse, advisors blatantly stating that the student does not have a chance of being successful on their current path. I searched “pre-med advisor” on the social media platform, Instagram, and several memes about pre-health advisors unveiled strong messaging indicating that advisors are discouraging. The phrase used to describe discouraging advisors was “dreamcrushers”. Whether real or perceived dream crushing occurs in an advising space, the mere fear of it occurring can keep students from entering that space. This theory is critical when considering who does or does not utilize services.

Bandura (1997) developed four ways that self-efficacy can be affected from external sources, such as an advising office: performance accomplishments, vicarious learning, verbal persuasion, and physical status. Each of these will be explored as they relate to pre-health advising.

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**Performance Accomplishment** posits that external factors, such as bad grades, discrimination or even discouragement, can affect a students’ self-efficacy, but the degree to which that impact is made relies back to the student’s identity (Brown, 1999). Oyewole writes, “Often advisors are fearful that poor grades in the freshmen year are a forecast of failure, and believe that they are acting in the student’s best interest when they counsel them” out of their intended, competitive health career (2001).

**Vicarious Learning** means that students’ beliefs are built through observation and interpreting what others’ behaviors mean about them. When students process a negative experience, potentially perceiving that a particular occupation is not meant for them based on their identities, they can feel discouraged from persisting toward that career (Brown, 1999). Oyewole (2001) illustrates the impact that poor grades in math and science classes has on the persistence of underrepresented students in pursuing health professions and stresses the complexity in the relationship between students’ performance and the influence it has on them.

**Verbal Persuasion** posits that students’ beliefs about themselves are influenced by outside sources, such as social media, friends and career advisors. In short, criticism can destroy a student’s belief in their ability to succeed. Brown (1999) writes that people “who have their own agendas, may inadvertently (or even overtly) kunut the educational and vocational progression by discouraging certain occupational interests, choices, and engagement.”

**Physical Status** illustrates the effect that stress has on students’ beliefs. Any degree of stress associated with an environment might result in students’ low participation. The brain operates best in a supportive environment (Brown, 1999).

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These four elements illustrate the need for an advising space to address students' self-efficacy through deliberate actions. Managing each encounter to avoid stressful moments, minimizing messages that can be perceived as discouraging, and eliminating suggestions that they might not be able to pursue a particular career are some of the interventions Brown eludes to in her article. Brophy (1998) lists additional strategies to assist students with building self-efficacy and are summarized as:

- Be a resource, not a judge.
- Focus on learning, not outcomes
- Normalize errors, turn mistakes into learning opportunities
- Emphasize effort over ability
- Tailor process to personal achievement vs normative achievement
- Build intrinsic motivation rather than extrinsic motivational strategies

These strategies can be implemented into a pre-health advising space to positively affect a student's self-efficacy and outcome expectations in an effort to encourage students to persist on their journey toward a health profession, as well as to encourage students to continue using the HPAC services.

Academic achievement in college is closely tied to feeling encouraged at college, as well as students believing that they are equally as capable as the prototypical student in achieving success (Gore, 2006; Osterman, 2000), in this case pursuing a health profession degree. In a 2001 report on the impact that pre-health advising offices have on student success, Oyewole wrote that anecdotal evidence was collected by both practicing physicians and current students that many of them were discouraged from pursuing a health profession by their pre-health advisor. In their 2008 article on what contributes to university students leaving the pre-med pathway, Barr, et al found three factors that influence student success: high-quality advisors, the support of other students, and the support of faculty. When asked about what the university could change that would positively impact their experience, pre-medical advising surfaced as the most prevalent priority (p. 510). Three qualities were mentioned by students as the most desired: "quality advising", "accessibility" and "positive advising" (Barr, et al, 2008). Their findings suggest that a lack of perceived quality advising influenced their students' in a negative way.

For many students, the fear of being discouraged could be enough to keep them from using a resource. Vaughn, et al (2020) discussed the impact fear had on students seeking research experiences. Many campuses offer programs for first-generation students to assist them in acquiring research opportunities, but student perceptions play a vital role in whether those opportunities manifest into networks or mentorships. Vaughan, et al (2020) write, "First-generation students' overall academic efficacy and social integration across the university



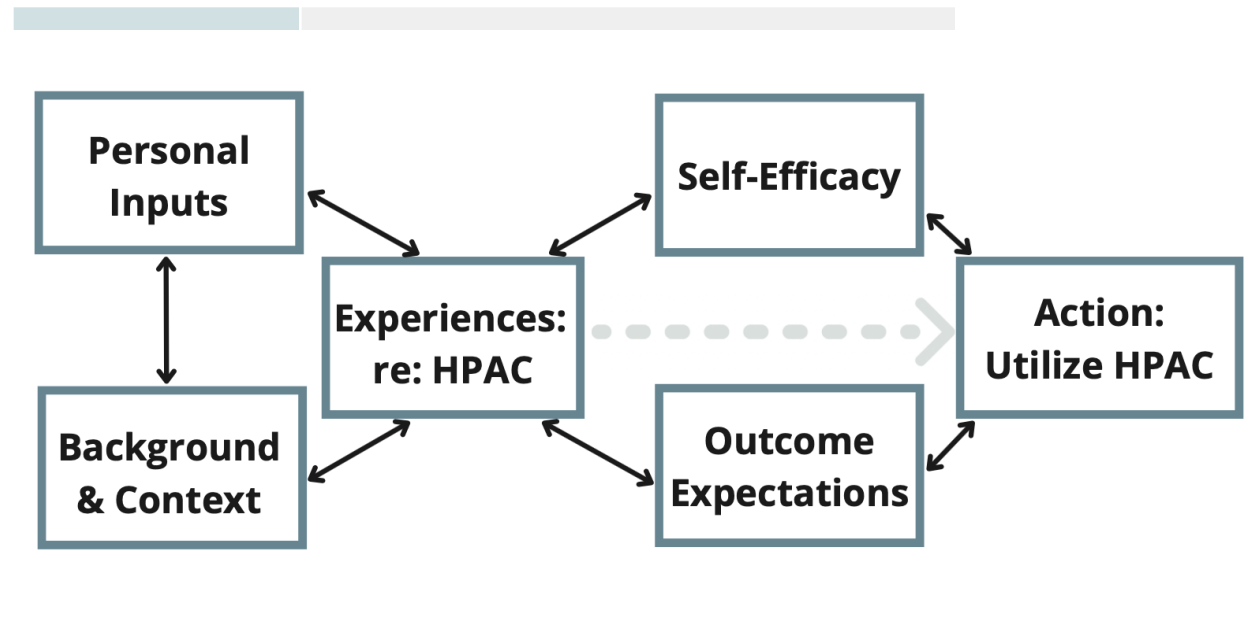
is reduced with indications that decreased faculty support on campus is exacerbated by a reluctance by first-generation students to seek out help.” In other words, if students believe that faculty are not there to support them, they are less likely to integrate into networks that would benefit their future endeavors. The implications of students not seeking relationships with faculty are huge for pre-health, as most health professions schools require two letters of recommendation from science faculty. The same theory can be applied to advising. Students need to believe that advisors are going to be supportive, and hearing otherwise can actually deter a student from seeking help.

### CONCEPTUAL FRAMEWORK

Social Cognitive Career Theory (SCCT) is a theoretical framework most often found in career advising literature that highlights the relationship between learning experiences and future decisions (Carpi, et al, 2016). Developed by Lent, Hackett and Brown in 1996, the framework for career development explains the relationship between students’ characteristics, beliefs and choices and their decisions (Brown, 1999). By combining the social-cognitive aspects with the tangible, we can better understand how a students’ decision is intertwined with many factors, and whether a student pursues a resource is not simply a matter of choice. The model has been adapted for many industries and studies, but the framework posits that a student’s combined static characteristics, often referred to as “Personal Inputs” and their “Background” or home life, parental education level and other disadvantages affect their relationship with a campus resource. This notion that students’ identities affect campus utilization is well supported by educational research, as outlined above. The theory goes on to show how the campus resource, in this case HPAC, can influence students’ self-efficacy and outcome expectations, which in turn affects the way students engage with that campus resource.

