2011

The Role of Medical Training Background in Patient Satisfaction

Mariam Zia Qureshi
Minnesota State University - Mankato

The Role of Medical Training Background in

Patient Satisfaction

By

Mariam Zia Qureshi

A Thesis Submitted

in Partial Fulfillment

of the Requirements for the Degree

Master of Arts

in

Public Administration

Minnesota State University, Mankato

Mankato, Minnesota

February 04, 2011

Abstract

The number of international medical graduates (IMG) is increasing and their ability to satisfy patients has never been studied. The purpose of this study is to examine if there is a difference between the patient satisfaction scores of US medical graduates (USMGs) and IMGs. This is a retrospective study in which 2627 returned patient experience surveys of 55 physicians working in Medical Practice in South Western Mayo Health System were evaluated. These surveys were returned from August 2009 to August 2010. An independent t-test and t-inverse test was conducted with significance level of 0.05. The results of t-test lead to conclude with 95% confidence that there is no difference between the patient satisfaction scores of the two groups of physicians. T-inverse test confirms the results of t-test and lead to conclude with 95% confidence that the scores of the two groups of physicians are similar. It is concluded that USMGs and IMGs have similar capability to satisfy their patients and also that patients did not rate USMGs and IMGs differently.

For Fawad

Thanks for all of your love and support

Table of Contents

<center>**Chapter1**</center>

<center>**Introduction**</center>

Background of Medical Migration in America

For several centuries China, Great Britain, France, and Germany have all faced the phenomenon of medical migration, far and extensive distances were traveled by doctors in order to seek new medical knowledge and skills. They used to take the new medical knowledge and skills back to their home country to improve and update the medicine over there. In the 19th century doctors from the US used to travel to Europe in search of medical knowledge. When they returned, the knowledge and skills these physicians brought back to the United States profoundly changed medicine in America (AMA-IMG, 2010). The United States has been the most desirable destination for physicians from all over the world for training in graduate medicine since after World War II. Physicians from all around the world visit America to seek new medical inventions, knowledge and skills. Previously, the trend was that the international physicians were returning to their home country to enhance medicine there, but recently the trend has changed with more international physician making the United States their home. With growing numbers of International Medical Graduates (IMGs) in the US, one wonders if the US patient population is satisfied with the care provided by IMGs in the similar manner to their US graduate counterparts.

There are many push and pull factors that are compelling International Medical Graduates (IMGs) to stay in the US; for example, better education, abundant availability of opportunities and jobs, better wages, high living standard and in general a better lifestyle for their families. At the same time, the United States has always welcomed skilled workers and educated international workers, as there used to be always more need

for skilled workers and highly educated persons in the growing economy of America. Consequently, over the last several years, the number of jobs filled by international population in the US medical workforce has increased immensely. Formerly, the medical profession that was dominated by a homogeneous population now contains a considerable proportion of individuals of different cultures, race, ethnicity, religion, etc. In the future, the number of IMGs will continue to increase; as the US production of new physicians is not sufficient to keep up with their increased demand. The American Association of American Medical Colleges is projecting a 100,000-physician shortfall by 2020 (Nowlan, 2006). There are multiple reasons for the deficiency of the physicians in the US, for example:

Retirement of Mass of Physicians. Production of young physicians was increased by 30% in 1970's. Over the last twenty years that has added 340,000 physicians to the pool. There were almost the same numbers of physicians practicing in the 1970's (Coile, 2003). Thirty years later it is estimated that those physicians are heading towards retirement in large scale, starting from 2010, creating a great void.

Female Physicians: In 1970's there were about 13.7% women physicians in training. In 1980's this number rose to 30.8%, in 1990's it was 39.8%, and in 2000's about 48% of all medical students were women (Coile, 2003). The trend shows that the number will go beyond 50% in the future. Majority of women physicians seek flexibility to fulfill their family needs. A woman physician works on average of 48 hours per week compare to 60 plus hours per week of men physicians; consequently, leaving a scarcity of physicians in the US (Coile, 2003).

Malpractice. The cost of malpractice has drastically increased in last few years which make it extremely difficult for physicians to choose certain specialties like neurosurgery, orthopedics and obstetrics. The cost of medical malpractice litigation in the United States has steadily increased at almost 12 percent annually since 1975 (Towers Perrin update, 2006). The increase in rates is causing physicians to go out of business or move to states with more favorable tort systems (Towers Perrin update, 2006) creating shortage or unequal distribution of physicians.

Rising Practice Expenses. Practice expenses has increased in last few years for physicians in private practice, while these physicians have not been able to equally increase their prices. In the last few years physician practice expenses rose 5 to 6 percent, or higher, while many physicians have only been able to increase prices by 2 to 3 percent. The unequal raise of expenses and prices has discouraged physicians to join or start private practice, which plays an important role in providing health care needs in many communities.

Work Week. Before the rise of large medical groups, the normal work hours for physicians were 12 hours a day, morning rounds on weekends, plus call coverage (Coile, 2003). This routine was a normal expectation of a physician. After thousands of physicians merged into large medical practices and the majority of women physicians demanding for life and work balance, the employee attitude became important and the work week was reduced creating a void.

Alternative employment: Many physicians fed up with the medical system, reimbursements, and working long hours, have moved into alternative employment. They

train to become part-time or full-time administrators and executives for health care centers, consultant firms and pharmaceutical companies.

    Health Reform. The health reform is also influencing the deficiency of physicians. Not only that it will give health access to masses of uninsured population, which would mean more need of primary care physicians, but also the reimbursement for these extremely wanted physicians will be reduced; leaving no incentive for medical students to train in family practice medicine.

    Some of other factors that are influencing the shortage of physicians are less spots in medical schools, increase in general population and aging population, managed care, reduced Medicare/Medicaid reimbursements, and others. To fill in the scarcity of the physicians, US has been importing international medical graduates in the past, and now with the situation explained above the US will have to bring in even more international physicians.

International Medical Graduates in the United States

    An international medical graduate (IMG), also known as foreign medical graduate (FMG), is a term used to describe a physician who receive their medical school training outside the US and Canada. IMGs come from about 125 nations with various cultural, ethnic, racial, linguistic, and religious backgrounds. The top five countries where international medical graduates (IMGs) come from are India, Pakistan, Philippines, Mexico, and Dominican Republic (Table 1) (AMA-IMG, 2010). Their role has been considered crucial in providing health care services in America. Before 1960's the total IMG population working actively in America's physician workforce was around 10%.

This number has increased drastically in last many years. IMGs today represent around 25% of the US physician workforce.

