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GEORGIA STATE UNIVERSITY GRADUATE STUDENTS' HEALTH INSURANCE
KNOWLEDGE, ATTITUDES, AND EXPERIENCES

By

Tenzin Yangchen Dongchung

A Thesis Submitted to the
Graduate Faculty of Georgia State University in Partial Fulfillment
Of the
Requirements for the Degree

MASTER OF PUBLIC HEALTH
ATLANTA, GEORGIA
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Abstract

Purpose: The purpose of this study was to assess Georgia State University (GSU) graduate students' healthcare and health insurance knowledge, attitudes, and experiences, particularly among the international graduate students.

Methods: Data were collected from a web-based and paper-based survey administered to GSU graduate students who were willing and consented to participate. Participants were asked about: (1) current health insurance, (2) health care use, experiences, and knowledge, (3) GSU student health center experiences and use, and (4) demographic information.

Results: Approximately 98% of the respondents reported having some type of health insurance and the majority of the respondents (72%) reported that they are in very good health. Overall, health insurance-related knowledge was relatively poor among both the U.S. citizens and international students, though, U.S. citizens demonstrated better knowledge of health insurance terms compared to the international students. Knowledge about the GSU health insurance and coverage, specifically, was alarmingly poor, particularly among GSU-insured international students. About 73% of the respondents reported that they do not anticipated using GSU health services in the upcoming year.

Conclusion: GSU graduate students' health insurance knowledge is relatively poor, particularly among the international students. It is essential that students better understand health insurance terms and benefits so that they can make more informed health care decisions.

Approval Page

Georgia State University Graduate Student Health Insurance Knowledge, Attitude, and Experiences

by

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Author's Statement Page

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Thank you ☺

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CHAPTER I

1. Introduction

1.1 Background

In the United States (U.S.), millions of students are enrolled in graduate schools every year. In fall 2013, a survey conducted by Council of Graduate School (CGS) and Graduate Record Examinations (GRE) revealed that more than 1.7 million students were enrolled in graduate related courses (Allum, 2014). An increasing trend in the graduate enrollment was observed over the last decade in which first-time graduate students enrollment at public institutions has increased by 2.3% and 3.3% at private and not-for-profit institutions (Allum, 2014).

The U.S. hosts the largest number of international students both in public and private institutions, primarily representing students from China and India (“Open Doors,” 2014). In fall 2015, a survey report of total international graduate enrollment revealed that 253,949 students were pursuing various master, certificate, and doctoral programs in the U.S. (Okahana & Allum, 2015). According to Council of Graduate Schools, there were nearly 85,000 international graduate applicants for fall 2015 (Okahana & Allum, 2015).

At Georgia State University (GSU), there are 7,431 graduate students of which 1,006 are international graduate students admitted in the fall 2014 admission term (“Fall International Student Enrollment Report,” 2014).

While the transition from high school to college is expected to be challenging for many college students, graduate students face an arguably more challenging array of problems and adjustments to the new environment. A recent study explored the health concerns of graduate students, and most graduate students reported that depression and time management were major concerns (Yi, Giseala, & Kishimoto, 2003). In another study, William Kernan and his colleagues explored the perceived health concerns, which impact the academic performance of graduate

students (Kernan, Bogart, & Wheat, 2011). Using the American College Health Association's National College Health Assessment (ACHA-NCHA), the authors distributed an anonymous 58-item survey to 1,355 graduate health science students who were enrolled in a large academic medical center in New York in spring 2005 (Kernan et al., 2011). The most commonly reported health concerns were respiratory infections such as cold/flu/sore throat with 78.9%, psychological concerns such as stress with 75.4%; interpersonal concerns such as concern for a troubled friend or family member with 63.5%, problems with a relationship with 43.4% and depression/anxiety/seasonal affective disorder with 28.4%, death of a friend or family member with 26% (Kernan et al., 2011). Other commonly reported health concerns included sleep difficulties, alcohol use, internet use/computer games, and allergies (Kernan et al., 2011). In another recent study, Wu and colleagues explored the challenges of international students in the context of academic and socio-cultural settings (Wu, Garza, & Guzman, 2015). The researchers interviewed a total of 10 undergraduate and graduate international students from China, Taiwan, Saudi Arabia, South Korea, Vietnam, and Japan who were studying in various southern U.S. cities (Wu et al., 2015). As a result, academic barriers such as difficulties communicating with professors, isolation from classmates, language barriers, parental pressure, and expectations were identified. Similarly, social and cultural barriers such as loneliness and culture shock were found to be most the challenging (Wu et al., 2015). Therefore, international students need support via orientation, counseling, and seminars to overcome these challenges and have a smooth transition into their new environment in the U.S.

1.2 Purpose of Research

While there are studies on the use of specific health services such as counseling and the mental health needs among graduate students, to the best of our knowledge, no study has addressed graduate students' knowledge, attitudes, and experiences with respect to school health insurance in the U.S., particularly among international graduate students. Previous studies suggest that the U.S. college and university students lack knowledge concerning overall health insurance concepts, coverage, and reimbursement procedures (Price et al., 2010; Smith, 1995; Madan, Tichansky, Barton, & Taddeucci, 2007). The implications of poor health insurance knowledge not only impacts students' ability to choose health care plans but could also lead to poor health seeking behavior, expensive health care, and a poor health status.

1.3 Research Questions

The aims of this research study are to:

- 1) Assess graduate student healthcare and health insurance knowledge, attitudes, and experiences
- 2) Examine whether graduate student healthcare and health insurance knowledge, attitudes, and experiences vary by citizenship status.

As a result of this study, we hope to identify barriers to SHIP utilization and provide suggestions on how to address these barriers in the future. We hope these suggestions can inform the development of better practices for providing students with accessible and comprehensive information about their health insurance options, coverage, and costs, and that these better practices can be disseminated to other colleges and universities across the country.

CHAPTER II

2. Literature Review

This literature review will focus on previous studies that 1) examined health insurance utilization, 2) sampled college and university students with a focus on international graduate students, 3) were written in English, and 4) were published between 1995 and 2014. Studies about adolescents and child health insurances were excluded from this review.

In this thesis, I will use two broad topics: a) Health insurance in the United States (U.S.), and b) Graduate student's health status and health insurance. Based on the first theme, I will discuss the changes in health insurance in the U.S. including ACA's new legal mandate and knowledge of health insurance among Americans. I will also describe the previous literature on the health concerns and health insurance knowledge among graduate students in the U.S., including international graduate students. Then, I will explain Georgia State University (GSU) Student Health Insurance Plan. I will present literature findings of graduate student's health status, health problems, health insurance knowledge, and reasons for not using insurance.

2.1 Health Insurance in the U.S.

Healthcare services in the U.S. are a highly complex hybrid system whereby health services are delivered through various and distinct organizations (Department for Professional Employee, 2014). It is widely owned by private sectors, profit (21%) and non-profit organizations (58%), and government-owned sectors (21%) (Shi & Singh, 2014).

According to the World Bank, total health expenditure in the U.S. accounted for 17.1% of preventive and curative health services, family planning activities, nutrition activities, and emergency aid in 2013, reflecting the second highest in the world after Tuvalu with 19.7% (The World Bank, 2016). These health care expenditures should have theoretically covered the cost of

health insurance for all U.S. citizens, but only 84.6% had health insurance in 2012, and therefore nearly 48 million people in the U.S. had no health insurance (DeNavas-Walt, Proctor, & Smith, 2013). Consequently, a large number of U.S. citizens lived without health insurance, increasing their risk of premature morbidity and mortality (DeNavas-Walt et al., 2013).