According to SCCT, students are likely to form aversions to services when their self-efficacy is weak or when they anticipate receiving neutral or negative comments. This becomes relevant when we consider the effects of perceived discouragement from advisors. If a student believes they might receive a negative comment from an advisor, they might be less motivated to engage in that advising experience. Brown (1999) describes how contextual barriers impact self efficacy, which in turn impacts the likelihood of persistence, writing that people who feel supported more easily navigate the challenges associated with a career plan. For the purpose of this project, the model will illustrate the relationship between HPAC and the students’ decisions to utilize HPAC in the future. In other words, their Outcome Expectation is not about whether they will enter their chosen profession but rather their perception of whether HPAC is a resource they will utilize in the future. Because support is closely tied with students’ self-efficacy, the expectations of the students before and after using HPAC influence their initial and continued use of the service. The SCCT framework will guide my inquiry and discussion

around why those who do not utilize HPAC services choose not to do so and where students get their advising information outside of HPAC.



<b>Personal Inputs</b>	Race, Ethnicity, Gender, Sexuality, Age
<b>Background &amp; Context</b>	First-generation, Veteran, Transfer Student, Low-Income
<b>Self-Efficacy</b>	Belief in ability to pursue a health profession
<b>Outcome Expectations</b>	Belief in HPAC’s ability to help them achieve their goal

**PROJECT DESIGN**

The purpose of this project is to assist HPAC in better understanding why students do and do not use their services, where students are seeking information outside of HPAC, and what HPAC can do to better serve UCR's pre-health student population. The following questions were developed to guide the inquiry and discussion to help HPAC reach more students.

#### ***Research Question 1***

What influences students' decisions to utilize HPAC?

#### ***Research Question 2***

What are the experiences of pre-health students at UCR? Are there differences between those who utilize HPAC and those who do not?

#### ***Research Question 3***

Where do students get pre-health advising and information?

#### ***Research Question 4***

What strategies could HPAC use to attract more UCR pre-health students?

### ***Methods & Participants***

To answer the research questions, I used a mix-methods model, using two different closed-ended surveys and semi-structured, open-ended focus groups and interviews. The use of quantitative data addressed questions 1, 2 and 3, "What are the experiences of pre-health students at UCR? Are there differences between those who utilize HPAC and those who do not?" and "Where do students get pre-health advising and information?" Qualitative data collected informed all four questions.

### **Quantitative Method**

To identify those who had used HPAC's services and those who had not, two different surveys built in Google Forms were sent separately. In August 2021, HPAC invited pre-health students in their database (those who had used the services) to voluntarily complete an online survey consisting of nine questions. From the email survey sent from HPAC, seven students responded, with four indicating an interest in participating in a focus group. Those four students were emailed three times. None of the four ended up in the focus groups or interviewed.

To identify pre-health students who had not used HPAC, the director of HPAC asked seven directors of academic advising departments across the university to email the survey out to their student listservs. From the survey sent from academic departments, eighty-four students

responded. Of those, four indicated that they were unsure if they were pre-health and three indicated that they were not pre-health. Those participants were removed, leaving seventy-seven (n=77) remaining participants.

When designing this study, I assumed that those who responded to the survey sent from HPAC would generate more interest in the focus groups than those who had not utilized HPAC. Another assumption was that the majority of people emailed from the academic advisors would not have used HPAC. This was not the case. Of those participants identified via the academic advisors, 63% had never used HPAC before, leaving a significant number of participants (n=25) who had previously used HPAC. It is unknown why the academic advisors generated more responses from students than HPAC; however, one theory is that the request to do the survey came directly from the Director, so it is possible that students might have felt hesitant to provide honest feedback regarding HPAC when the request came from HPAC. In realizing this potential bias, I decided to only use the survey results from the academic advisors. The seven respondents from the HPAC survey did not contribute to the analysis or findings.

The two surveys were identical except for two questions related to whether and how they used HPAC (*see Appendices C and D*). For those who had engaged with HPAC, the participants were asked whether they had had an advising appointment with a staff advisor, an advising appointment with a student peer ambassador, attended a workshop or none. The surveys sent included all closed-ended questions, with the option to write in answers in the “Other” answer.

Survey respondents were offered a \$5 Amazon gift card for participating in the focus groups and interviews. Those interested were emailed with an invitation to register for a Zoom focus group to participate in the qualitative aspect of this study.

Limited demographic information was collected on the participants in the surveys. First-generation status was of particular interest to HPAC, so participants were asked for their first-generation status. Forty-four percent of those who responded were first-generation.

**Table Three: Simple Frequency Distribution of First-Generation Status**

	Frequency	Percent
Not First-Generation	43	55.8
First-Generation	34	44.2
N=77		

## Qualitative Method

To better understand the narratives of students who both engaged with HPAC and those who had not, three virtual 40 minute focus groups and two one-on-one interviews were conducted with a total of eight participants (n=8). I asked eleven pre-determined questions, and several follow up questions to solicit additional information or clarification. The three focus groups were recorded, but the two interviews were not. Detailed notetaking occurred during the interviews, and those notes were integrated into the matrix of answers manually. Of those eight participants, four had used HPAC's services and four had not. All but one of the participants were upper level students. The first year student was interviewed on her first day of college, so she had very limited exposure to HPAC; however, she had heard a lot about them from current students. Six of the eight identified as first-generation students, one out of eight was male, and the health profession paths the students were pursuing were diverse. The participants were told that this is an improvement project and their identities would remain anonymous.

### ***Limitations***

There were limitations in the methods used that would be adjusted if this were repeated. Because students' identifying information was not collected in the surveys, there is no way to know if a student submitted both surveys. I also have no way of knowing how representative my sample is relative to the total pre-health population at UCR. HPAC did not have student data containing race, first-generation status or SES. In future studies, I would collect additional information from the students in the initial survey, such as whether they receive a Pell Grant, their race, and year in school.

Additionally, the interviews were conducted during the COVID-19 pandemic, at which point UCR's campus had been virtual for over a year. Some of the students interviewed had not ever used HPAC's services in person. This could have had an effect on how students' perceived HPAC's accessibility and visibility.

## **ANALYSIS**

After the three focus groups were transcribed by an outside transcription service, the data were categorized by open thematic coding. A matrix was created combining both the focus group and interview responses. The responses from the focus groups and interviews generated two larger themes: Access and Outreach. These two concepts emerged from similarities in student responses and reflect factors that affect students' decision to schedule with HPAC (Access). Outreach describes what HPAC has done or can do to reach more students.

Using the SCCT framework, I analyzed factors that impacted students' decisions to use HPAC, as well as the effect HPAC had on students' decisions for future utilization. I engaged in

axial coding to identify subcategories that would reflect more specific perceptions and experiences. Access included any comments on both physical barriers, such as schedule conflicts, and psychological barriers, like fear of discouragement. Students made positive and negative comments regarding access to HPAC. Examples of those comments are shown below:

**Table Four: Examples of Statements Collected During Focus Groups<sup>5</sup>**

Access Positive	Access Negative
<p><i>“I have an idea of what I need to take. I have a lot of other resources. I do want to make an appointment with HPAC eventually. Never got around to it.”</i></p>	<p><i>“I felt worse after going to HPAC. I had a plan but rather than getting advice, I was discouraged from pursuing my plan to take CC classes while taking UCR classes.”</i></p>
Outreach	
<p><i>“Emails are fine, but a lot of students won't read their email as they should. During welcome, have a booth outside. Or something for students to go up to rather than expect students to come to them. I don't know if they have social media platforms since a lot of kids are on their phones. Instagram and Twitter.”</i></p>	

For comments related to Access, I coded the data into binary (0,1) variables, looking at what promotes access (positive) and what inhibits access (negative). For Outreach, data were neither positive nor negative, so instead I broke the comments into two categories: On-Campus and Off-Campus/Virtual.