To begin practice in the US, every physician has to have a medical license. To obtain a medical license, IMGs have to acquire an Educational Commissions for Foreign Medical Graduates (ECFMG) certification. The ECFMG, through its program of certification, assesses whether IMGs are ready to enter residency or fellowship programs in the United States that are accredited by the Accreditation Council for Graduate Medical Education (ACGME). IMGs have to meet ECFMG's requirements in order to get the certification. According to the ECFMG website (2010), IMGs have to fulfill following requirements:

- All IMGs must have been awarded credit for at least four credit years by a medical school.

- The medical school from which they have graduated has to be listed in the International Medical Education Directory (IMED).

- The physician's graduation year must be included in the medical school's *IMED* listing.

- The examination requirements for ECFMG Certification include passing Step 1 and Step 2 of the United States Medical Licensing Examination (USMLE). The Step 2 exam has two separately administered components, the Clinical Knowledge (CK) component and the Clinical Skills (CS) component which they have to pass within a certain period of time. The USMLE assesses a physician's ability to apply knowledge, concepts, and principles, and to demonstrate

fundamental patient-centered skills, that are important in health and disease and that constitute the basis of safe and effective patient care.

- After passing Step 1 and 2 of USMLE, IMGs then get the ECFMG certification, and then are eligible for USMLE Step 3 which is a state licensure exam.

- After completing all the ECFMG requirements and passing USMLE Step 1, 2, and 3, IMGs obtain their permanent medical license to practice.

- IMGs also have to take an exam called Clinical Skills Assessment (CSA), which is used to assess the clinical skills of IMGs.

- After completing USMLE Step 1, 2 and CSA a physician can apply for a residency training program.

The only difference between acquiring the license by IMGs and USMGs is that USMGs do not have to apply for ECFMG certification; they only have to pass USMLE Steps and the CSA.

Role of International Medical Graduates in the United States

IMGs have made an exceptional part in the delivery of health care in the US. IMGs are filling in the deficiency of physicians in the United States. They have and will continue to have a significant role in all fields of medicine, especially Family Practice. They are often more willing to serve in rural and under-served area than their US counterparts. With an increase in diverse ethnic and racial patient population, it becomes important that the population of physicians becomes equally diverse, so that they can provide health care that is culturally competent.

Association of American Medical Colleges (AAMC), noting the growing evidence of impending shortage of physicians in the US, has called for 30% increase in enrollment

in medical schools in America by 2015. American Medical Association (AMA) has found that between now and 2015, the year after health care reforms are scheduled to take effect, the shortage of doctors across all specialties will quadruple (AMA, 2010). Until the time all the medical students are graduating from medical schools and ready to practice medicine, America would be bringing in masses of IMGs to fill in the shortage.

Comparing Patient Satisfaction Scores of International and US Medical Graduates

An organization is a social structure that pursues collective goals to achieve particular ends. The goals of an organization depend upon its mission and values. Goals maybe greater growth, increased profits or reduced errors or others. Customers are the most important element of an organization, as without customers there would be no organization. Thus, providing excellent service to customers becomes profoundly vital. Providing satisfaction to customers becomes challenging for the organizations that provide services to customers directly. Health care is an industry which is heavily based on the interaction between people. The operations of the health care industry involve different kinds of health care providers, numerous small and big machines and equipments, different procedures, many protocols, and various other related services. Health care is a highly demanding industry. Like any other organization the stakeholders of health care organization also aim to fulfill their goals. For this reason health care organization have magnified their focus on patient satisfaction. Considering the increased number and demand for IMGs in America, it becomes only a natural requirement to understand how patients feel about them. The purpose of the following study will be to examine the satisfaction levels of patients with IMGs. The study will compare the patient

satisfaction scores of USMGs and IMGs in efforts to learn if there is any difference between these two different groups of physicians.

Patient satisfaction scores of physicians working in the Medical Practice of South Western region of Mayo Health System are being analyzed in this study. (See Table 2 for health care centers included in the region). The administration of south western Mayo Health System (MHS) appointed Press Ganey to collect their patient satisfaction data. Press Ganey is a renowned company that provides patient satisfaction surveys, management reports, and national comparative databases for the health care industry. This study will be a retrospective study where patient satisfaction data that has already been collected by Press Ganey is going to be analyzed. There has been a lot of research done on the topic of the job performance of IMGs and patient satisfaction. Most of the research done on patient satisfaction was done to find the effects of similar physician-patient race on the health and experiences of the patient. There is no study that has focused on how homogeneous population scores their satisfaction with IMGs. So in this sense this will be a unique study.

Mayo Health System and IMGs

Mayo health system is a network of clinics, hospitals, and other health care centers serving more than seventy communities in Minnesota, Iowa, and Wisconsin. It links the administrative, medical, and other expertise of Mayo Clinic with administration, health care providers, and other employees in local communities. Mayo Clinic considers workforce diversity fundamental in delivering superior patient care, education, and research and to ensure that the needs of the patient come first. Mayo believes that for the future success as a premier patient-centered academic medical organization, it is

important to recruit and retain the best available employees regardless of their race, color, religion, gender, age, national origin, marital status, socioeconomic status, etc (Mayo Clinic website, 2010). Mayo has always welcomed IMGs open-handedly and has utilized their talent in their various health care facilities. For this study using Mayo facilities seems to be a good fit, as the two main components being examined in this study - patient satisfaction and international physicians - is big priority for Mayo. This institution firmly believes in 'the need of the patients comes first' while employing physicians based on their superior qualifications with diversity.

Population of South west Minnesota

There are mainly fourteen MHS health care facilities in thirteen cities in the MHS south west region. The population of the region that is being examined in this study is a mostly homogeneous white population. The other races include Blacks, Hispanics, Asians, Native Hawaiian/Pacific Islander, American alone, and two or more races. In Le Sueur and Mankato the non-white populations account for around eleven percent of the community while in St. James and Madelia which are small towns to start with have a non-white population of around twenty five and twenty two percent respectively of the whole community; in all of the other nine cities white population is significantly more than ninety percent (see Table 3, 4a, 4b, and 4c for the percentage of the races in this region). The average white population in this region is 92.02%. Hence, it can be said that the population of patients in this study is mostly homogeneous white population that is rating the IMGs.