The U.S. health care system has evolved due to significant changes over the last few years, in part as a result of the Patient Protection and Affordable Care Act (PPACA) in 2010 (ASPA, 2015). The PPACA made several provisions to increase the affordability, accessibility, and quality of healthcare. Under the ACA, health care plans can no longer deny coverage for individuals who have pre-existing health conditions and young adults are covered under their parents' healthcare plan until 26 years of age (ASPA, 2015). Additionally, the law requires all individuals to buy health insurance or pay a penalty (ASPA, 2015).

Though the evaluation of the PPACA impact on health status is still in its infancy, a survey result from the National Health Interview in 2014 showed a significant reduction in the number of uninsured young adults, aged 19 to 25 years old from 34% in 2010 to 21% in 2014 (Cohen & Martinez, 2014). Consequently, approximately 4 million young adults are estimated to now have health insurance (Cohen & Martinez, 2014). A recent study by Kotagal and colleagues conducted a comparative analysis of the health impact among 19-25 and 26-34 years old following the PPACA implementation (Kotagal, Carle, Kessler, & Flum, 2014). The authors reported an increase in health coverage among 19-25 years of age from 2009-2012 (63.3% to 71.7%), but no significant changes in the overall health status between the two groups were reported (Kotagal et al., 2014).

The U.S. Department of Health and Human Services (DHHS) reported significant improvement in health care quality not only for young adults but for all Americans (ASPA, 2014). In 2015, Agency for Healthcare Research and Quality (AHRQ) of DHHS published a report on

improved health quality (Agency for Healthcare Research and Quality, 2015). The agency used 28 specific measures to estimate the hospital-acquired conditions (HAC) in the U.S. With the rate of HAC being 145 per 1,000 discharges in 2010, it reported a substantial decline in 2014 with 121 HAC rates per 1,000 discharges (Agency for Healthcare Research and Quality, 2015). Overall, they estimated a 17% reduction of HAC since 2010, saving approximately 50,000 lives (Agency for Healthcare Research and Quality, 2015).

The Hospital Readmissions Reduction Program (HRRP) was another determining factor of patient safety and quality of health care. HRRP was established under the ACA to improve the quality care and reduce cost for Medicare beneficiaries. By providing financial incentives to hospitals with an acute inpatient prospective payment system (IPPS), it aims to reduce preventable and unnecessary readmission rates and its healthcare costs (“Medicare Hospital Readmissions Reduction Program,” 2013). The Centers for Medicare and Medicaid Services (CMS) reported having a slow yet steady decline in the hospital readmission rates from 19% in 2007 to 17.5% in 2013 (Centers For Medicare & Medicaid Services, 2015). With an estimated 150,000 fewer hospital readmissions among Medicare beneficiaries, patient safety and health care quality is reported to have substantially improved over the last few years (Centers For Medicare & Medicaid Services, 2015).

2.2 Health Insurance: Knowledge, Attitude, and Use in the U.S.

Health literacy plays an important role in maintaining a healthy lifestyle. It refers to “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (Ratzan & Parker, 2000). The health care system demands substantial knowledge from the health-care consumers to make

the best healthcare choices. Given the complexity of the U.S. healthcare system, comprehension of fundamental health insurance concepts and terms are essential for all age groups.

Previous studies have suggested that many individuals lack a conceptual understanding of healthcare services and insurances (Loewenstein et al., 2003; Politi et al., 2014). One such survey known as the Health Reform Monitoring Survey (HRMS) conducted by Blumberg and colleagues, identified ACA's implementation issues and new changes in health coverage among non-elderly population in the U.S. (Blumberg, Long, Kenney, & Goin, 2013). Blumberg and colleagues studied 'public understanding of basic health insurance', and focused on a non-elderly population with incomes above the national Medicaid eligibility cutoff: 138% of the federal poverty level (Blumberg et al., 2013). Their survey revealed that only 29% of respondents aged 18-30 were very confident or somewhat confident in understanding basic insurance terms such as premiums, deductibles, co-payment, co-insurance, maximum annual out-of-pocket, provider network, covered services, annual limits on services, and non-covered or excluded services (Blumberg et al., 2013). This poor comprehension of fundamental health insurance terms could mean that many people do not have a clear understanding of basic health insurance terms, which could impact individuals' ability to make informed health insurance-related decisions. One of the principal aims of ACA was to reduce the prevalence of the uninsured population by facilitating the purchase of private health insurance through online marketplaces. In the HRMS survey, there were as many as two-thirds of the respondents who were likely to purchase health insurance through marketplaces, however, the respondents had no confidence at all or were not too confident about understanding, at least, one concept of health insurance (Blumberg et al., 2013).

Another similar study (Loewenstein et al., 2013) explored the health insurance knowledge. The authors recruited U.S. citizens between ages 25 and 64 who reported having private health

insurance. They examined whether the ability of consumers to choose a better health care plan was affected by health insurance knowledge. The authors conducted two surveys: a ‘comprehension survey’ and a ‘choice survey’ with a sample size of 202 and 413 respectively. While the former survey addressed the knowledge aspect of health insurance terms, the latter determined the health care decision-making skills after simplifying the health insurance concepts (Loewenstein et al., 2013). Results from the comprehension survey showed that more than 90% of the respondents were very confident about understanding their copays, deductibles, and maximum out-of-pocket costs but only 57% knew about co-insurance. Overall, only 14% of the respondents were able to correctly answer all of the questions. The choice survey revealed that simple health care choice plans helped consumers understand the cost ramifications more clearly than the traditional health plans with 81% vs. 73% respectively (Loewenstein et al., 2013).

In 2012, two years after the implementation of the ACA, the attitude towards the ACA among Americans was studied by Wendy Gross and colleagues (Gross et al., 2012). Using data from two nationally representative cross-sectional surveys, the authors covered 97% of Americans via random digit dialing and by address-based sampling techniques. They conducted their first survey in 2010 and a total of 1,271 participants completed the survey out of 1,815. In 2012, the researchers conducted their second survey in which a total of 1,334 participants completed the survey out of 2,344 (Gross et al., 2012). After examining the participants’ favorability towards the ACA, which was measured based on a Likert scale, they did not find significant differences among the participants as 32% favored the ACA and 36% opposed it. Another 32% neither favored nor refused it (Gross et al., 2012). The authors concluded by saying that the proportion of Americans favoring the ACA bill might increase to 70% if the public had a perfect understanding of the elements of the ACA (Gross et al., 2012). Similar results were reported in a recent tracking poll

conducted by the Kaiser Family Foundation (KFF) on the public views of the ACA (“Kaiser Health Tracking Poll,” 2015). Participants were asked about whether they generally favor or do not favor the ACA based on their knowledge on health reform law. Results indicated that 41% of respondents favored the ACA but 47% did not favor it (“Kaiser Health Tracking Poll,” 2015). The respondents’ view on the ACA has remained divided over the last 6 years (“Kaiser Health Tracking Poll,” 2015).

In another report published by a private health institution on the U.S. attitudes toward health insurance and healthcare reform, the researchers selected 524 participants, ages 25 and above, representing different states across the U.S. through a web-based survey (Valence Health, 2015). A comparative analysis on what consumers most value about their health insurance was examined after conducting surveys in 2013 and 2015 which revealed changes among the Americans’ choice of health insurance plan. While 59% of the respondents were covered through their employers in 2013, only 38% received their primary health insurance through their employers in 2015 (Valence Health, 2015). The authors commented that despite a huge drop in percentages of consumers covered through their employers, many still preferred being insured through their employers (Valence Health, 2015). It was also reported that many consumers considered coverage of major medical expenses, treatment, and routine preventative care as the most important aspects of health insurance (Valence Health, 2015). Other health insurance aspects which consumers considered important included price, deductibles, co-pays, inclusion of certain hospitals, lifetime limits on coverage, inclusion of certain physicians, a plan with high ratings, national coverage, coverage for family, help in determining where to go for health services/health appointments/procedures, and brand (Valence Health, 2015).