### Personal Inputs/Backgrounds

Personal inputs and backgrounds include those status characteristics of students that may influence their decisions to engage with campus resources. The chart below shows Input data collected for the eight participants. Each indicated verbally what year in school they were, as well as their first-generation status. Although intended career is not a status characteristic, I included it because it is part of their academic background and was one of the few descriptive variables collected.

**Table Five: Input data for Participants from Interviews/Focus Groups**

Participants	Year in School	First-Gen	Health Profession
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<sup>5</sup> See *Appendix F* to see a summary of answers to each question.

1	Freshman	Yes	Medicine
2	Junior	No	Unknown
3	Transfer-Senior	Yes	CLS
4	Transfer-Junior	Yes	PA
5	Senior	Yes	Medicine/PA
6	Senior	Yes	Dentistry/Optometry
7	Senior	Yes	Dentistry/Optometry
8	Senior	No	PA

### Self-Efficacy/Outcome Expectations

A students' self-efficacy relates to their belief in their ability to be successful. In each focus group, participants were asked if they have any concerns about their ability to get into their intended health profession. There were no significant findings correlating participants' concerns, their utilization of HPAC or future utilization; however, the chart below illustrates who felt fear about successfully achieving their career goals, whether they had used HPAC and if they intend to use it in the future.

**Table Six: Outcome Expectations Data**

Participants	Fearful of Not Being Successful	Used HPAC	Future Utilization
1	Yes	No	Will make appointment
2	No	No	Will make appointment
3	Yes	No	Might Make appointment
4	Yes	No	Might Make appointment
5	Yes	Yes	Might Make appointment
6	No	Yes	Might Make appointment
7	-	Yes	Will Not Make appointment
8	No	Yes	Will Not Make appointment

### *Quantitative Analysis*

The data from the surveys sent across campus produced descriptive, categorical data, so predictive analysis was not conducted. Using Excel and SPSS software, descriptive frequency analysis was run.

### FINDINGS & RESULTS

The data analysis from this improvement project led to six findings, falling under the two umbrellas of Access and Outreach. Of the comments related to what affected students' decisions to utilize HPAC, three themes emerged: 1) students' perceptions of support, 2) barriers, and a 3) low sense of urgency related to obtaining information from HPAC. In regards to what HPAC could do to improve outreach, analysis produced three more concepts: 4) visibility, 5) utilization of other programs, and 6) unfamiliarity with services. The number of students who made comments per finding are indicated as well.

**Table Seven: Subcategories Under Two Themes**

Access		Outreach	
<b>Finding One: Student Perceptions</b>	-Students felt discouraged -Students were told by others that they were discouraged (n=3)	<b>Finding Four: Visibility</b>	-Unaware of social media presence -Unaware of HPAC's location (n=4)
<b>Finding Two: Barriers</b>	-Scheduling process -Availability of appointments -Unable to choose advisor of choice (n=3)	<b>Finding Five: Student Utilization of Other Programs</b>	-SOM -Research programs -Pathway programs (n=6)
<b>Finding Three: Low Urgency</b>	-Limited/unsure of plans for future utilization -Students did not see the value in going (n=6)	<b>Finding Six: Unfamiliar with Services</b>	-Unaware that HPAC serves their intended career. (n=1)

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#### **Finding One: Student Perceptions**

Of the eight participants in the focus groups/interviews, half had used HPAC services. Of those four, two indicated that they might return and two stated that they would not return. The two that said they might return were on the condition of having a different advisor and feeling comfortable. Both expressed concern about feeling discouraged after their initial appointment. The two that said they would not return did not express any discontent with HPAC, but rather stated they would not return simply because they got everything they needed and they felt like



they knew what to do going forward. In this particular session, there were just two participants, and they tended to agree with one another, so it is unclear if their reasons stated for not returning are indicative of their experience or the result of participation bias. The most significant finding here is that 100% of those who used HPAC would not return. Continued use is ideal, as preparing for a health profession is developmental. This finding is problematic as 29% of survey respondents indicated hearing about HPAC from friends. If students on campus leave HPAC with a negative impression, they might share that feedback with others, creating additional barriers for students.

Seventy-five percent of the focus group/interview participants were first generation, which can affect their relationship with campus resources. When asked what qualities the participants looked for in an advising resource, some of the comments included:

*"I have heard a lot of stories where people had been told like 'Oh, you're not cut out for this,' and I don't think that's the way to go about things as an advisor."*

*"Advisors should be patient, kind, and understanding. If you ask an advisor, they should give resources, links. Advisors need to have the right information. I see advisors giving false information, causing students to mistrust."*

While only two of the eight participants stated that they felt directly discouraged by an HPAC advisor, one participant stated that his friends reported feelings of discouragement, which swayed his decision about using the service.

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## **Finding Two: Barriers**

There were both physical and psychological barriers shared by participants in the focus groups/interviews. Physical barriers are those technical challenges that prevent a student from making an appointment, such as not understanding the scheduling system. Psychological barriers are personal and often related to students' self-efficacy and outcome expectations, such as being afraid of what an advisor will tell them.

Comments related to physical barriers surfaced in multiple sessions, including the availability of appointments, wanting to meet in person rather than Zoom, not knowing how to schedule an appointment, and not understanding what was required prior to making an appointment. With the limited staff advising available, it makes sense to slow down the flow of appointments with intentional barriers, such as required workshops, but one student shared that she was unclear whether she needed to simply watch the video before making an appointment, or if she needed to attend a live session. Two students mentioned not understanding how the scheduling technology works. While HPAC's website offers many options for workshops and

robust information about preparing for various careers, two participants seemed unclear how to schedule a meeting with a staff advisor.

Psycho-social barriers that were shared included fear of hearing from advisors that they were not on track and “knowing” that they will be told that their grades are not good enough. Additionally, one first generation student highlighted her experience with HPAC: “It took a lot more effort on my part as a first-gen to seek out these resources. If I had a family member who had attended a UC, it would have been easier. If I had not sought out talking to people on my own, I would not have known what to do.” Understanding that a large population of students face internal barriers when accessing resources puts the burden on HPAC to ensure they are not creating additional challenges for these students.

The student who shared feeling directly discouraged by a peer advisor from pursuing her intended career stated that she might return to HPAC if she had the option to choose her advisor next time, preferring a staff advisor. She was under the impression that she did not have a choice citing that the website made her list a reason for wanting a new advisor. She expressed feeling uncomfortable telling HPAC what happened because the peer advisor is also a club leader for an organization she was in, and she felt certain the peer advisor would know she was the person who said something.

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### **Finding Three: Low Urgency**

Within all three focus groups and the two interviews, a common thread amongst the participants was a low level of urgency in visiting HPAC. Half of the participants had used HPAC and half had not, but only two participants of the eight indicated that they would definitely visit HPAC in the future. Neither had used HPAC before. Of the four that had used HPAC, half stated that they might return under certain conditions. Two of the participants had tried but faced scheduling barriers, but the others did not say why they had not gotten around to making an appointment.