Patient Satisfaction

Not much research was done on the topic of 'patient satisfaction' before 1970's. It was during 1980's when patient satisfaction started becoming a popular topic for scholars. Between 1980 and 1996, there was a five-fold increase in the number of articles devoted to this topic (Thiedke, 2007). The reasons for the amplified importance of the topic may be the emergence of a hyper-competitive market or a projection of the consumer movement begun in the 1970's, or it simply may be the development and advancement of the research in general. Regardless of the reasons, in recent times, not only hospitals have been placing greater emphasis on patient satisfaction (Walsch, 2009), but also other health maintenance organizations and payers increasingly use **patient satisfaction** data to profile physician performance (Rider and Perrin, 2002). Satisfied patients would not only mean better care for patients but also would lead to more profits - its importance has dramatically escalated (Grigor, 2008).

Definitions of Patient Satisfaction:

Patient satisfaction has been explained by various experts. Keegan et al (2002) define it as patient /client satisfaction is an attitude – a person's general orientation towards a total experience of health care. Satisfaction comprises both cognitive and emotional facets and relates to previous experiences, expectations and social networks. McIvor (1992) define patient satisfaction as particularly passive form of establishing consumer's views. Fitzpatrick (1991) describe it as an evaluation by the patient of a received service where the evaluation contains both cognitive and emotional reactions. According to Hardy et al (1996), patient satisfaction is reactions to salient aspects of the context and process and results of their experience. Pascoe (1983) and McGee (1998)

define patient satisfaction as reactions to the context, process and results of their experiences. According to McCartan et al (1996), an individual's positive evaluation of distinct dimensions of health care is patient satisfaction.

Satisfaction is not an apparent or plain concept. Satisfaction is basically a perception or an assessment, conceived by patients over time, based on their experiences with health care services and providers. Patient satisfaction is affected by various factors internal, external, and the factor of experience they have during their visit or stay at the hospital. Some of the factors that I have found common in various patient satisfaction surveys are:

- Easiness of getting an appointment.

- Waiting time.

- Courtesy.

- Concern shown by health care providers.

- Comfort of physical layout of the clinic.

- Explanation of medical condition, treatment, medication, and follow up.

- Easiness of the whole experience.

Patient satisfaction in simple words is the perception of a patient about services and providers of a health care center where they are seeking medical treatment. But the problem with understanding patient satisfaction is that it is purely based on perception and not on objectivity. The perception of one individual is different from other individual's perception. Sitting in waiting room for a while may not affect many, but others may not want to wait a single minute. Many may not be bothered by the apathy of health care providers, but some may see it as a personal insult. Again, every individual is

different in understanding and feeling various elements that goes on in a particular situation. Satisfaction is rarely defined in surveys and there is evidence that patients do not judge health services in that way (Williams, 1994). Nevertheless, there are many studies that have established that even though, patient satisfaction may not mean the same thing for every patient, patient satisfaction surveys are still both valid and reliable. According to Tamblyn et al (1994), patient satisfaction ratings provide valuable information about a resident's ability to establish an effective physician-patient relationship. Research has shown that patient satisfaction is much more than just a happiness index (Weiss, 1990). In addition, the Joint Commission of Accreditation of Health Care Organizations (JACHO, 1994) has accepted patient satisfaction as a legitimate and a valid indicator. JACHO has also mandated in its 1994 standards for accreditation that

> "the organization gathers, assesses, and takes appropriate action on
>
> information that relates to patient's satisfaction with service provided".
>
> (Measurement of patient satisfaction guidelines, 2003: 11)

Patient satisfaction survey these days is widely used by various health care centers for purposes described by Ware et al (1977:5) as:

> "Surveys of patient satisfaction have usually been fielded for one of two purposes.
> First, the data have been used as dependent variable to evaluate provider services
> and facilities, on the assumption that patient satisfaction is an indicator of the
> structure, process, and outcomes of care. Second, satisfaction data have been used
> as independent variables to predict consumer behavior (e.g. use of services), on
> the assumption that differences in satisfaction influence what people do."

Patient satisfaction is so extensively used that the importance of it cannot be ignored. Understanding patient perceptions helps health care organization focus its improvement efforts, deliver excellent clinical care, develop loyal customers and improve its bottom line; they are not only able to track, design and maintain service and quality improvement, but they are also able to compare themselves with other health care centers for the same purpose.

Chapter 2

Literature Review

Review of International Medical Graduates Literature

Role of IMGs in the United States

"Gap-filling" or "safety net roles" are the roles that many IMGs fulfill in the physician work force because they provide health care to under-served populations by entering specialties and geographic areas that USMGs tend to avoid (AMA-IMG, 2010). According to Association of American Medical Colleges (AAMC), the shortage of physicians across all specialties is expected to quadruple between now and 2015. IMGs are filling in the scarcity of physicians in America. A report prepared for the Bureau of Health Professions on the distribution and professional activities of IMGs found very strong evidence for the gap-filling role played by IMGs in American medicine (AMA-IMG, 1996).

Family practice is an extremely important field of medicine where primary care physicians are considered as 'gatekeepers'. Recently, there has been a steady decline in USMGs entering Family Medicine; most of the USMGs choose to train in Internal Medicine. IMGs are pleased to fill the unoccupied family medicine positions. In late 1980's and early 1990's the trend was different, more USMGs chose to train in Family Practice, while IMGs went in to Internal Medicine (Lyttle, 1994). In 2007, 56% of the 98% filled internal medicine residency positions and only 42% of the 88% filled family medicine residency positions were filled by U.S. medical school seniors. The remaining positions were filled by IMGs. (Zeheri, 2008). Right now the U.S. has 352,908 primary-care doctors, and the college association estimates that 45,000 more will be needed by

2020. But the number of medical-school students entering family medicine fell more than a quarter between 2002 and 2007 (Sataline and Wang, 2010). IMGs have taken the incredibly pressing role in medical field that their US counterparts are not very willing to take.

IMGs also provide health care for under-served populations (Leonard et al, 1998). They are often more willing than their US counterparts to practice in remote and rural areas (Zeheri, 2008). IMGs treated more of those who had less education, lower incomes, less insurance, were in poorer health, and who lived in rural areas (Howard et al, 2006). If all IMGs currently in primary care practice were removed, it would mean that one out of every five adequately served nonmetropolitan counties would become under-served and the percentage of rural counties with physician shortages would rise to 44.4%. In addition, the number of rural counties with no primary care physicians would rise from 161 to 212 (Baer et al, 2001). IMGs play a crucial role in the delivery of health care services in rural, remote, and under-served areas. Another study done by Howard et al (2006) found that IMGs provide necessary and needed access to medical care for under-served African Americans.