Studies have suggested that health insurance use in the U.S. varied across different races and ethnicities, medical diagnosis, and knowledge (Zuckerman, Haley, Roubideaux, & Lillie-Blanton, 2004; Ye, Mack, Fry-Johnson, 2012; Lang et al., 2009). Zuckerman and colleagues compared healthcare utilization between American Indians/Alaska Natives (AI/AN) and Whites (Zuckerman, Haley, Roubideaux, & Lillie-Blanton, 2004). Using data from 1997 and 1999 National Survey of America's Families, they included 2,500 AI/AN and 125,000 Whites, below 65 years of age. Lower rates of healthcare utilization were reported among AI/AN compared to Whites (Zuckerman et al., 2004). AI/AN reported lower rates of doctor visits with odds ratio (OR=0.73) and dental visits (OR=0.60) compared to Whites. However, emergency visits were reported significantly higher for AI/AN than Whites with OR 1.94 (Zuckerman et al., 2004). Another study by Ye and colleagues compared healthcare utilization among U.S.-born and foreign-born Asian Americans (Ye, Mack, Fry-Johnson, & Parker, 2012). They used data from National Health Interview Survey (NHIS) collected between 2003 and 2005 which included 2,500 Asian Americans, 18-64 years of age. The authors used four indicators of healthcare utilization: doctor visits, emergency visits (ER), seen/talked to a general doctor, and seen/talked to a medical specialist in the past 12 months (Ye et al., 2012). The authors reported substantial differences among various races of the Asian community in healthcare utilization. Foreign-born Asian Americans were less likely to have made doctor visits (OR=0.58), seen/talked to a general doctor (OR=0.69), and seen/talked to a medical specialist (OR=0.42) compared to U.S.-born Asian Americans (Ye et al., 2012). However, no differences were reported on the basis of ER visits between the two groups.

These studies showed that health insurance knowledge, attitude and use in the U.S. are far from perfect. While there are different ways to help make the best decision for health care through consulting a health insurance and policy expert, not all can afford such a luxury.

2.3 Graduate Students' Barriers to Utilizing Health Services and Health Insurance

Knowledge in the U.S.

To date, very few studies have focused on graduate students' health and use of health insurance, particularly few have focused on international graduate students. Studies on graduate students have thus far focused primarily on their use of counseling services and mental health care.

Kernan and colleagues studied health-related barriers to learning among graduate students and reported some of the major health concerns of graduate students (Kernan et al., 2011). A 58-item survey developed by the American College Health Association- National College Health Assessment (ACHA-NCHA) was distributed to graduate health science students at a medical center in New York in 2010. The total survey respondents included 1,355 students, which represented a 54% response rate. A total of 9.5% of the respondents were international students. The survey results revealed four prevalent health concerns: cold/flu/sore throat (78.9%), stress (75.4%), concern for a troubled friend or family member (63.5%), and sleep difficulties (51.7%) (Kernan et al., 2011).

Health concerns such as cold/flu/sore throat are prevented and/or treated in a timely fashion when the students know how to seek health care services. Other concerns such as stress, concern for a troubled friend or family member, and sleep difficulties require timely assistance from a counselor, psychiatrist, or someone with whom an individual can discuss his/her concerns. Such problems, if neglected, could exacerbate the mental health burden leading to a disturbance not only

in one's academic performance but also in one's personal and social lifestyle (Yorgason, Linville, & Zitzman, 2008).

In a thesis study by Lenssen, implemented in partnership with Ohio State University's (OSU) Office of Student Life Research and Assessment, OSU's graduate student health insurance knowledge was assessed (Lenssen, 2010). Using a web-based survey via e-mail invitation, the author recruited a random sample of 2,000 OSU graduate student of which 253 students completed the survey. A comparative result of health insurance knowledge was reported on the basis of health insurance plan structure, concepts, and terms between graduate students who were enrolled in their school health insurance (SHI) vs. graduate students who were not enrolled (Lenssen, 2010). Results indicated that SHI enrollees were found to have limited knowledge about health insurance plan structures such as preferred provider organization (PPO) and health maintenance organization (HMO) with 35.5% compared to 25.6% of non-SHI enrollees (Lenssen, 2010). While both groups reported uncertainty and inaccurate answers in their surveys, 12.9% to 82.5% of SHI-enrollees were uncertain about plan coverage and 8.5% to 67.9% of non-SHI were uncertain about health insurance coverage (Lenssen, 2010).

Several studies have reported that college students have limited knowledge about available health services and a poor understanding of health insurance (Madan et al., 2007; Yorgason et al., 2008). Yorgason and colleagues examined the relationship between university students' mental health knowledge, and use of campus mental health services (Yorgason et al., 2008). A total of 266 students completed a web-based survey, and a Likert scale was used to assess the knowledge of mental health services. Study results revealed that 30% of students had never heard about service, and 38% had heard of the services but knew nothing about them (Yorgason et al., 2008). The authors also reported that the most common reasons for the low utilization of services were a

lack of time (33%) and a lack of knowledge (25%). Students living off campus were found less likely to use such services. Gender differences also existed in terms of the utilization of mental health services. Female students were twice as likely to use services than male students (Yorgason et al., 2008). In another study, Madan and colleagues explored the knowledge and opinion of Medicare reimbursement for the surgical procedure of gall bladder removal, medically known as a laparoscopic cholecystectomy. (Madan, Tichansky, Barton, & Taddeucci, 2007) The study included 105 participants: 47 patients, 17 medical students, 33 surgical residents, and 8 attending surgeons. The results showed an overestimation of Medicare payments for a laparoscopic cholecystectomy. The authors concluded that there was no clear concept of health insurance reimbursement in any of the four groups (Madan et al., 2007).

2.4 International Graduate Students' Health Insurance Knowledge in the U.S.

In 2007, Jenny Hyun and her colleagues examined the prevalence of mental health need, awareness, and use of on-campus and off-campus counseling services among international graduate students (Hyun, Quinn, Madon, & Lustig, 2007). The researchers distributed a web survey to which 551 responded (63.3% males and 34.5% females). Results suggested that 61% of international graduate students have knowledge of mental health services compared to 78.6% of domestic graduate students. A wide gap existed concerning utilization of counseling services between the two groups with only 17% of international students reporting using the counseling services either on-campus or off-campus in contrast to 36% counseling service utilization among domestic graduate students (Hyun et al., 2007).

Underutilization of health insurance among international graduate students could be due to a lack of knowledge of the available health services, or it could be due to barriers to seeking

health services such as stigma, fear, confidentiality, and a lack of time. Understanding their cultural differences in the context of health seeking behavior is essential.

2.5 Georgia State University Student Health Insurance

Georgia State University (GSU) student health insurance delivers comprehensive health services to its students by complying with ACA's minimal requirement of health services. ("Student Health Insurance," n.d.). GSU's Student Health Insurance Plan (SHIP), a United Health Care Choice Plus plan, mandated that each student purchase their health insurance unless a student received a waiver, documenting that he/she obtained coverage from another health plan outside of the university).

It requires GSU students who fall into one of the following categories to buy student health insurance plan called United Health Care Choice Plus plan:

- 1) All undergraduate and graduate students who are awarded full-tuition waivers
- 2) All undergraduate, graduate, and English as second language international students with F1 and J1 visas
- 3) All undergraduate and graduate students who are enrolled in programs requiring proof of health insurance
- 4) All graduate students who are awarded fellowships to cover their tuition expenses
- 5) International scholars. ("Student Health Insurance Plan Brochure," n.d.)