Another concept that emerged was not valuing HPAC over other sources. For example, one participant stated, “I can just go online and look at websites to look at information. At the beginning, I needed help to find those resources. One of the optometry websites has a list of all the pre-reqs, so I just look at that.” Other participants indicated similar feelings; rather than going to HPAC, they would simply go to the original source, such as the School of Medicine, to get advice.

While measuring students’ feelings or “sense of urgency” is difficult, statements that explain why they would or would not make a future appointment with HPAC are useful in

understanding what HPAC could do to reach students with similar concerns. The chart below highlights comments from each participant related to their future use of HPAC.

**Table Eight: Descriptive Data on HPAC Usage and Comments**

1	Have Not Used	Will make appointment	<i>"A lot of students who work at HPAC are also the leaders in the club. Since most clubs have mentoring, they are helping people in the clubs, so there's no point in making an appointment. It would be weird to make an appointment at HPAC after just talking to them in the club."</i>
2	Have Not Used	Will make appointment	<i>"I will be needing essay reviews. I'm going to go have them look over it."</i>
3	Have Not Used	Might Make appointment	<i>"If I found out that they had a program (for CLS) I'd stop by."</i>
4	Have Not Used	Might Make appointment	<i>"I have been wanting to go in and meet with them. I know I need to meet with them. I don't know what they are going to tell me, but I have a feeling I know what they are going to say. My science GPA isn't the greatest, and I know I need a postbac. It's more like going in to talk about my options, but my fear is being told I need to switch to something else."</i>
5	Used	Might Make appointment	<i>"If I felt comfortable and felt supported, I would use them again. My experience with HPAC was negative."</i>
6	Used	Might Make appointment	<i>"I might go back if I can choose a different advisor."</i>
7	Used	Will Not Make appointment	<i>"If I were worried about my pre-reqs, I'd ask for more advice. I felt better after my appointment. My HPAC advisor pointed out that I was on track. That made me feel more prepared."</i>
8	Used	Will Not Make appointment	<i>"I used it once. I will not go back because the person was really helpful and gave me a lot of resources, so I don't think I'm going to use it again."</i>

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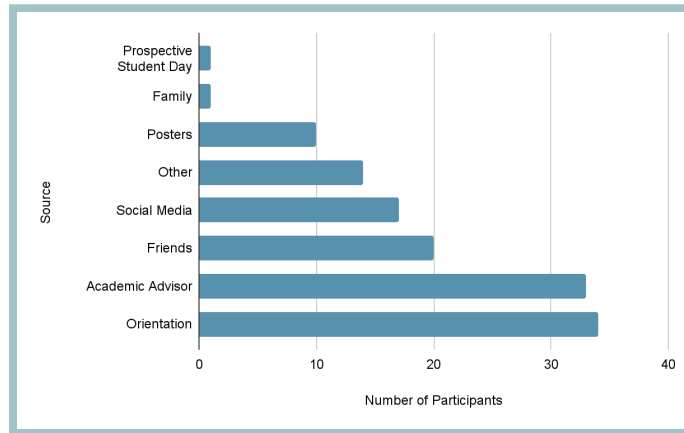
### **Finding Four: Visibility**

During the focus groups/interviews, participants were asked what HPAC could do to reach more students. Several participants from the qualitative study mentioned either not knowing where HPAC is located, not being aware that HPAC had social media accounts, wanting HPAC advisors to participate in tabling events on campus and "come out of their office" to engage at club meetings. It is important to note that one of the participants was a first year college student and two others were incoming transfer students, so they had not spent much time on campus. Additionally, because of COVID-19, UCR had used remote learning for more than a year, so many of the participants had not spent a significant amount of time on campus.

Considering this limitation, looking at the survey results to better understand how students first heard about HPAC might provide more useful information for HPAC when

deciding how to improve their visibility. Participants were asked how they first heard about HPAC upon arriving on campus.

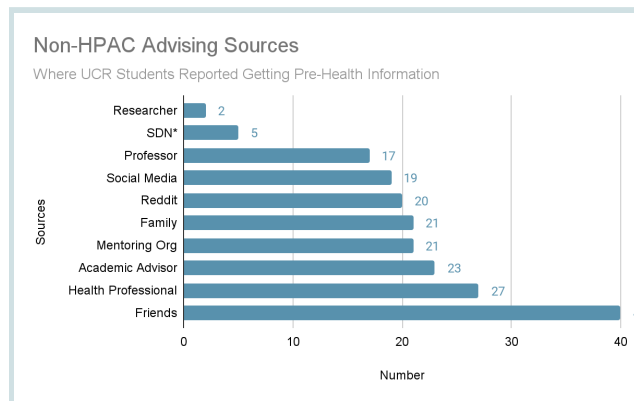
**Table Nine: Where Students First Heard About HPAC Services**



**Finding Five: Utilization of Other Resources**

Understanding where else UCR students get their pre-health advising information was the first step in addressing Research Question 3. Participants in the focus groups/interviews indicated using similar resources in their answers. Additional resources not reported on the survey but shared during the focus groups/interviews included: Discord, the School of Medicine pathway Program Ambassadors, Learning Communities, Research Programs, and the College of Natural and Agricultural Sciences (CNAS) programs. Data from the survey indicated that 52% (n=40) of the respondents got their advising information from friends. The other significant sources of information included current health professionals, academic advisors, mentoring organizations, family, Reddit and social media influencers.

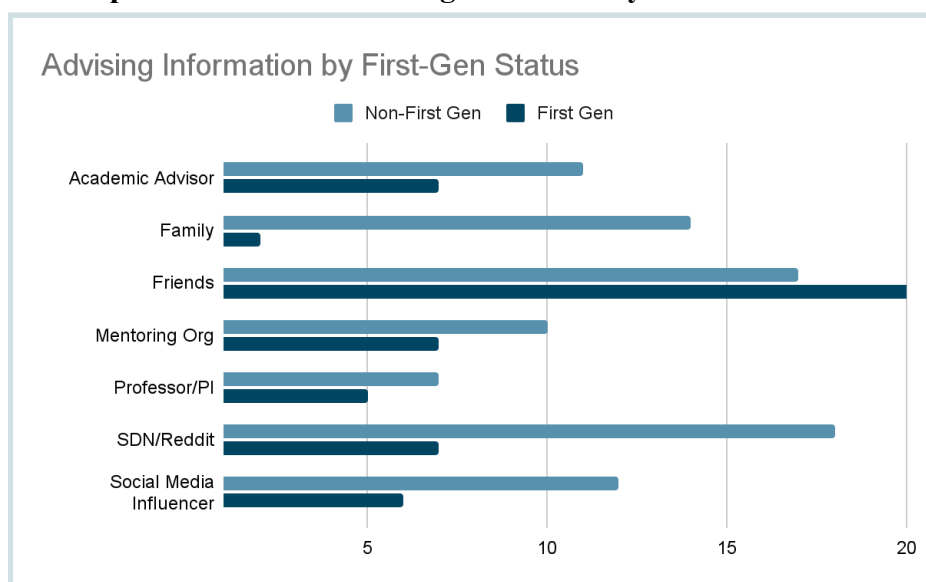
**Table Ten: Breakdown of where UCR students received advising information.**



\* Student Doctor Network (SDN) is a not-for-profit website designed to provide information to pre-health applicants and current health profession students. It is mostly peer-to-peer information via forums.

Research has shown that first-generation, underrepresented and/or low-income students often seek information differently. The survey results from this study illustrated the differences in UCR students. Non-first-gen students reported using far more resources, with the two most significantly different resources being family and popular websites *Student Doctor Network* and *Reddit*. In the process of applying to graduate and professional school, parents who did not attend college themselves might not have any knowledge on how to navigate the process, rendering them an unhelpful resource for first-generation students. The bar graph below highlights the differences between first-generation and non-first gen students' utilization of advising resources outside of HPAC.