Another imperative role played by IMGs in the US's health care system is described in a General Accounting Office Report that viewed the role of Exchange Visitor (EV) physicians in American medicine (GAO, 1996). The J-1 visa is a temporary non-immigrant visa and IMGs who are in this category can apply to waive the requirement to return to their home countries by working in a health professions shortage area (HPSA). This visa waiver route has become a major source of physicians in rural and other HPSAs in the United States (AMA-IMG, 2010). It is important to note that

28% of IMGs who pursue these waivers continue to practice in these areas even after five years, while the retention rate for USMGs in the National Health Service Corps is around 11% (AMA-IMG, 2010).

IMGs also play a valuable role in Critical Access Hospitals (CAH). CAH are those hospitals that are certified to receive cost-based reimbursement from Medicare. The reimbursement that CAHs receive is basically used for the purpose of improving their financial performance and hence reducing hospital closures. The CAHs in America rely profoundly on IMGs. IMGs make up more than half of the medical staff at 16% of CAHs (Zerehi, 2008).

It was found that IMGs are concentrated in counties where the socio-economic status of the population was average to below average, and had a per capita income of around $16,800 (Mick et al, 2000). IMGs have a significant role in service delivery to the poor. In addition, 62% of CAHs located in persistent poverty rural counties rely on one or more IMGs compared with 42% of rural counties that do not have a persistent poverty classification (Zerehi, 2008).

IMGS also saw a higher percentage of visits made by patients expecting to use Medicaid or State Children's Health Insurance Program (SCHIP) as their primary payment source, 17.6% compared with USMGS only 10.2 %. Medicaid and Medicare reimbursements have been reduced in the last few years which have led physicians refusing Medicaid and Medicare patients. According to AMA-IMG report (2010), IMGs received a higher percentage of their income from Medicaid and Medicare patients than USMGs, whereas the reverse ratio was true for self-payment by patients. This indicates

that IMGs are more willing than their US counterparts to care for masses of patients

depending on state related health care programs (See Table 5).

In a study done by Blanco and others about practice patterns of IMG and USMG

psychiatrists, the authors found that IMGs compared to USMGs worked more frequently

in the public sector, worked more hours, and also were able to treat a higher proportion of

patients with psychotic disorders (Blanco et al, 1999). The authors propounded the

importance of IMG psychiatrists, and warned that there would be adverse effects if the

number of IMG psychiatrists is reduced, as they play a huge part in treating minorities

and other under-served populations.

IMGs are an important aspect of human health. Research from Sullivan

Commission (2004) on diversity in health care employees has indicated that the quality of

health care for diverse groups in general increases when there are more diverse

physicians and nurses. According to their report, although one in four Americans is a

member of a racial or ethnic minority group, but this population comprises only 6% of

physicians, 9% of nurses and only 5% of dentists. The US Census Bureau predicts that by

the year 2050, the majority of the American population will be member of a racial or

ethnic minority group; some states like California are already showing this trend.

Improving cross cultural communication between physicians and patients and providing

patients with access to a diverse group of physicians may lead to more patient

involvement in care, higher levels of patient satisfaction, and better health outcomes.

IMGs may also help to pacify cultural and language barriers in multi-ethnic and

increasingly diverse populations. IMGs especially from Hispanic countries are

significantly more likely to practice in areas with high proportions of Hispanics than in

areas with low proportions of Hispanics. Asian IMGs are also attracted to areas with high

proportions of Asians, suggesting an opportunity to increase access to care for under-

served minorities (Zeheri, 2008).

IMGs Vs USMGs

It is a common belief that physicians or other professionals who are trained in the

US are better physicians or professionals. The professional awards in the US and clinical

accomplishments of an international medical graduate may not be visible for many

patients. The patients may only notice a foreigner with an accent and a strange name who

graduated from a medical school in some developing country. Even some USMGs hold

this view. Leonardo et al (2004) concluded that with other factors being equal, the

association between the IMGs and USMGs in regards to referral decisions is not positive.

There is a greater chance of a patient to be referred to a USMG specialist who has

inferior clinical skills rather than an IMG specialist with superior clinical skills. Even

though, a very recent study released by the Foundation for Advancement of International

Medical Education and Research (2010) revealed that patient outcome is not affected by

accent or nationality of a physician, but according to Dr. Pauline Chen (a surgeon and

New York Times columnist) many patients dismiss physicians with unfamiliar names,

unfamiliar medical schools or physicians with an accent (2010). Dr. Willard Rappleye,

former Dean of Columbia University's Faculty of Medicine also made a strong statement

against IMGs. He suggested that in far too many cases IMGs are not good enough as their

schooling is inadequate by the US standards (1956). In a study released by New England

Journal of Medicine (NEJM), the author strongly opposed the recruitment of IMGs by

suggesting that basic training received in many countries is not equivalent to that

acquired in American schools, nor is the graduate training offered in this country appropriate to the needs of the majority of foreign medical graduates (Dublin, 1972). In addition, a study by Weiss et al (1974) focusing on the passing rates of IMGs working in health field and IMGs not working in health fields, suggested that serious problems exist in the control of the quality of care delivered in the American health care system . In another study Weiss et al (1974) suggested that medical schools in the United States established controls over the input and process of medical education after the Flexner Report in 1910 (Flexner report is a study of medical education including recommendations and protocols). Such controls do not exist in many foreign medical schools. Both of the studies were seriously criticized by many experts afterwards. Additionally, Zelinsky and Matthews (1998) report that most of the research procured biased data in insufficient quantity. Mick and Pfahler (1998: 17) concluded that:

"While we do not argue that there are no competence differences between International medical graduates and US medical graduates, we report what we have found: little consistent and uniform support for a negative comparison of International medical graduates competence--to that of US medical graduates"

The other point that is noteworthy here is that most of the studies that concluded the negative effects of the presence of IMGs in the US were conducted in 1970's; and in recent literature there is barely any such study. More recently, there are many studies that compared the job performance of USMGs and IMGs and found that IMGs performance is up to the standard and very good, if not better. Saywell et al (1980), in order to determine whether differences exist in the performance of USMG and IMG House Staff physicians, conducted a study on 898 house staff physicians working in fourteen Maryland and

Pennsylvania hospitals (556 were USMGs and 342 were IMGs). The conclusion of that study was that there was no significant overall difference in the performance of USMG and IMG house staff physicians. The largest and most consistent differences in physician performance were associated with hospital characteristics, not physician characteristics. Another study released by Medical Care (1986) after evaluating 14,203 patients episodes treated by 1,156 physicians indicated that little evidence was found to support the assumption that the medical school origin (U.S. and foreign) influences physicians' technical quality in practice. Mean differences between the USMGs and IMGs were either not significant or contrary to the general assumption. The IMGs provided equal care when compared with the USMGs, and sometimes the IMGs provided even marginally better care than the USMGs. Mick and Comfort (1997) after reviewing the literature indicating that IMGs do not deliver care equal in quality to that of USMGs, suggested that there was very minimal and insignificant support for this claim. They also suggested that *until research shows the contrary, one should be cautious in accepting IMG-USMG quality arguments to support policy to reduce the size of the IMG component of the physician workforce.* Another study released by Journal of the American Medical Association (JAMA) examined the physical examination skills of the first year residents that included USMGs and IMGs both. It was concluded that (with p=0.001) IMGs performed much better than USMGs (2001).