However, the above students can be waived from the mandate, which requires that they purchase the school's health insurance if they have an alternate health insurance, which meets the minimum requirements of health services outlined in the University System of Georgia ("Waiving out of SHIP," n.d.).

CHAPTER III

3. Methods and Procedures

3.1 Settings

Data were collected from a web-based and a paper-based survey administered to the graduate students of GSU who were willing to and consented to participate in the study. For the web-based survey, the participants completed the survey wherever they had access to Internet. For the paper-based survey, the participants completed the survey at the end of their classes on the main campus of GSU. The Institutional Review Board at GSU reviewed and approved the study.

3.2 Eligibility and recruitment

All currently registered graduate students of GSU were eligible to participate. Undergraduate students and students below 18 years of age were excluded.

For the web-based survey, eligible students were contacted through a graduate student email list serve and recruited to participate in the study. Using the hyperlink provided in the recruitment email, interested students could read and sign the consent form online as well as complete the survey online. The participants were reminded to complete the survey once after the second week of the initial recruitment email.

For the paper-based survey, faculty teaching graduate classes were contacted and asked if they would permit the distribution of the survey at the end of their class. All interested and eligible students read and signed the consent form in person and completed a paper-version of the survey, either at that time or at a later time; those surveys not completed at that time were collected the following week.

3.3 Survey

3.3 (i) Overview

Based on the gaps in the literature and questions from the Human Resource Management System (HRMS), we developed a 30-item self-administered questionnaire to find out more about health insurance coverage, use, knowledge, attitudes/beliefs and experiences among graduate students of GSU. Participants were asked about: (1) their current health insurance, (2) health care use, experiences, and knowledge, (3) GSU student health center experiences and use, and (4) demographic information. No incentives were provided to the participants.

3.3 (ii) Demographic questions

Respondents were asked about their age, race, marital status, and school/college with which they were primarily affiliated. Race was categorized into White, Black, African-American American Indian/Native American/Alaskan Native, Asian, Native Hawaiian/Pacific Islander and other. Marital status was categorized into single, living with partner, married, separated/divorced and widowed. School/College was categorized into School of Policy Studies, School of Nursing and Health Professions, College of Arts and Sciences, College of Education and Human Development, College of Law, School of Public Health, College of Business and Other.

3.3 (iii) Current health insurance questions

Questions about students' current health insurance policy coverage and duration of how long they have been enrolled in the plan were asked. Participants were also asked about their level of satisfaction with their current health insurance plan; response options included very dissatisfied, dissatisfied, neutral, satisfied, and very satisfied.

3.3 (iv) Health care use, experiences and knowledge questions

Participants were asked about whether they had visited a primary care physician and /or a specialist physician in the past year and, if so, how many times. Explanations of primary and specialist physicians were provided in the survey. The students were also asked if they had visited any complementary and/or alternative medicine providers (CAM); response included: (1) Acupuncturist, (2) Chiropractor, (3) Naturopath, (4) Ayurveda practitioners, (5) Chinese/oriental medicine providers, (6) Osteopath, (7) Energy therapist, (8) Reiki practitioner and (9) Homoeopathist. Respondents could also specify any other CAM that was not listed in the option. Participants were asked to rate their current health status; response included: very good health, fair health, and poor health.

Respondents' level of knowledge about health insurance terms was assessed based on questions from the HRMS (Blumberg et al., 2013). They were asked about whether they understood the definition of a number of different health insurance terms including: premium, deductible, co-insurance, co-payment, maximum annual out-of-pocket, provider network, covered services, annual limits on services, non-covered/excluded services, and out-of-network. Participants could respond that they "know exactly what the term means", they "think they know this term but aren't sure", or they "don't know".

3.3 (v) GSU student health center experiences and use questions

Respondents were asked about the health insurance coverage, requirements of health insurance, whether they had visited the GSU student health clinic in the past year, whether they had received a wellness/general check-up, and whether they anticipated using the GSU student health clinic in the upcoming year. Questions such as, "To the best of your knowledge, is coverage

under the GSU student health plan required for all students?” and “What services do you anticipate using at the GSU Student Health Center in the coming year?” were included.

All international students were asked several additional questions. Those questions included whether they have health insurance coverage in their country of origin, how they heard about the GSU health insurance, and whom they consult/ask when they have health insurance related questions.

3.4 Analyses

We conducted a data quality check and recoded several survey questions. All survey questions are as shown in Appendix 1.

After recoding the questions, sample characteristics were assessed, including age, race, marital status, college or institutions with which participants were affiliated. Citizenship status was categorized into U.S. citizen and international student. We examined whether U.S. citizens differed from international students with respect to healthcare experiences/utilization and health insurance knowledge using the Chi-Square Test. We compared U.S. citizens with international students with respect to knowledge, attitudes, experiences, and utilization using Chi-Square Test. Analyses were conducted using SPSS version 22.0.

CHAPTER IV

4. Results

4.1 Survey Response Rate

A total of 457 eligible GSU graduate students were invited to participate in the study and 167 students completed the survey. Thus, the survey response rate was 36.5%. Of the 167 students, 109 students completed the paper-based survey, and 58 students completed the online survey.

4.2 Sample

About 78% of the respondents were U.S. citizens, and 21.3% of the respondents were international students (Table 1). The average age of the total sample was 29.97 and there were no significant age differences between U.S. citizens and international students. The majority of the survey participants responded that they identified as White (32.7%), Black (34.7%) or African-American (17.3%) and Asian (22%). Among U.S. citizens, the majority of the sample reported that they identified as White (39%), Black (37.3%) or African-American (21.2%). Among the international students, the majority of the sample reported that they identified as Asian (59.4%). About 34% of the total sample reported that they were married and 58% as single, representing more than half of the total respondents. The distribution of single and married students among the U.S. citizens compared with international students was found to be similar. The majority of the respondents reported that they were primarily affiliated with the GSU's School of Public Health (SPH) (61.3%); 59.3% of the U.S. citizens surveyed were affiliated to GSU SPH and 68.8% of the international students surveyed were affiliated to GSU SPH. About 25.3% of the respondents were affiliated with the College of Education and Human Development and 4% of the total respondents were affiliated with School of Policy Studies (Table 1).

4.3 Health Care Utilization/Experiences

The majority (98%) of respondents reported that they had some type of health insurance coverage. Approximately 42% of the total sample reported having a non-university or a private health insurance plan; 44.8% of U.S. citizens and 31.3% of international students had a non-university or a private health insurance plan (Table 2). A total of 27.7% of the total sample reported having GSU student health insurance; 44.8% of the U.S. citizens and 59.4% of the international students had GSU student health insurance. Approximately 21% of sample who were U.S. citizens were covered through their parents' health insurance plan, and only 7.4% reported being insured through their spouse's/domestic partner's health insurance plan.

U.S. citizen students were enrolled in their current health insurance for a longer period of time compared to the international students. About 39% of the total respondents were enrolled for 3 or more years; 49.1% of the U.S. citizens and 3.1% of the international students were enrolled for this time period. About 56.3% of the international students reported that they were enrolled for less than 1 year and 40.6% of the international students reported that they were enrolled for 1 to 2 years. U.S. citizens and international students differed significantly with respect to the type of health insurance ($\chi^2 = 25.47$, $p < 0.001$) and length of health insurance enrollment ($\chi^2 = 23.07$, $p < 0.001$) (Table 2).