**Table Eleven: Comparison Data on Advising Resources by First-Gen vs Non-First-Gen**



Non-first-gen students used online resources more than twice as often as first-gen students. Further studies should explore why first-generation students utilize online resources less frequently than non-first generation; however, based on my discussion with the students, I would suggest that the reason is that these online sources can provide feedback to applicants regarding their competitiveness as candidates. Being peer-produced, they have potential for sharing inaccurate information. Posters on these sites can tell others that their metrics for admission are not strong enough, thus discouraging people from applying. The literature reviewed indicated that underrepresented students' tend to avoid resources that discourage them, and the findings from the survey align with what literature says about students wanting to avoid psychological harm. Additionally, first-generation students reported using friends as their advising source, which might be a safer option for them to avoid hearing discouraging feedback. Unfortunately, friends also are an unvetted resources when it comes to accuracy.

### Finding Six: Unfamiliar with Resources

Although only one participant shared that she had not used HPAC because she did not believe that they could help her with her intended career, the finding was significant because it could signal a larger issue. Ensuring students understand what services HPAC provides and the professions covered is essential to reaching as many students as possible.

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### Summary of Findings

By synthesizing the findings, answers to each of the research questions are summarized below.

<b>Research Question 1</b>
<p>What influences students' decisions to utilize HPAC?</p> <p><i>When technical barriers are not present that slow students down from scheduling, they might not schedule out of fear that an advisor will tell them something they do not want to hear.</i></p>
<b>Research Question 2</b>
<p>What are the experiences of pre-health students at UCR? Are there differences between those who utilize HPAC and those who do not?</p> <p><i>The experiences are varied and likely impacted by campus being closed. The second question was not answered.</i></p>
<b>Research Question 3</b>
<p>Where do students get pre-health advising and information?</p> <p><i>Students get their advising information from a variety of on-campus, off-campus and virtual sources. Around 50% of participants in both the qualitative and quantitative studies had used HPAC.</i></p>
<b>Research Question 4</b>
<p>What strategies could HPAC use to attract more UCR pre-health students?</p> <p><i>Recommendations are listed below.</i></p>

A chart aligning interview questions with associated research questions as well as outcomes can be found in Appendix H.

## RECOMMENDATIONS

HPAC offers many opportunities for students to learn how to navigate the process. Despite the challenges of working remotely for almost two years, the center remained open and

able to serve UCR's pre-health population. It is clear that UCR and HPAC are committed to improving the experience of pre-health students on campus. The findings from this evaluation produced several recommendations to help HPAC improve their accessibility to all students and increase their outreach across campus in an effort to ensure all UCR pre-health students can utilize the free advising resources available to them.

In looking at the literature and the findings from the focus groups, interviews and surveys, I developed two recommendations: **Implementing Quality Control Measures** and **Improving Visibility**. Under each, three subcategories were developed to allow specific direction.

**Table Twelve: Two Recommendations with Sub-Categories**

<b>Implementing Quality Control</b>	<b>Improving Visibility</b>
Data Analysis	Collaborations
Continuous Training	Online Presence
Reputation Renovation	Campus Outreach

### **Implementing Quality Control**

Reputation matters. As literature shows, first-generation and underrepresented students utilize resources at a lower rate than their peers. Pre-health students are hyper aware of anyone or anything that might discourage them, making it more essential that HPAC advisors are never perceived as being discouraging. One participant indicated that she only chose UCR because of what current UCR pre-health students told her about the resources on campus. Managing overall student impressions and perceptions of HPAC should remain at the forefront of HPAC's priorities.

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#### ***Data Analysis***

##### **Tracking Return Appointments**

Within the small sample size in the qualitative study, I found that students did not intend to return to HPAC for additional advising. It is important to see if this is a larger issue. Like many campuses, UCR uses swipe card technology to track student engagement with the Center. The Director can request demographic data including race, majors, year in school and more. Identifying HPAC's return ratio of advisees can help them pinpoint which student populations are returning to HPAC most frequently. For example, utilization data should show by demographic group who many appointments were made per year. Knowing that students used

HPAC once versus three times per year indicates that students are not only able to acquire appointments, but also that they desire to do so, which would make a strong case for increases in resources. If most advisees attend just one appointment and never return, further investigation is needed to uncover additional reasons.

### Post-Appointment Survey

With the onset of remote advising over Zoom, managing what occurs in an advising space has been a challenge for the director. The peer advisors are able to meet with advisees remotely, making it impossible to observe, listen in, or simply be present as a resource during peer-to-peer advising sessions. This made quality control challenging. One way to monitor the quality of advising appointments is to create a post-appointment survey that is emailed to students automatically upon checking them into the appointment. This can be achieved by working with the department IT programmers to setup an auto-email post-appointment. The questions asked in the survey should capture the perceptions of the students' experiences, with extra sensitivity to the possibility of them feeling discouraged. A direct question, such as "Did you leave the appointment feeling encouraged?" can help the Director of HPAC continuously monitor how students are perceiving the service. Should the director detect an increase in the number of students feeling discouraged, conversations and training can focus on what discouragement looks like and offer alternative approaches, such as the coaching model.

Additionally, I recommend that the Director of HPAC offer yearly focus groups with randomly selected pre-health students on campus to gauge the overall attitudes and feelings about HPAC amongst the population. This can be incentivized through lunch. Connecting with the pre-health club leaders each year can allow HPAC to check "the pulse" on campus regarding attitudes about HPAC. Leadership that is willing to collaborate with HPAC on programs may indicate positive regard amongst those pre-health student members, as leadership often represents the views of the members. Pre-health club leaders who avoid the request of HPAC to meet for a focus group or collaboration might signal a problem worth investigating further. It would be beneficial to HPAC to have as many pre-health clubs "on board" with HPAC as possible, as communities tend to follow in the footsteps of their leadership.

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### *Continuous Training*

The NAAHP Board of Directors formed a Committee on Minority Affairs to develop advising practices for underrepresented students. They identified several issues that need to be addressed, one of which is clarifying the advisor's role: gatekeeper vs. advocate (Oyewole, 2001). HPAC's mission states that their goal is to help students "explore" careers; however, some students may not need exploration. If they are intent on their career choices, encouraging exploration can be perceived as discouragement. It is important for advisors to ask if a student



would like to discuss career options before making suggestions. Oyewole (2001) describes “effective” pre-health advisors as those who are “knowledgeable, supportive individuals whose role is to provide information and guidance as students make academic, personal, and career decisions.”

When asked what qualities students consider when selecting their source of advising information, focus group participants indicated that advisors should be well-informed and supportive. One of the participants in the interview described her experience with a peer mentor, noting that the mentor actively discouraged her from pursuing her intended career, using several reasons why she might not enjoy her chosen profession. The participant described feeling frustrated and discouraged. She also noted that this peer mentor did not take the time to ask her what she already knew, but rather immediately went into telling her everything about the basics of pursuing such a career. This particular student had more advanced knowledge and felt insulted that she had to listen to a long explanation of information with which she was already comfortable.

Ensuring that all advisors, even student advisors, are trained in holistic advising practices that centers the advisee, asking to learn, and offering advice that is tailored to the individual’s unique needs is necessary. This training can come in the form of coaching training, modeling holistic advising, creating training videos, and creating space in staff meetings to discuss what holistic advising looks like.