A very recent study '*Evaluating the Quality of Care Provided by Graduates of International Medical Schools*' released by Health Affairs (2010) had some very interesting findings. The researchers of this study analyzed 244,153 hospitalizations in Pennsylvania. They divided the physicians in to three groups 1) US born and US trained

doctors, 2) US born and foreign trained doctors, and 3) Foreign born and foreign trained doctors. They studied the mortality rates of patients among these three groups of physicians. They found that foreign born and foreign trained physicians had the lowest patient mortality rate and the US born and foreign trained doctors had the highest patient mortality rate. They found no significant patient mortality difference when comparing all international medical graduates with all U.S. medical school graduates. Patient mortality rate was found to be related to physician's board certification and the time since medical school graduation, regardless of their background. The difference between these groups can be explained by Verghese (1994), he argues that a Darwinian selection process has been operating in this field where after facing the official and other obstacles only the brightest, the most talented, persistent, and the most dynamic would be able to survive and establish themselves in the US medical system. A successful Filipino American surgeon working in San Diego states about the foreign medical graduates that:

> "... it is wrong to think that international medical graduates are below par. If anything, these physicians in general are above average, because they have surmounted the difficulties in their homelands and the rigorous screening and testing in the United States. . . As a foreign medical graduate in a competitive university program, you have to work extra, extra hard to prove that you have earned your position. Graduates of American medical schools do not have to face these culturally related barriers". (Gamboa, 1995: 133-134)

The research reviewed thus far provides evidence that the two groups of physicians are not different in performance. There may be a slight marginal positive difference in IMGs

according to the literature reviewed, but at the very least IMGs appear to be on par with USMGs.

International Medical Graduates and Workplace Diversity

IMGs come from 125 different countries bringing in their culture, religion, traditions, language, etc. IMGs along with their medical expertise bring diversity to the US medical workforce. Workplace diversity has been supported by many scholars like Taylor Cox, Sharon Lobel, Poppy McLeod, and many others. They have strongly recommended workplace diversity and have concluded in their studies that diversity in workplace has a great impact on organization's growth and profits. Bontempo et al (1990) suggest that diverse employees in general are collectivists who cooperate and surrender their personal gain to achieve the goals of the groups which leads to a healthy working environment. Diversity in workplace leads to flexibility. Cox and Blake explain in their article '*Managing Cultural Diversity: Implications for Organizational Competitiveness*' (1991) that diversity in an organization creates an environment that has reduced rigidity and also reduced standardization which eventually leads to increased fluidity; which means more flexibility to respond and perform to the environmental changes. According to Taylor Cox (2001), diverse workers have an extended, deep and distinctive stand on issues through which they are able to approach the problem in a way that is novel. Many studies have shown that diversity in a work-group leads to increased creativity and innovation. McLeod et al (1996) suggested that diverse group will have a performance advantage over homogeneous groups on creativity task requiring knowledge of different cultures. Recently, diversity has been suggested as an important factor of profitability for an organization. Sociologist Cedric Herring in his study *Does Diversity*

Pay (2009) found that companies with high levels of racial diversity on average have brought 15 times more profits than those companies with lower levels of racial diversity.

Review of Patient Satisfaction Literature

Much research has been done on the various spheres of the topic of patient satisfaction. Literature is filled with the effects of different factors on patient satisfaction, ways to improve it, its importance, and on many other spheres. In recent times, patient satisfaction has matured in to a crucial variable for estimating the quality and value of services of health care industry and evaluation of health care providers as well as corporate liability. Patients now are more concerned and committed to their health care needs. This movement of patients' involvement has changed the ways of health care providers and institutions and has forced them to use patient satisfaction as measure of quality of care. Literature conveys the same point. Studies are confirming the fact that satisfaction is an important outcome measure and is related to improvements in health status (Fitzpatrick, 1991). Patient satisfaction helps health care centers and physicians in variegated ways for instance it reduces malpractice cost. The cost of medical malpractice litigation has been raised at almost 12% annually since 1975, and it is estimated that 65% of all physicians will be sued at some point in their career (Press Ganey website, 2010). A study, released in the *American Journal of Medicine (2005), suggested that the* physicians who ranked in the lowest 1/3 of the Press Ganey database were 110% more likely to have malpractice suits brought against them than those with top satisfaction survey ratings, and also attracted more than double the number of unsolicited complaints. The same study found that there was a 6% increment in complaints affiliated with a one

point decrease in physician satisfaction ratings. Improving patient satisfaction is the key to reducing malpractice costs.

Patient satisfaction also decreases patient defections. Every time a patient leaves a practice for their competitor, it costs them a great amount of money. According to Drain and Kaldenberg, a conservative 5% dissatisfaction rate among patients can cost a physician $150,000 in revenue (Group Practice Journal, 1999). The *Journal of the American Medical Association (JAMA) released a report that concluded that* physicians with patient satisfaction ratings in the lowest 20% are nearly four times more likely to experience patient turnover than physicians in the top 20% (Rubin et al, 1993). Customer loyalty is considered the single most important driver of long term financial performance in a medical practice which is achieved by a high level of patient satisfaction. According to Press Ganey website (2010), satisfying current patients cost less time and money than attracting new ones, and also the best form of advertising to attract new patients is positive word-of-mouth from existing patients.

Satisfied patients also, lead to decreased negative word-of-mouth advertising. According to studies done by the Technical Assistance Research Programs (TARP), for every unsatisfied customer who complains in person, there are twenty six others who will not complain. Nonetheless, they will still have grievances, and six of them will have serious problems. According to consumer surveys, a person who has had an unsatisfactory experience with a business will let nine or ten other people know about their experience. Approximately 13% will tell more than 20 people (Press Ganey website, 2010). This also suggests that satisfied patients would lead to increased patient referrals. According to Press Ganey, quick and courteous resolved complaints of patients not only

helps in patient staying, but also helps in attracting new ones by changing word-of-mouth advertising from negative to positive, as those patients will tell others about their improved experience. According to consumer surveys, a customer who has had a good experience with a business will tell an average of five other people, some of whom will become new customers (Press Ganey website, 2010). Thus, the satisfied patients can become the best source of new business.