When asked about their primary care physician visits in the past year, 32.9% of the sample reported that they had visited their primary care physician 2 to 3 times in the past year. Of those who reported a visit, 28.2% were U.S. citizens, and only 4.7% were international students. About 27.5% of the total respondents reported that they had not visited any primary care physicians in the past year. In contrast, the specialist care visits in the past year were found to have a statistically significant difference between the U.S. citizens and the international students ($\chi^2 = 14.40$,

p<0.002). International students reported using less specialist care; 65.6% of the international students reported that they did not visit specialist physicians in the past year compared to the 3.6% of U.S. citizens who did not. The majority of the U.S. citizens reported having visited a specialist physician 2 to 3 times accounting for 24.8% compared to 3.2% of the international students. Approximately 15% of respondents had visited a specialist physician 4 or more times; with 16.2% U.S. citizens, and only 9.4% international students.

Only 11.8% of total respondents reported that they had visited a CAM provider in the past year, representing 15% of the U.S. citizens. Interestingly, no international students reported visiting a CAM provider in the past year (Table 2).

On examining the experiences/utilization of health care services at the GSU student health center, 43.3% of the sample reported having visited the GSU student health center. International students were more likely to visit the student health center, accounting for 90.6% compared to only 30.5% of U.S. citizens. When we asked whether they had visited the GSU student health center in the past year, 32.2% of the respondents reported that they had visited the GSU student health center in the past year. Of those students who had visited a GSU student health center, 78.1% were international students and only 19.7% were U.S. citizens ($\chi^2 = 42.67, p<0.001$) (Table 2). Despite the high percentage of international students who reported visiting the GSU student health center, no statistically significant differences between the two groups were found when we asked whether they had received a general check-up/wellness visit at the student health center. About 75% of international students reported that they had received a general check-up 1 time, and 25% of them had visited the GSU student center 2 or more times. Among the U.S. citizens, 68% of them reported that they had received a general check-up 1 time and 28.5% of them had visited the GSU student health center 2 or more times.

The majority of the respondents (73%) did not anticipate using any services at the GSU student health center in the upcoming year in which 80.2% of them were U.S. citizens and 46.9% of them were international students. About 42.4% of the total respondents preferred to use health services outside of the university, 18.1% of respondents did not anticipate needing any services this year and 5.6% did not know how to use the health care services at GSU.

International students (37.5%) were more likely to use health services at the GSU student health center compared to U.S. citizens (9.5%). Students reported planning to use annual health examination/wellness visit (19%), immunization (9.2%), dental cleaning (3.2%) and vision examination (2.1%).

About 7.8% reported that they had heard about the GSU health insurance through the GSU website, or during the international student orientation (13.8%), or through advisors/friends (2.4%).

4.4 Knowledge about Health Care Terms

U.S. citizens have better knowledge of the health insurance terms compared to the international students. Of the total of 70.1% sample who reported that they understood the meaning of a premium, 73.3% were U.S. citizens and 58.1% were international students. Similarly, a total of 84.6% sample reported that they understood the term, deductible; with 87.1% U.S. citizens and 67.7% international students. International students reported a lower percentage for all the listed health care terms compared to the U.S. citizens (Table 3).

4.5 Knowledge about GSU Health Insurance and Coverage

Students' knowledge about GSU Health Insurance was assessed by asking questions about the health services covered under GSU Health Insurance. The analyses revealed alarmingly poor knowledge of GSU health insurance coverage among both the U.S. citizens and even more so among the international students. Of the whole sample, only 63.3% correctly answered that the coverage under the GSU student health plan is not required for all students (Table 4). Only 5.3% of the total sample correctly reported that dental services such as periodic oral evaluation, radiographs, cleanings and space maintainers are included in the GSU student health insurance plan, 10% of the total sample correctly answered the availability of comprehensive visual examination, and 24% of the respondents were able to correctly answer that the over-the-counter contraceptive pills for women are covered under the GSU student health insurance plan.

Knowledge of the GSU health insurance among the GSU-insured students was poor among U.S. citizens as well as international students. While 85.4% of the GSU-insured students correctly reported that students can receive permission to obtain health insurance with a non-university insurer, only 63.4% of them correctly reported that coverage under the GSU student health plan is not required for all students (Table 5). Among that subgroup, 86.4% were U.S. citizens and 36.8% were international students. Students particularly lacked knowledge about their health coverage; only 7.3% of the GSU-insured students correctly answered about the simple dental services covered, and 14.6% of them were able to correctly answer the question about the comprehensive vision exam service.

When international students were asked about who they contact when they have questions about health insurance, 9% reported that they contact the student health center at GSU, 5% reported that they ask their family member/friends and 2.4% reported that they ask their graduate advisor.

4.6 Attitude about Current Health Insurance Plan, Health Status, and GSU Health Insurance

The majority of the respondents (72%) reported that they are in very good health. Out of the 98% insured students, 36.5% were satisfied with their current health insurance and 33% reported that they felt neither satisfied nor dissatisfied. About 9% of total respondents were dissatisfied with their current health insurance.

An overwhelming majority of the total sample (76.6%) reported that they did not read the students' health coverage outlined in the UnitedHealth Care Choice Plus. When asked about their satisfaction level with the care they had received at the GSU student health center, 17% of sample reported that they were satisfied and 11% felt neutral about the care they received. Since the majority of the students were insured through a non-university health insurance system and reported a low percentage of visits to the GSU student health center, about 65% of the total respondents were not eligible to answer this question.

CHAPTER V

5. Discussion and Conclusion

5.1 Discussion

The survey response revealed several interesting insights and unveiled important information about the GSU graduate students' health insurance knowledge, attitude, and experiences. Firstly, our results suggest that overall knowledge of health insurance was found to be lacking among both the U.S. citizens and the international students. However, comparatively between the two groups, U.S. citizens reported knowing more about the health insurance compared to the international students. Although there are very limited prior studies on international students' knowledge of U.S. health insurance, there have been several studies on U.S. citizens' knowledge. The finding that U.S. citizens have poor knowledge about health insurance is consistent with these prior studies (Blumberg et al, 2013; Politi et al., 2014; Loewenstein et al., 2013). Although a higher percentage of U.S. citizens self-reported knowing key health care terms, this may not mean that U.S. citizens have a better understanding of these terms, as their actual understanding was not assessed. This conclusion is also consistent with prior studies that reported what the respondents know about the health care terms may not correspond to the standard definitions of the terms (Paez & Mallery, 2014; Levitt, 2014; Loewenstein et al., 2013).

The second finding of interest is related to students' choice of health insurance. Unlike international students, U.S. citizens were mainly covered through non-university/ a private health insurance plan, parents' health insurance plan, or a GSU student health plan, while the majority of the international students were covered through the GSU student health insurance. However, since a very small percentage of the students visited the GSU student health center in the past year, this

would be an indication that students' knowledge about the health services covered for a GSU-insured student is poor.

Thirdly, the survey drew attention to the fact that the majority of students and, specifically those who are U.S. citizens, reported that they do not anticipate using any services at the GSU student health center in the upcoming year. This may be, in part, due to the age of the respondents. Given that the majority of participants were young (mean age 29), and reported that they are in very good health, they may not anticipate needing any health services. Our analyses also revealed that the majority of the students preferred to use health services outside of the university, and a small number of students do not know how to use the health care services at GSU. This could be because many of the students reported that they are enrolled in a non-university/a private health insurance.

Lastly, among the GSU-insured international students, we found that not only do the international students have poor knowledge of health insurance terms, but the majority of them also do not know the coverage provided by the health care service. Unfortunately, very limited studies have been conducted on the knowledge of health insurance among international students. Therefore, it is too early to draw conclusions and future research is needed. However, few studies have focused on the use of health care services in which they found that international students use less health care services when compared to the U.S. citizens (Hyun et al., 2007; Yi et al., 2003).