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### **Improving Visibility**

Students’ lacked awareness of HPAC’s location, so moving forward, HPAC will want to ensure students know where to utilize their services. To bring students to their space, annual Open Houses where prizes are given away and quick check ins with advisors are offered can encourage students to stop by to “check it out”, thus increasing their awareness of HPAC’s physical location. Knowing where HPAC is located might encourage hesitant students, such as first-generation students, to use in-person drop-in advising when that option becomes available.

Since many students suggested that HPAC “table”, setting up a table in common spaces to recruit participants, and join club meetings, a concerted effort should be made to ensure HPAC is present at all campus functions. Pursuing speaking opportunities at conferences, club meetings, and campus departments can ensure new advisors and each incoming student group remains aware of the services offered. Additionally, going where the students are and demonstrating a compassionate, welcoming demeanor, might encourage more students to give HPAC a try.

Other forms of visibility come through marketing. One way to continue to get HPAC's logo out on campus repeatedly is through giving away HPAC shirts at an event such as a First Year Pre-Health Orientation. At the start of the school year, HPAC can create a large event titled a "Pre-Health Orientation" and invite all incoming first year students to the orientation by creating post-cards that are mailed to every incoming first year. Students can pre-register so that HPAC has an idea of how many students might attend and pre-order shirts to give away to first year pre-health students on campus. This group of students may wear their shirts for four years, serving as walking advertisements for HPAC. This once per year large investment not only gets a lot of students on-boarded early, but it also creates community and good will amongst students and future leaders.

In making these suggestions, I recognize the costs associated with this effort. If funding is limited, an option HPAC could pursue is partnering with other campus departments, such as the career center, to place their logos on the shirts as well and share the cost of the shirts. The more partnerships, the less expense per department. At the orientation, each partner can have time to present to the students.

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### ***Collaborations***

It was clear that students are very engaged with non-HPAC resources, such as the School of Medicine, CNAS and Learning Communities. When asked where they got their advising information, these resources came up multiple times. It would benefit HPAC greatly to align themselves with the resources the students are currently using. This can be done through programming. An example of a collaboration is a "Pre-Med Symposium" hosted by both HPAC and the School of Medicine, taking place at the School of Medicine. By showing students that HPAC has a close relationship with the admissions team by literally standing next to them at an event, the students can see that the advisors know as much as the admissions folks, making them a trusted resource. Anything HPAC can do to highlight their relationship with the School of Medicine will strengthen their credibility.

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### ***Online Presence***

When we think of outreach and engagement, we often measure physical attendance at workshops and advising appointments; however, outreach can also include the number of students receiving valuable information from HPAC via online resources, such as Instagram, Twitter, Facebook and Discord. With a goal to reach as many UCR students as possible, ensuring that the social media platforms are updated daily with relevant information and encouragement will lead to additional likes and shares, resulting in a wider reach.

Because multiple participants indicated that they were not aware of HPAC's online presence, a direct marketing approach regarding both the presence and value of following HPAC online can be made through the weekly newsletter, mentioning in every workshop, and training all advisors to encourage social media following at the end of each appointment. Because social media is a no-cost, easy way to disseminate information, build community and establish a reputation, a strong and engaged social media following can reach far more students than those who currently physically make an appointment at HPAC. For example, HPAC can utilize their platforms to remind students of important application deadlines, free resources, and tips for success, thus building credibility and a reliance with UCR students.

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### ***Campus Outreach***

Underrepresented students may hesitate to utilize HPAC due to their personal identities, including facing a phenomenon called stereotype threat, or a “fear of confirming negative stereotypes” about their population. This fear can prevent students from taking the very first steps of engaging with campus resources. It is important that advisors are aware of this and other psychosocial threats to students' engagement with their services and make proactive steps to counter those subconscious thoughts (Oweole, 2001). Deliberate actions should be taken to counter the assumption that students may have about the possible threat of discouragement. This might include creating marketing that focuses on encouragement and positive affirmations. By actively working to fight the possible negative stereotype students may carry about pre-health advisors, HPAC may be able to convince students who were initially skeptical to give the service a try.

Two recommendations for convincing skeptical students of HPAC's unwavering support of their goals is to visibly align with organizations that serve underrepresented and first-generation students. HPAC advisors can schedule lunches with the directors of centers serving these students to create good will and suggest ideas for collaboration. Students from community-centric backgrounds often pass information from generation to generation and look to those within the community for resources. Getting the leaders of those communities on board with HPAC's goals will be far more effective than trying to convince students individually. By networking, collaborating and strategically building alliances with these areas, HPAC can begin to build trust within these communities to ensure future utilization.

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## DISCUSSION

HPAC's success in serving UCR's entire pre-health population is paramount in creating a more diverse pathway into health professions schools. HPAC advisors are dedicated to ensuring that more students can access their resources to improve their acceptance rates to health profession programs. However, they are operating under critical limitations. For example, the Director estimates that 5,000 pre-health students attend UCR. Their current advisor to student ratio, if all pre-health students utilized HPAC based on 2 full time employees, would be well over 2,000 to 1, a ratio that is not supported by best advising practices, according to NACADA (National Association of College Academic Department Advisors). Oyewole (2001) writes, "The most successful advising programs are those that have developed mechanisms for ensuring access regardless of the size of the institution. At large institutions, underrepresented minority students—especially those who are not assertive—are often at the greatest risk of being lost." Looking again at the relatively high percentage of underrepresented students UCR just in the medical school application system alone, UCR should increase funding to allow additional, even temporary hires during peak application season, to make sure more students have access to one-on-one holistic application preparation.

If new resources are not available, I want to stress the value of partnering with campus departments, existing pathway programs, health colleges, etc. to leverage scarce resources campus-wide. Examples could include bringing in a podiatric medical college to offer a suturing workshop to attract pre-health students to HPAC where rapport can be built or building a day-long program at the School of Medicine where both HPAC and the medical school's logo appear side by side, illustrating partnership. Looking for low-cost partnerships serves multiple purposes and allows HPAC to offer more creative programming without additional cost to the department.

Stronger online or social media presence can provide information on an as-needed basis, but has the advantage of being more accurate than friends and random un-vetted sources. Prioritizing a strong online presence that is widely known by students has the potential to have far greater outreach than can be measured.

It has been clear from meeting with the students and the Director that HPAC is a vital campus department that offers an essential service to many pre-health students. The findings in this study should be examined under the light of serving students under pandemic conditions. The Director's commitment to providing quality services in the face of these challenges is evident, and with a renewed energy being back on campus, I am certain HPAC can face continued challenges by finding creative ways to offer low-cost opportunities with high impact.

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## APPENDICES

## Appendix A

**Table A-2.3: Undergraduate Institutions Supplying 10 or More Hispanic, Latino, or of Spanish Origin (Alone or In Combination) Applicants to U.S. MD-Granting Medical Schools, 2021-2022** 

The table below displays the self-identified racial and ethnic characteristics of applicants to U.S. MD-granting medical schools in 2021-2022 from select undergraduate institutions. The table below includes individuals who identified as Hispanic, Latino, or of Spanish Origin alone or in combination with any other race/ethnicity response. Non-U.S. citizens and non-permanent residents are not included. Please email [datarequest@aamc.org](mailto:datarequest@aamc.org) if you need further assistance or have additional inquiries.