Moreover, improving patient satisfaction leads to increased productivity. Physicians and staff regularly spend time responding to complaints and handling non-compliant patients, which adversely affect office efficiency and productivity. While, satisfied patients are easier and more satisfying to care for, as they take up less physician and staff time and are more compliant (Press Ganey website, 2010). So in this respect, improved patient satisfaction decreases the length of patients' visits, reduces treatment expenses and increases patient volume.

Factors Influencing Patient Satisfaction

Patient satisfaction is affected by multifarious factors. Experts and scholars have divided those factors in to three primary categories. According to the literature, there are patient's demographic factors, physician related factors, and system related factors.

Patient Demographic Factors. Much research has been done on the various social and demographic factors that influence patient satisfaction and its importance. Some studies suggest that patients' demographic factors are not important in determining their satisfaction (Hall and Dornan, 1990). While there are other studies that concluded that demographics represent 90 percent to 95 percent of the variance in rates of satisfaction (Sixma et al, 1998). With all disagreements about the importance of

demographic factors of patients, literature does provide what are the various factors related to patient's demographics. Age was found considerably related to patient satisfaction. Many studies have found that younger patients are less satisfied than older patients, almost regardless of culture, country or type of health care organization (Rahmqvist and Bara, 2010). Older patients tend to be more satisfied with their health care (Owens and Batchelor, 1996). It is possible that older patients are unable to convey their dissatisfaction or have lower expectations of health care than the younger patients (Theidke, 2007).

Ethnicity was also found related to patient satisfaction. Satisfaction of patients varies with their ethnic background (Zanten et al, 2004). Studies that have examined ethnicity have generally suggested that members of a minority group usually are associated with lower rates of satisfaction. In a ranking of degrees of satisfaction, non-Hispanic whites had the highest satisfaction, followed by African Americans, Asian/Pacific Islanders and Hispanics. The lowest degree of satisfaction was found in Indians/Alaskan natives (Thiedke, 2007). Contrarily, according to the literature related to topic, gender does not have much influence on the satisfaction levels of patients. Woods and Heidari (2003) found no difference between satisfaction levels of the two genders. While Blizzard (2002) using Gallup data found that women are slightly more satisfied than men, but the difference was insignificant. Wallin et al (2000) found no correlation between gender and patient satisfaction.

Moreover, studies have shown that the educational background of a patient influences their satisfaction with health care received. Wallin et al (2000) found that patients with a higher educational level have a different view of the care given than

patients with lower educational background. Persons with a higher level of education were less satisfied when compared to those with a lower level of education (Sahin et al, 2007). Additionally, patients with chronic disease have shown some consistent patterns of dissatisfaction (Thiedke, 2007). A study found that patients with poorly controlled diabetes were less satisfied with their care (Redekop et al, 2002). Another study examining patients with chronic migraine pains reported more migraine-related disability (Walling et al, 2005). Patients with more than one chronic illnesses reported more inconveniences with the health care system than those with only one chronic illness (Parchman et al, 2005). Same study also found that when coordination of care and communication increased, the patients' perception of inconvenience reduced and satisfaction improved.

Physician-related factors. Physical appearance, way of interaction, duration of visit and others are some of the important factors associated with physicians that influence rates of satisfaction. The most important factor in this category maybe patient's expectation. Patient satisfaction is influenced by the degree to which care fulfills expectation (Mahon, 1996). It is essential for physicians to understand what their patients are expecting out of them. If a physician is able to recognize and address patient expectations, satisfaction of patient and physician increases; as satisfied patient will be compliant and will show up for the visits (Rao et al, 2000). Many times, patient are unable to voice their desires when visiting their physicians. Bell et al (1984) found that ten percent of patients had one or more unvoiced desires during the visit with their physicians.

Physicians' communication style also has a great impact on satisfaction level of patients. Rowland and Carroll (1990) found that specific communicating styles were significantly related to higher satisfaction that includes (a) use of silence or reaction time latency, (b) whether there was language reciprocity as determined through the reciprocal use of word-lists, and (c) the reflective use of interruptions. In another study, in the ordinary regression, researchers found a significant positive relationship between physician communication skills and overall satisfaction (Clever et al, 2008). In addition, giving patient some control over their medical treatment can improve patient satisfaction. Cecil et al (1997) indicated that patients had higher satisfaction when physicians encourage patients to convey their concerns, expectations, and ideas, by displaying reduced dominance. In another study patients studied wanted their physicians to be highly professional and expert clinicians and show humaneness and support, but their first priority is for the physician to respect their autonomy (Schattner et al, 2004).

Patients who perceive a longer visit with their physicians report increased satisfaction (Lin et al, 2001). Gross et al (1998) suggests that time spent during a visit plays a role in patient satisfaction, with satisfaction rates improving as visit length increases. Judice and Rockwell (1999) also found moderately strong correlation between time spent with physicians and patient satisfaction.

Patrick Shelton in his book *Measuring and Improving Patient Satisfaction* (2000) addressed appearance as a very important factor that impact patient satisfaction. According to him, patient's perception of a medical visit experience is greatly influenced by what they see, which starts with physical appearance of the physician. In another study

patients expressed that they were not comfortable with female physicians with facial piercings, short tops or male physicians with earrings (Lill and Wilkinson, 2005).

Literature has mixed verdict when it comes to the technical skills of the physicians. Numerous scholars have studied patients' assessment of their physicians' technical skills and its influence on satisfaction, but the findings are contradictory (Thiedke, 2007). In a study done by Chang et al (2006) high patient satisfaction was found associated with better communication skills and not with technical skills of the physician. On the other hand there is evidence that patient satisfaction is mostly affected by patient practitioner relationship, including information and technical competence (Crow et al, 2003). Additionally, a study done by Fung et al (2005) discovered that when patients were forced to make a choice, they preferred physicians who have greater technical skills.

There are other numerous physician related factors described by literature. A study by Comstock et al (1982) found physician's courtesy, information giving, listening behavior, and non verbal behavior important in influencing patient satisfaction. Patrick Shelton (2000) suggests appearance, attitude, attentiveness, tact, guidance, and gracious problem solving significant in increasing patient satisfaction.

System-related factors. The satisfaction of patients is also greatly affected by factors related to the system in which they seek care. The clinical team plays a tremendous role in changing patient's perception of an experience. According to research by Press Ganey Associates Inc. (2010), nurses set the tone of the care experience and have a powerful impact on patient satisfaction. Kindness, enthusiasm to help, and swiftness of the clinical team was found second most important factor after physician's

care (Otani et al, 2005). Similar findings were suggested by Brown et al (1997); they discovered that patients associated their loyalty first to physicians, second to the clinical team.