5.2 Strengths and Limitations

Strengths

To the best of our knowledge, this is the first study to assess the knowledge, attitudes, and experiences related to health service use and health insurance among graduate students with a special focus on the international students. By providing a clear picture about the findings of this study, this study becomes a basis to inform both future research and public health program recommendations. Although the majority of the participants were affiliated with GSU's School of Public, the study recruited from all of the GSU affiliated schools. This makes our study results generalizable to all graduate GSU affiliated schools.

Limitations

Our results may not reflect the true understanding of the knowledge, attitudes, and experiences of health insurance since we used self-reported questionnaire. Participants may believe that they understand a health insurance term, for example, but their actual understanding may be limited. Although our study questionnaire meets the requirements of the Flesch-Kincaid readability test score outlined by the GSU Institutional Review Board, we did not conduct a pilot study on the clarity and wording of our questions. Therefore, some questions may have been misunderstood by participants, leading to inaccurate self-reporting. Selection bias is another limitation, as individuals who decided to participate in the study might have differed systematically from individuals who decided not to participate with respect to their health insurance knowledge, attitudes and/or experiences. The sample of international students was relatively small and thus caution is warranted when generalizing findings to other samples.

5.3 Recommendations

The poor knowledge of health care terms and GSU health insurance coverage could be attributed to the lack of health education or the poor understanding of a complex U.S. health care system. However, since our findings revealed that along with the international students, U.S. citizen students (who are GSU-insured) also have a poor knowledge of their health insurance. This signifies a plausible and significant loophole in the GSU student health program. While it is important that students receive health insurance as a registered student at GSU, it is equally important that students understand the health care terms and services covered for them to make the best informed health care decisions. An outline of the student health coverage available on the school website or magazine is clearly not effective as an overwhelming majority of the respondents reported that they did not read the students' health coverage outlined in the UnitedHealth Care Choice Plus. This probably explains why many of the respondents did not anticipate using the health services at the GSU student health clinic.

Based on the results from the present study, GSU students would likely benefit from receiving additional health insurance education opportunities; these may be best delivered by GSU Student Health Clinic staff and/or Student Health Insurance/Student Financial Services staff. For example, a health insurance education session could be offered for the durations of 3 to 4 days before the first semester begins either through a web-based or in-person mandatory orientation session. It is essential to develop culturally-tailored education sessions that take into account students' countries of origin/cultural backgrounds. This will strengthen the health programs through increasing the awareness and understanding of social, cultural, racial, and ethnic backgrounds of GSU's diverse community. However, GSU students who are not insured through the GSU health insurance plan, United HealthCare, are not eligible to file health claims. Therefore,

health insurance education should be tailored to those students who are insured with United HealthCare to optimize their health care services at the GSU Student Health Center. A pre and post-test can also be conducted if required to ensure whether the short term goal of making the students understand the health care terms and health services covered is achieved or not.

Since many students reported that they are in very good health and many do not anticipate needing health services in the upcoming year, the GSU student health center could emphasize the importance of preventive care and facilities available for GSU-insured students to avoid health complications.

For students who do know how to use the health services at the GSU student health center, students could be offered the facilities and resources to make a virtual tour of the GSU student health center. It is also wise to explain how to seek health care in a step-by-step manner either through in person counseling and/or an online class accessible to all students. Student liaisons could be trained to serve as contacts for those students who may have questions about health insurance. GSU health profession students who demonstrate a thorough understanding of health insurance can volunteer to talk about health insurance, coverage, and the reimbursement process for new students. In this way, it also becomes a platform for health students to have a real-life experience with individuals seeking healthcare. It is essential that students understand the specific roles of the health center professionals so that they know whom to contact in the GSU health center.

Based on the present study as a benchmark, an examination of a follow-up study on knowledge, attitudes, and experiences of GSU health insurance could determine if the recommended public health program, and communication with students on health services has improved over the years.

5.4 Conclusion

It is essential that students not only be required to have health insurance but that they also understand the health care terms and the health services covered for them to make better health care decisions. GSU graduate students' health insurance knowledge is relatively poor, specifically among the international students. Since it is too early to make conclusions that students have poor health insurance knowledge due to the self-reported nature of our survey, future studies are needed to elaborate on assessing the knowledge using more objective assessment methods. Regarding attitudes and experiences, the majority of the students reported that they are in very good health and that they do not anticipate using health services at GSU. Future studies focusing on the reasons for not anticipating the use of health services at GSU could give this field of study a clearer picture. After validation, this research will help in creating research-based effective health care programs.

GSU is quickly growing into a big university with the potential to attract many international students. The ability to provide good health insurance could boost the school's image in providing leading health services to its students.

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Appendices

Appendix A: Survey Questions

Part I. Your Current Health Insurance

1. Which of the following health insurance best describes your current health insurance policy?
 - I'm currently covered by my parents' health insurance policy
 - I'm currently covered by my spouse's/domestic partner's health insurance policy
 - I'm currently covered by a non-University health insurance policy (that is not my parents' or spouse's/domestic partner's policy)
 - I'm currently covered by a private health insurance
 - I'm currently covered by GSU student health insurance plan
 - I currently have no health insurance
 - I don't know

2. How long have you been enrolled in your current insurance plan?
 - <1 year
 - 1-2 years
 - 3-4 years
 - >4 years
 - I don't know

3. How satisfied are you with your current health insurance plan?
 - Very dissatisfied
 - Dissatisfied
 - Neutral
 - Satisfied
 - Very satisfied

Part II. Health Care Use, Experiences, and Knowledge

4. How many times have you visited a primary care (also known as family medicine, general internal medicine) physician in the past year?

*A primary care physician is a doctor with a MD who often provides both the first contact for a person with an undiagnosed health concern as well as continuing care for varied medical conditions.

- None
- 1 time
- 2-3 times
- 4-5 times
- More than 5 times
- I don't remember

5. How many times have you visited a specialist physician in the past year?

*A specialist is a doctor with a MD whose practice is limited to a particular branch of medicine (e.g., cardiologist, dermatologist, endocrinologist, gynecologist, oncologist, neurologist, psychiatrist, radiologist, etc.)

- None
- 1 time
- 2-3 times
- 4-5 times
- More than 5 times
- I don't remember

6. Have you visited any of the following complementary and /or alternative medicine providers in the past year? Check all that apply.

- Acupuncturist
- Chiropractor
- Naturopath
- Ayurveda practitioner
- Chinese/Oriental medicine provider
- Osteopath
- Energy therapist
- Reiki practitioner
- Homoeopathist
- Other (please specify):_____
- I have not visited any of these providers in the past year

7. How would you rate your current health status? (According to the World Health Organization, "Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity") (W.H.O 2003)

- I am in very good health
- I am in fair health
- I am in poor health

8. Please rate your level of knowledge in understanding the following insurance terms. (Check the terms which apply to you)

Insurance terms related to costs	I know exactly what it means	I think I know this term but I am not very sure	I don't know
-Premium			
-Deductible			
-Co-insurance			
-Co-payments			
-Maximum annual out-of-pocket spending			
Insurance terms related to access, coverage, and benefits			
-Preferred Allowance			
-Provider Network			
-Covered Services			
-Annual limits on services			
-Non-covered/excluded services			
-Out-of-Network			

Part III. GSU Student Health Center Experiences and Use

9. To the best of your knowledge, is coverage under the GSU Student Health Plan required for all students?

- Yes
- No
- I don't know

10. To the best of your knowledge, can students receive permission to obtain health insurance with a non-University insurer?