Undergraduate Institution	Hispanic, Latino, or of Spanish Origin Applicants from the Institution	Total Applicants from the Institution	% of All Hispanic, Latino, or of Spanish Origin Applicants to U.S. MD-Granting Medical Schools
Florida International University, Miami, FL	298	386	4.1
University of Florida, Gainesville, FL	210	1,006	2.9
University of Puerto Rico-Rio Piedras Campus, San Juan, PR	166	170	2.3
University of Texas at Austin, Austin, TX	156	1,033	2.2
University of California-Los Angeles, Los Angeles, CA	149	1,298	2.1
University of Central Florida, Orlando, FL	124	464	1.7
Texas A & M University, College Station, TX	109	621	1.5
University of Puerto Rico-Mayaguez Campus, Mayaguez, PR	106	107	1.5
University of South Florida, Tampa, FL	104	490	1.4
University of Miami, Coral Gables, FL	97	344	1.3
The University of Texas Rio Grande Valley, Edinburg, TX	94	126	1.3
Florida State University, Tallahassee, FL	89	366	1.2
University of Arizona, Tucson, AZ	86	386	1.2
Arizona State University, Tempe, AZ	81	444	1.1
Johns Hopkins University, Baltimore, MD	81	568	1.1
University of Texas at El Paso, El Paso, TX	79	96	1.1
University of California-Berkeley, Berkeley, CA	78	859	1.1
University of California-San Diego, La Jolla, CA	76	757	1.1
Baylor University, Waco, TX	75	429	1.0
University of California-Riverside, Riverside, CA	74	313	1.0
University of New Mexico-Main Campus, Albuquerque, NM	73	181	1.0
The University of Texas at San Antonio, San Antonio, TX	71	169	1.0
University of California-Irvine, Irvine, CA	67	480	0.9
University of California-Davis, Davis, CA	62	556	0.9
Cornell University, Ithaca, NY	55	464	0.8
Florida Atlantic University-Boca Raton, Boca Raton, FL	54	204	0.7
University of Houston, Houston, TX	53	351	0.7
University of North Carolina at Chapel Hill, Chapel Hill, NC	52	570	0.7
New York University, New York, NY	51	356	0.7

## Appendix B

## Recruitment Letter to Students

As part of my doctoral studies at Vanderbilt University, I am working with UCR's Health Professions Advising Center (HPAC) as they consider how to increase their reach to more students on campus.

I selected you to submit a short survey followed by a focus group for this study because of your plans to pursue a health profession. I am interested in learning why you have or have not utilized the HPAC services, where else you acquire your pre-health advising information, and what HPAC could do to better serve you.

The Zoom or phone call should take about 30 minutes. Participation is voluntary and your response will be kept anonymous. You will have the option to not respond to any question that you choose. All focus group participants will receive a \$5 Amazon gift certificate.

Please respond to this survey by X date to let me know whether you are willing to participate. If there is another pre-health student who you think might be interested in participating, please feel free to forward this email to them.

If you have any questions about the project, please contact Charlie Scruggs, Director of the Health professions Advising Center via email at [charles.scruggs@ucr.edu](mailto:charles.scruggs@ucr.edu) or my faculty advisor, Dr. Chris Quinn Trank at [chris.quinn.trank@vanderbilt.edu](mailto:chris.quinn.trank@vanderbilt.edu).

Sincerely,  
Joanne Snapp, MSED  
Doctoral Candidate  
Vanderbilt University

**Appendix C**  
**Survey sent by academic advisors (outside HPAC)**

Thank you for completing this short survey regarding your experience utilizing UCR's pre-health advising services. This survey should take no more than five minutes to complete.

Do you identify as a pre-health student?

Pre-health students are those who intend to apply to and pursue a career in any health profession (medicine, dentistry, veterinary medicine, physical therapy, nursing, PA, etc)

Yes  
No  
Unsure

Do you identify as a first-generation college student (defined as neither parent obtaining a college degree):

Yes  
No  
Unsure

Have you ever visited (in person or virtually) the Health Professions Advising Center at UCR for an advising appointment?

Yes  
No  
Unsure



Have you ever attended a workshop or program (in person or virtually) hosted by the Health Professions Advising Center at UCR?

- Yes
- No
- Unsure

Did you hear about HPAC when you first arrived at UCR?

- Yes
- No
- Don't remember

If you heard about HPAC, how did you learn about HPAC's services? (Check all that apply)

- Prospective Student Day
- Orientation
- Social Media
- Saw Posters
- Heard from a friend
- Heard from family
- Learned from an academic advisor
- Searched on UCR's website
- Other

Do you receive pre-health advising information from any other source outside of HPAC? (check all that apply)

- Friends
- Family
- Academic Advisors
- Professors
- Research PI
- Social Media
- Reddit
- Private Advisors
- Mentor/Mentoring Organization
- Outside Events (conferences, open houses)

Have you ever participated in a high school health professions pipeline program?

- Yes
- No
- Unsure

Would you be willing to participate in a 30 minute focus group about your utilization of campus resources or off-campus resources? All focus group participants will receive a \$5 gift certificate to Amazon. Conversations from the focus group will be confidential, and data collected will be unidentified and used only to make recommendations to improve practices.

- Yes
- No
- Maybe

If yes, please complete this form (insert link)

**Appendix D**  
**Survey sent by HPAC Director to those who utilized their services**

Thank you for completing this short survey regarding your experience utilizing UCR's pre-health advising services. This survey should take no more than five minutes to complete.

You are receiving this survey because you have at one point attending an advising appointment or attended a workshop or program hosted by the Health Professions Advising Center.

Do you still identify as a pre-health student?  
Pre-health students are those who intend to apply to and pursue a career in any health profession (medicine, dentistry, veterinary medicine, physical therapy, nursing, PA, etc)

- Yes
- No
- Unsure

Do you identify as a first-generation college student (defined as neither parent obtaining a college degree):

- Yes
- No
- Unsure

Did you attend (in person or virtually) an advising appointment or workshop/program or both?

Advising Appointment  
Workshop/Program  
Both

How did you learn about HPAC's services? (Check all that apply)

Prospective Student Day  
Orientation  
Social Media  
Saw Posters  
Heard from a friend  
Heard from family  
Learned from an academic advisor  
Searched on UCR's website  
Other

Do you receive pre-health advising information from any other source outside of HPAC? (Check all that apply)

Friends  
Family  
Academic Advisors  
Professors  
Research PI  
Social Media  
Reddit  
Private Advisors  
Mentor/Mentoring Organization  
Outside Events (conferences, open houses)

Have you ever participated in a high school health professions pipeline program?

Yes  
No  
Unsure

Would you be willing to participate in a 30 minute focus group about your utilization of campus resources or off-campus resources? All focus group participants will receive a \$5 gift certificate

to Amazon. Conversations from the focus group will be confidential, and data collected will be unidentified and used only to make recommendations to improve practices.

Yes

No

Maybe

If yes, please complete this form (insert link)

## **Appendix E**

### **Focus Group Script for those who did not utilize HPAC**

Me: Thank you all so much for taking time out of your busy schedules to come talk to me about your experiences being pre-health at UCR. As I mentioned in my email, I am conducting a capstone project for my doctoral degree at Vanderbilt, looking at ways to help HPAC improve their reach to more students on campus. We have a specific interest in first-generation college students, so today all of you are first-gen pre-health students. Some of my questions might be centered around that specific identity. Please do not feel obligated to answer any question. If you do not volunteer to speak, I will not call on you, but I encourage all of you to talk as often as you want, taking turns of course.

Are you ready to get started?

- None of you have ever used HPAC in the past, correct?
- Can you talk to me about why you haven't used HPAC in the past?
- Is there anything HPAC could have done to encourage you to go there for help?
- Do you go to any other type of advisors on campus? If yes, which kind?
- Do you have any concerns about your ability to get into a health profession program?
- Prior to coming to college, where did you get your information about being on the pre-health path?
- What factors would you consider important when choosing where you get your information for pre-health advice?
- Where do you think most pre-health students get their pre-health advice?

- Do you think first-generation pre-health students access information differently than non-first-gen students? How so?
- What advice would you give the HPAC advisors to help them reach more students?
- What would get you to go to HPAC before you graduate?