Effective referrals play a role in patient satisfaction (Theidke, 2007). A Japanese study found lower satisfaction level in self referred patients (Guo, 2001). Similar conclusion was formed by the authors of another study; they concluded that patients who self referred to Neurologist had lower satisfaction than those patients who were referred to the Neurologist by their primary care physician (Bekkelund and Salvesen, 2001).

Moreover, choice of service provider is associated with higher satisfaction (Crow et al, 2003). Patients are more satisfied with care provided under fee-for-service arrangements. Gate keeping organizations (where patients have little or no choice in their treatment or are assigned treatment) score relatively poorly on satisfaction (Grimes, 2003). In addition to other system related factors there are some studies related to continuity of care. However, according to Theidke (2007), there is not much research done on how important continuity of care is perceived by the patients. A study done by Donahue et al (2005) discovered that patients were much satisfied with the care who have been following with their physician for more than two years.

Patient Satisfaction Survey

The patient satisfaction survey is being used to evaluate provider services and facilities and to predict consumer behavior (Ware et al, 1977). Patient satisfaction survey is a compact set of questions that provides health care centers with information and insight on their patients' view of the services they provide. There are various types of patient satisfaction questionnaires with different sizes, features, and focus. Some

questionnaires include few simple questions, while some emphasize on the overall concept of satisfaction. Although, the majority of the health care systems collect information on patient satisfaction, but there is no universal or even national standard for collecting or publicly presenting this information that would enable valid comparisons to be made across all the hospitals. There are numerous companies that health care systems employ to collect and analyzed the patient satisfaction data; some of the names are Gallup, Press Ganey, CAHPS, and others. Every vendor has their own methodology of collecting and analyzing the data.

In this thesis the southwestern region of Mayo health system (MHS) is being analyzed, and MHS employs Press Ganey, hence the survey by Press Ganey will be discussed (see Table 6 for Press Ganey patient experience survey). Press Ganey is a company that provides patient satisfaction surveys, management reports, and national databases for the integrated health care system. The patient experience survey by Press Ganey is based on Likert scale (five points) from very poor to very good. There are basically five areas that are stressed in this survey to determine patient satisfaction which are:

1. Access to Care: This section is mainly about the experience of the patient during getting an appointment. It involves easiness of scheduling appointment, courtesy of person scheduling appointment, helpfulness on telephone, and more.

2. During Your Visit: It stresses the perspective of the patient of their experience during their visit or appointment in the clinic or hospital. It involves speed of registration process, courtesy of employees in registration area, comfort of waiting area/examination room, length of wait, and more.

3. Care Provider: It emphasizes on the quality of experience patient have had by their health care provider. It involves courtesy, concern for questions, explanation of condition and medication, inclusion of patient in the decision of treatment, instruction for follow-up care, use of understandable medical terms/words, time spent, confidence in health care provider, and more.

4. Personal Issues: It basically involves convenience of office hours, sensitivity to patient's needs, concern for privacy, and response to concern/complaints made during visit.

5. Overall Assessment: It includes overall cheerfulness, cleanliness, care received, and likelihood of recommending the clinic to others.

The main factors according to this survey are basically the waiting time, courtesy and concern shown by the staff, comfort of physical layout of the clinic, explanation of medical condition, treatment and medication, follow-up, and the easiness of the whole experience.

Review of Role of Race in Patient-Physician Relationship Literature

To examine the satisfaction score of IMGs and USMGs, it is very important to understand the role that is played by the race of the patient as well as of physicians in the treatment of the patients or in the choosing of the physicians. International physicians are part of more than 125 countries of the world with different racial, linguistic, and religious background (AMA-IMG, 2010). Population of patients also includes various local and migrated races.

Abundant research has been done on this particular subject, the verdict of most studies indicates racial disparity but some studies suggest the opposite. Physicians

strongly believe that the race of a patient does not play a role in the quality of care they receive (Sloan, 2009). Most of the literature reveals a different story. According to a study done by Lillie-Blanton (2004), there is a substantial difference of quality of cardiac care received by different races. In another study Gross et al (2008) also found difference of cancer care between different races. In addition a study done on diabetic patients had similar findings (Sequist et al, 2008). Fiscella and Holt (2008), assessed differences in systolic blood pressure (SBP) control among white and black adults with a diagnosis of hypertension, and found that the SBP of black hypertension patients was much higher when compared to all black adult population and with all white hypertension patients. The same study suggested that eliminating racial disparity in blood pressure control among adults with hypertension would substantially reduce the number of deaths among blacks from both heart disease and stroke. The literature is saturated with studies that show racial disparity in quality of care. Lillie-Blanton (2004) who studied cardiac patients suggested that physicians are wrong to believe that race or ethnicity do not have a role in the quality of care that patients received. It is noteworthy that most of the research that was done on this topic, patients were either black or Hispanic. At the same time, there are a couple of studies that suggest that racial disparity does not exist. For example researchers analyzed the office visits using 1997-2002 survey data and found that primary care physicians, with a large black patient population, do not provide inferior care when compared with their colleagues who have a smaller black patient population (Fiscella and Franks, 2006).

Is Physician's Personal Background Important to Patients?

Literature suggests that personal background of physicians may not be as important as is commonly perceived. A research done by Salisbury (1989) revealed lack of patient's interest in seeking information about the general practitioner they had registered with. Most of the patients in this study were interested in convenient distance rather than any of physician's professional or personal characteristics. The findings of other research done by Billinghurst & Whitfield (1993) also excluded physician's personal attributes as important factor. They concluded that patients view factors like convenience more important than physician's personal characteristics. A research done by Bornstein et al (2000) focused on the factors that patients perceive as important when choosing a Primary Care Doctor. Participants of this research completed a 23-item survey. The survey involved professionally relevant factors (e.g. whether the doctor is board certified, office appearance), management practices factors (e.g. time to get an appointment, evening and weekend hours), and also the doctor's personal characteristics (race, age, gender, etc.). The results of this study suggested that the factors patients see as most important were the doctor's professional skills and office management practices. Some studies also suggest that patients often times do not have any interest in knowing about the information about their physicians. The results of a study done by Harris (2002) considerably confirm that patients are passive health care consumers, despite the indication of escalating significance of consumer choice in framing the health care delivery system.