- Yes
- No
- I don't know

11. To the best of your knowledge, are dental services such as periodic oral evaluation, radiographs, cleaning and space maintainers included in the GSU student health insurance plan?

- Yes
- No
- I don't know

12. To the best of your knowledge, is comprehensive vision exam included in the GSU student health insurance plan?

- Yes

- No
- I don't know

13. To the best of your knowledge, are over-the-counter (OTC) birth control (contraceptives) for women such as contraceptive films, foams, gels, sponges, emergency birth controls, and female condoms covered under the GSU student health insurance plan?

- Yes
- No
- I don't know

14. Have you read the students' health coverage outlined in the UnitedHealthCare Choice Plus?

- Yes
- No
- I don't know

15. Have you ever visited the GSU Student Health Center?

- Yes
- No
- I don't know

If yes, please answer question # 8

If no or you don't remember, please skip to question # 11.

16. Have you visited the GSU Student Health Center *in the past year*?

- Yes
- No
- I don't know

If yes, please answer question # 9

If no or you don't remember, please skip to question # 10

17. How many times have you visited the GSU Student Health center *in the past year*?

- 1 time
- 2-3 times
- 4-5 times
- More than 5 times
- I don't know

18. Have you received a general check-up/wellness visit at the GSU Student Health Center?

- 1 time
- 2-3 times
- 4-5 times
- More than 5 times
- I don't know

19. Do you anticipate using any services at the GSU Student Health center in the upcoming year?
- Yes
 - No
 - I don't know

If yes or if you don't know, please answer question #12
If no, please skip to question # 13

20. What services do you anticipate using *at the GSU Student Health Center* in the coming year?
Check all that apply.

- Annual health examination/check-up/wellness visit
- Immunization
- Dental cleaning
- Vision examination
- Other (please specify):_____

21. Why do you not anticipate using any health services at the GSU Student Health Center in the upcoming year? Check all that apply.

- I prefer to use health services outside of the university
- I do not know how to use the health care services at GSU
- I don't anticipate needing any services this year
- Other (please specify):_____
- I don't know

22. In general, to what extent do you feel satisfied with the care you have received at the GSU Student Health Center?

- Very satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very dissatisfied
- Not applicable (I have not received any care at the GSU Student Health Center)

The following four questions are for international students.

23. Are you an international student*?

*GSU classify applicants as international students if they meet any of the following criteria: students who have been educated outside of the U.S., students who are not U.S. citizens, students who are in the process of applying for Permanent Residency status, but have not yet received the Permanent Residency card, and students who are currently in the U.S. on F-1 (student) visa or on any other class of visa.

- Yes
- No

If yes, please answer question # 16, 17, and 18.
If no, please skip to Part IV. Demographic Information section.

24. How did you hear about health insurance at GSU? (check all that apply)

- Through GSU website
- During international student orientation
- Through advisor/friend(s)
- Other (please specify)_____

25. Who did you consult/ask when you have questions about health insurance?

- Student Health Center at GSU
- Graduate Advisor
- Family members/Friend(s)
- Other (please specify)_____

26. Did you have health insurance coverage in your country of origin?

- Yes
- No
- I don't know

Part IV. Demographic Information

27. What is the University College/Institute with which you are *primarily* affiliated?

- School of Policy Studies
- School of Nursing and Health Professions
- College of Arts and Sciences
- College of Education
- College of Law
- School of public Health
- College of Business
- Other (please specify):_____

28. What is your current age, in years?

_____years old.

29. With which race(s) do you identify? (Check all that apply)

- White
- Black
- African-American
- American India/Native American/Alaskan Native
- Asian
- Native Hawaiian/Pacific Islander

- Other (please specify): _____

30. What is your marital status?

- Single
- Married
- Living with partner
- Separated/Divorced
- Widowed

Appendix B: Tables

Table 1: Sample Characteristics, total and by citizenship status

Characteristic	Total (N=150)	By Citizenship Status	
		<u>U.S. Citizen</u> (N=118)	<u>International Student</u> (N=32)
Age in years, mean (SD)	29.97 (7.67)	29.82 (8.19)	30.53 (5.44)
Race, N (%)			
White	49 (32.7%)	46 (39.0%)	3 (9.4%)
Black	52 (34.7%)	44 (37.3%)	8 (25.0%)
African-American	26 (17.3%)	25 (21.2%)	1 (3.1%)
American Indian/Native American/Alaskan Native	2 (1.3%)	2 (1.7%)	0 (0.0%)
Asian	33 (22.0%)	14 (11.9%)	19 (59.4%)
Native Hawaiian/ Pacific Islander	3 (2.0%)	1 (0.8%)	2 (6.3%)
Marital Status, N (%)			
Single	87 (58.0%)	70 (59.3%)	17 (53.1%)
Living with partner	7 (4.7%)	6 (5.1%)	1 (3.1%)

Married	51 (34.0%)	37 (31.4%)	14 (43.8%)
Separated/Divorced	5 (3.3%)	5 (4.2%)	0 (0.0%)
Widowed	0 (0.0%)	0 (0.0%)	0 (0.0%)
College/Institution, N (%)			
School of Policy Studies	6 (4.0%)	2 (1.7%)	4(12.5%)
School of Nursing and Health Professions	0 (0.0%)	0 (0.0%)	0 (0.0%)
College of Arts and Sciences	11 (7.3%)	7 (5.9%)	4 (12.5%)
College of Education and Human Development	38 (25.3%)	37 (31.4%)	1 (3.1%)
College of Law	0 (0.0%)	0 (0.0%)	0 (0.0%)
School of Public Health	92 (61.3%)	70 (59.3%)	22 (68.8%)
College of Business	1 (0.7%)	0 (0.0%)	1 (3.1%)
Other (school of music)	1 (0.7%)	1 (0.8%)	0 (0.0%)

Table 2: Health Care Utilization/Experience, total and by citizenship status

Health Care Utilization/Experience		By Citizenship Status		Significance
		<u>U.S. Citizen</u>	<u>International Student</u>	
Health Insurance, N (%)	Total (N=148)	(N=116)	(N=32)	$\chi^2=25.47$, $p=<0.001$
Parents' health insurance plan	31 (20.9%)	31 (26.7%)	0 (0.0%)	
Spouse's/domestic partner's Health insurance plan	11 (7.4%)	8 (6.9%)	3 (9.4%)	
Non-university/private Health insurance plan	62 (41.9%)	52 (44.8%)	10 (31.3%)	
GSU student health insurance Plan	41 (27.7%)	22 (19.0%)	19 (59.4%)	
Uninsured	3 (2.0%)	3 (2.6%)	0 (0.0%)	

Current length of health insurance enrollment, N (%)	Total (N=146)	(N=114)	(N=32)	$\chi^2=23.07$, $p<0.001$
< 1 year	49 (33.6%)	31 (27.2%)	18 (56.3%)	
1-2 years	39 (26.7%)	26 (22.8%)	13 (40.6%)	
≥ 3 years	57 (39.0%)	56 (49.1%)	1 (3.1%)	
I don't know	1 (0.7%)	1 (0.9%)	0 (0.0%)	
Primary care physician visits in the past year, N (%)	Total (N=149)	(N=117)	(N=32)	$\chi^2=3.13$, $p<.372$
None	41 (27.5%)	29 (24.8%)	12 (37.5%)	
1 time	43 (28.9%)	33 (28.2%)	10 (31.3%)	
2-3 times	49 (32.9%)	42 (35.9%)	7 (21.9%)	
≥ 4 times	16 (10.7%)	13 (11.1%)	3 (9.4%)	
Specialist physician visits in the past year, N (%)	Total (N=149)	(N=117)	(N=32)	$\chi^2=14.40$, $p<.002$
None	58 (38.9%)	37 (31.6%)	21 (65.6%)	
1 time	39 (26.2%)	32 (27.4%)	7 (21.9%)	
2-3 times	30 (20.1%)	29 (24.8%)	1 (3.1%)	
≥ 4 times	22 (14.8%)	19 (16.2%)	3 (9.4%)	
Visited a complementary and or/alternative medicine provider in the past year, N (%)	Total (N=114)	(N=113)	(N=31)	$\chi^2=5.28$, $p<0.24$
Yes	17 (11.8%)	17	0 (0.0%)	