## **Appendix F**

### **Focus Group Script for those who utilized HPAC**

Me: Thank you all so much for taking time out of your busy schedules to come talk to me about your experiences being pre-health at UCR. As I mentioned in my email, I am conducting a capstone project for my doctoral degree at Vanderbilt, looking at ways to help HPAC improve their reach to more students on campus. We have a specific interest in first-generation college students, so today all of you are first-gen pre-health students. Some of my questions might be centered around that specific identity. Please do not feel obligated to answer any question. If you do not volunteer to speak, I will not call on you, but I encourage all of you to talk as often as you want, taking turns of course.

Are you ready to get started?

- All of you have used HPAC in the past. Tell me about your first experience. Did you go back after that?

Follow up if needed:

- Did you have any concerns about going to HPAC at first? Why or why not?
- Did you feel comfortable when you went to HPAC?
- Do you have any concerns about your ability to get into a health profession program?
- Prior to coming to college, where did you get your information about being on the pre-health path?
- What factors would you consider important when deciding to keep using a pre-health advising service?
- After you went to HPAC for advising, did you leave feeling better or worse about your plans to pursue a health profession? Why?

- Where do you think most pre-health students get their pre-health advice?
- Do you think first-generation pre-health students access information differently than non-first-gen students? How so?
- What advice would you give the HPAC advisors to help them reach more students?

## Appendix G

### Responses to Survey

#### How did you hear about HPAC? Research Questions 3 and 4

Friends, CNAS Seminars, Academic Advisors

#### What has deterred you from using HPAC? Research Questions 1 and 2

Having to watch a video before scheduling, Technology wouldn't allow scheduling, LC provided everything needed, HPAC wasn't for me (as someone pursuing CLS), Part of the RISE program, Availability didn't line up, Friends discouraged, I don't know where they are.

#### Do you use any other campus advisors? Research Questions 1, 2 and 3

Academic Advisor (all), CNAS, Career Center

#### Where did you get your pre-health information prior to coming to UCR? Research Questions 1 and 3

Internship at Kaiser/Loma Linda, STEM-TRiO, Googled School Sites, Asked current pre-health students, Community College Advisors

#### Where do you get your pre-health advising information now? Research Questions 1, 2 and 3

UCR SOM Webinars, Mini Medical School at UCR SOM, COPE, Biochem Advising Rubric, Friends, Independent Research, Discord, Reddit, Instagram, YouTube

#### Where do most UCR students get their pre-health advising?

**Research Questions 1, 2 and 3**

Clubs, SOM pathway, Current UCR medical students, UCR SOM Open Houses, Learning Assistants in science classes go over pre-reqs, Friends, Majors website, Health Professions School website, MyPABox, Instagram, YouTube, Discord, Reddit

**Do first-generation college students access pre-health advising differently?  
Research Questions 1, 2 and 3**

- All-Yes
- “It took a lot more effort on my part as a first-gen to seek out these resources. If I had a family member who had attended a UC, it would have been easier. If I had not sought out talking to people on my own, I would not have known.”
- “Yes, I am first-gen so I have to do a lot of research on my own. I search the web and find out things there. I navigate it on my own.”
- “I am a first generation college student, but sometimes I find myself knowing more about the pre-health pre-reqs than some second generation students. However, I still feel like they have the advantage.”
- “I’m a first generation student, and it’s hard to access resources. It’s hard to make connections such as getting internships. and research”

**What qualities in a source that would deter you from using them?  
Research Questions 1 and 4**

Advisors who don't believe in their students. "I have heard a lot of stories where people were told ‘Oh, you're not cut out for this, and I don't think that's the way to go’ about things as an advisor.”

- Honest Advisors
- Success of the students they have advised before. Whether they went into their career of choice. It depends on how they treat the students. How would they advise them, or how would make suggestions.
- Advisors should be Patient, Kind, Understanding. If you ask an advisor, they should give resources, links. Advisors need to have the right information. I see advisors giving false information, causing students to mistrust.

**What advice would you give to HPAC?  
Research Question 4**

- More outreach to students.
- More clarity on how to make an appointment. When I was making an appointment, I was so confused on how to make one. Maybe make an advising portal.
- A lot of students who work at HPAC are also the leaders in the club. Since most clubs have mentoring, they are helping people in the clubs, so there's no point in making an

appointment. It would be weird to make an appointment at HPAC after just talking to them in the club.

- More visibility. Everyone sees the Career Center, but a lot of students do things when they things in front of them. HPAC is in the basement. "I don't remember them tabling my freshmen year." Whenever they held workshops, it was in the library in a conference room. Maybe have HPAC resources at the Career Center.
- Emails are fine, but a lot of students won't read their email as they should. During welcome, have a booth outside or something for students to go up to rather than expect students to come to them. I don't know if they have social media platforms since a lot of kids are on their phones. Instagram and Twitter would be good.
- Discord. I've learned so many things from other students on Discord. I'm not sure if they have students who can advertise for them, but there is an organization I learned about, and I know so much about them because of the students who advertise for them. That's how I find out about most things....from students who talk about it.
- Have a bigger presence. You've got to get the word out. I'm in my second year, and I didn't hear about them until my second summer.
- Use social media more, such as IG, and advertise their programs.
- It would be helpful if they showed up to the pre-dental club and talked to them. If they set up their own booth, they could reach more students.

### What would get you to go visit HPAC before you graduate?

#### Research Questions 1, 2 and 4

- I have been wanting to go in and meet with them. I know I need to meet with them. I don't know what they are going to tell me, but I have a feeling I know what they are going to say. My science GPA isn't the greatest, and I know I need a postbac. It's more like going in to about my options, but my fear is being told I need to switch to something else.
- More hands-on prep. I will need essay reviews. I'm going to go have them look over it.
- If I found out that they had a program (for CLS) I'd stop by.
- To have a plan. I like to have a plan and know when I'm going to take what class. It's very likely I'll be going before graduating, so over the next couple months.

### If you used HPAC before, would you return?

#### Research Question 1

2-No (Reason given by both "I feel prepared")\*

1-Yes (but with a different advisor)

*Two of the three mentioned feeling discouraged by their advisors but did not give that as the reason for not returning.*

### Concerns about getting into a health profession?

#### Research Question 1

1-No

7-Yes



**Appendix H: Correlation of Interview Questions with Research Questions**

Interview Questions																																	
<p>Can you talk to me about why you haven't used HPAC in the past?</p> <p>What would get you to go to HPAC before you graduate?</p>		<p>Do you have any concerns about your ability to get into a health profession program?</p> <p>Do you think first-generation pre-health students access information differently than non-first-gen students? How so?</p> <p>Prior to coming to college, where did you get your information about being on the pre-health path?</p>		<p>Do you go to any other type of advisors on campus? If yes, which kind?</p> <p>Where do you think most pre-health students get their pre-health advice?</p>		<p>Is there anything HPAC could have done to encourage you to go there for help?</p> <p>What factors would you consider important when choosing where you get your information for pre-health advice?</p> <p>What advice would you give the HPAC advisors to help them reach more students?</p>																											
<p><b>RQ 1</b> What influences students' decisions to utilize this campus resource?</p>		<p><b>RQ 2</b> What are the experiences of pre-health students at UCR? Are there differences between those who utilize HPAC and those who do not?</p>		<p><b>RQ 3</b> Where do students get pre-health advising and information?</p>		<p><b>RQ 4</b> What strategies could HPAC use to attract and support UCR pre-health students?</p>																											
<p><b>Access</b></p>		<p><b>Access</b></p>		<p><b>Outreach</b></p>		<p><b>Outreach</b></p>																											
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