		(15.0%)		
Visited GSU Student Health Center, N (%)	65(43.3%)	36 (30.5%)	29 (90.6%)	$\chi^2=37.04$, $p<0.001$
Visited GSU Student Health Center in the past year, N (%)	48 (32.2%)	23 (19.7%)	25 (78.1%)	$\chi^2=42.67$, $p<0.001$
GSU Student Health Center visits in the past year, N (%)	Total (N=48)	(N=23)	(N=25)	$\chi^2=2.30$, $p<0.514$
1 time	11 (22.9%)	7 (30.4%)	4 (16.0%)	
2-3 times	26 (54.2%)	12 (52.2%)	14 (56.0%)	
≥ 4 times	10 (20.8%)	4 (17.4%)	6 (24.0%)	
Do not know	1 (2.1%)	0 (0.0%)	1 (4.0%)	
Received a general check-up/wellness visit at the GSU Student Health Center, N (%)	Total (N=49)	N=25	N=49	$\chi^2=0.294$, $p<0.754$
1 time	35 (71.4%)	17 (68.0%)	18 (75.0%)	
≥ 2 times	14 (28.6%)	8 (32.0%)	6 (25.0%)	
Anticipate using any services at the GSU Student Health Center in the upcoming year, N (%)	Total (N=148)	N=(116)	N=(32)	$\chi^2=17.08$, $p<0.001$
Yes	23 (15.5%)	11 (9.5%)	12 (37.5%)	
No	108 (73.0%)	93 (80.2%)	15 (46.9%)	
Do not know	17 (11.5%)	12 (10.3%)	5 (15.6%)	
Anticipate using the following services at the GSU Student Health Center in the upcoming year, N (%)	Total (N=142)	N=(111)	N=(31)	
Annual health examination/ checkup/ Wellness visits	27 (19.0%)	14 (12.6%)	13 (41.9%)	$\chi^2=16.76$, $p<0.001$

Immunization	13 (9.2%)	5 (4.5%)	8 (25.8%)	$\chi^2=19.25$, $p<0.001$
Dental cleaning	5 (3.5%)	1 (0.9%)	4 (12.9%)	$\chi^2=20.40$, $p<0.001$
Vision examination	3 (2.1%)	0 (0.0%)	3 (9.7%)	$\chi^2=22.07$, $p<0.001$
Reasons for not anticipating the use of any health services at the GSU Student Health Center in the upcoming year, N (%)	Total (N=144)	(N=113)	(N=31)	
Prefer to use health services outside of the university	61 (42.4%)	55 (48.7%)	6 (19.4%)	$\chi^2=15.36$, $p<0.001$
Do not know how to use the health care services at GSU	8 (5.6%)	8 (7.1%)	0 (0.0%)	$\chi^2=14.90$, $p<0.001$
Do not anticipate needing any services this year	26 (18.1%)	21 (18.6%)	5 (16.1%)	$\chi^2=14.45$, $p<0.001$
Do not know	4 (2.8%)	3 (2.7%)	1 (3.2%)	$\chi^2=14.19$, $p<0.001$

Table 3: Knowledge about Health Care Terms, total and by citizenship status

Health care terms	Total (N=147)	By Citizenship Status		Significance
		U.S. Citizen (N=116)	International student (N=31)	
Health care terms related to costs				
Premium	103 (70.1%)	85 (73.3%)	18 (58.1%)	$\chi^2=2.70$, $p=0.08$
Deductible	122 (83.0%)	101 (87.1%)	21 (67.7%)	$\chi^2=6.50$, $p<0.015$
Co-insurance	80 (54.8%)	63 (54.8%)	17 (54.8%)	$\chi^2=0.00$,

				p=<0.60
Co-payments	126 (84.6%)	105 (89.7%)	21 (65.6%)	$\chi^2=11.2$, p=<0.002
Maximum annual Out-of-pocket spending	107 (73.3%)	88 (77.2%)	19 (59.4%)	$\chi^2=4.052$, p=<0.040
Health care terms related to access, coverage, and benefits				
Provider Network	126 (84.6%)	104 (88.9%)	22 (68.8%)	=7.90, p=<0.008
Covered Services	125 (84.5%)	103 (88.8%)	22 (68.8%)	=7.70, p=<0.009
Annual limits on services	98 (66.7%)	82 (70.7%)	16 (51.6%)	=4.10, p=<0.039
Non-covered/excluded services	119 (81.0%)	99 (85.3%)	20 (64.5%)	=6.70, p=<0.012
Out-of-Network	120 (81.1%)	101 (86.3%)	19 (61.3%)	=10.01, p=<0.003

Table 4: Knowledge about GSU Health Insurance, total and by citizenship status (whole sample)

Knowledge about GSU Health Insurance	Total (n=150)	By Citizenship Status		Significance
		U.S. Citizen (N=118)	International Student (N=32)	
Coverage under the GSU Student Health Plan is required for all students, N (%)	95 (63.3%)	80 (67.8%)	15 (46.9%)	=4.75, p=0.03
Students can receive permission to obtain health insurance with a non-University insurer, N (%)	112 (74.7%)	86 (72.9%)	26 (81.3%)	=0.932, p=<0.234
Dental services such as periodic oral evaluation, radiographs, cleanings and	8 (5.3%)	4 (3.4%)	4 (12.5%)	=4.14, p=<0.064

space maintainers are included in the GSU student health insurance plan, N (%)				
Comprehensive vision exam is included in the GSU student health insurance plan, N (%)	15 (10.0%)	8 (6.8%)	7 (21.9%)	=6.375, p=<0.019
Over-the-counter (OTC) birth control (contraceptives) for women are covered under the GSU student health insurance plan, N (%)	36 (24.0%)	29 (24.6%)	7 (21.9%)	=0.101, p=<0.476

Table 5: Knowledge about GSU Health Insurance, total and by citizenship status (among GSU-insured)

Knowledge about GSU Health Insurance	Total (N=41)	By Citizenship Status		Significance
		U.S. Citizen	International Student	
Coverage under the GSU Student Health Plan is required for all students, N (%)	26 (63.4%)	19 (86.4%)	7 (36.8%)	=10.77 p=<0.001
Students can receive permission to obtain health insurance with a non-university insurer, N (%)	35 (85.4%)	21 (95.5%)	14 (73.7%)	=3.9 p=<0.063
Dental services such as periodic oral evaluation, radiographs, cleanings and space maintainers are included in the GSU student health insurance plan, N (%)	3 (7.3%)	1 (4.5%)	2 (10.5%)	=.538 p=<.444
Comprehensive vision exam is included in the GSU student health insurance plan, N (%)	6 (14.6%)	2 (9.1%)	4 (21.1%)	=1.17 p=<0.262

Over-the-Counter (OTC) birth control (contraceptives) for women are covered under the GSU student health insurance plan, N (%)	13 (31.7%)	10 (45.5%)	3 (15.8%)	=4.143 p=<0.043
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