Different Races Rating Satisfaction Differently

As discussed earlier the perception of an experience is not similar with different patients. Literature suggest that patients of a particular race have the tendency to rate their satisfaction and physicians in a similar manner, as their perception may be similar to one another in (a) the kind and particular aspects of health care delivered to them, (ii) their understanding and experience of care, (iii) their expectations about care, and (iv) their aptitude to evaluate (praise or criticize). According to a research, Asian-American patients rate physician primary care performance lower than white, African-American, and Latino patients (Taira et al, 1997). In a study, researchers discovered that Hispanics tend to give more positive ratings of care than Whites (Weech-Maldonado et al, 2008). In the same study it was also found that Hispanics have the extreme response tendency, which is a tendency to respond systematically to questionnaire items on some basis other than what the items were intended to measure (2008). In another study it was concluded that even though Hispanics and Blacks receive poor quality of health care, yet they were more likely than Whites to positively rate their care (Dayton et al, 2006).

There are numerous studies that examine the effects of similar race patient-physician relationship on the care and satisfaction. Literature suggests positive effects when patient and physicians are of similar race. Patients who see physicians of their own race rate their decision making style as more participatory (JAMA, 2009). Relationships between patients and physicians of the same race or ethnic background also are characterized by higher levels of trust, respect, and the increased likelihood that patients will recommend their physician to others (AAMC, 2009). Patients reported greater

satisfaction with their physicians who were race concordant compared to the subjects

who were not race concordant (Laveist and Nuru-Jeter, 2002).

Chapter 3

Research, Methodology, and Results

Abundant researches have been done in the field of patient satisfaction and on the significance of background of training of physicians (see Fitzpatrick, 1991, Mick and Comfort, 1997). The main question raised in these studies was how to improve patient satisfaction or the effects and outcomes of patients seeing physicians of same race? However, despite the attention this topic has received from researchers, not much research exists examining the satisfaction levels of homogeneous patient populations with diverse physicians. As discussed earlier IMGs play an important role in serving the under-served and rural areas; most rural areas have relatively homogeneous populations. The purpose of the following study is to examine if there is any difference between the patient satisfaction scores of USMGs and IMGs in the south western region of Minnesota, where the population is significantly homogeneous. The patient experience survey which is being examined in this study explores five aspects of the clinic/hospital visit which are access to care, experience during clinic visit, experience with health care providers, personal issues, and overall assessment. However, this study will only examine the third section of the survey that is experience with health care providers, as the focus of the study is on the physicians only.

Patient satisfaction survey is sent to all patients visiting MHS's health care providers which include providers of medical practice, emergency department, and inpatient service. Patient satisfaction scores of inpatient service and emergency department are not included in this study. The reason of the exclusion of these two departments is that when a patient comes in an emergency department or as an inpatient,

they are examined by multiple health care providers that include internists, specialists, nurses, and other medical experts, and so it becomes difficult for patients to evaluate health care provider's section on the survey. Also, when a patient comes in the emergency department or as an inpatient they are in a lot of pain or not feeling very well, so they might not be thinking very clearly to understand the situation at that time which may lead to inaccurate ratings of the health care provider. Even the hospitals disregard this section for patients visiting emergency department and inpatient service. The only department that is being studied in this research is the Medical Practice.

As discussed in the literature review there are many patient, physician, and system related factors/variables that may influence patient satisfaction. Those factors are not being considered in this study because the number of physicians in this study is not large enough that could make it possible to examine each variable in the two groups of physician. While, it is being considered that all those variables are influencing the patient satisfaction scores of both groups equally.

Hypothesis and Thesis Statement

For the purpose of studying the difference (if any) between USMGs and IMGs, two groups of physicians are created on the basis of the location of physician's undergraduate and medical education: Group 1: USMGs - group of physicians who received their undergraduate and medical education in the US. Group 2: IMGs - group of physicians who received undergraduate and medical education in a foreign country. Due to the limited scope of information it was not possible to make the third group that could have been a group of physicians who received their undergraduate education in the US, but medical education from a foreign country. There was only one physician who was fit to

be in this category, which is not enough for statistical calculation; therefore that particular physician was placed with IMGs as their medical training was received in a foreign country.

A fourth group of physicians can also be examined in such study which could be physicians who received their undergraduate education from a foreign country, but received medical education in the US, but due to limited information creating this group was not possible. There was not a single physician, in the MHS region being studied, who was suitable for this group. All of the other physicians in the IMG group are foreign-born and foreign-trained. All IMGs belong to different countries, races, and religions; they speak multiple languages and have different cultural backgrounds.

Although the two groups of physicians are different in their training and their racial, cultural, and religious backgrounds, I am expecting that there should be no difference between the patient satisfaction levels of these two groups. The reason I expect no difference is that all physicians have to go through an intense phase of scrutiny, exams, and training before they could start practicing in the US regardless of their background of medical training. The examination process is same for both groups (the only difference is that IMGs have to apply for ECFMG certification). This leads to conclude that the medical skills are not different between these two groups. IMGs have an extra set of skills of speaking more than one language and more diverse knowledge. Also, according to the literature (Billinghurst & Whitfield, 1993), patients are not concerned with personal characteristics of a physician. Additionally, in any relationship the element of compassion, empathy, and understanding is essential. Patient-physician relationship is also similar. These elements of physician and patient have a tremendous

impact on patient satisfaction. To assume that only USMGs or only IMGs have these elements may not be completely accurate, as there are all kinds of people and personalities in every race. There may be many physicians in both groups that may be lacking compassion, empathy or understanding, while many other may have these qualities in abundance. Hence, my postulation is that satisfaction levels of patients will not be different among the two groups of physicians, and that medical training does not affect patient's perception of physician.

H1: The patient satisfaction scores of US medical graduates and international trained medical graduates are not significantly different.

H2: The patient satisfaction scores of US medical graduates and international trained medical graduates are same.

Research Approach

Difference between the patient satisfaction scores, if any, between the two groups of physicians (USMGs and IMGs) will be tested by using only one section of the patient satisfaction survey which is the third section, relating to the quality of experience patients have received by their health care provider. It includes 12 questions specifically focused on the particular experience. The questions are:

1. Friendliness/courtesy of the care provider.

2. Explanations the care provider gave you about your problem or condition.

3. Concern the care provider showed for your questions or worries.

4. Care provider's efforts to include you in decisions about your treatment.

5. Information the care provider gave you about medications.

6. Instructions the care provider gave you about follow-up care.

7. Degree to which care provider talked with you using words you could understand.

8. Amount of time the care provider spent with you.

9. Your confidence in this care provider.

10. Likelihood of your recommending this care provider to others.

11. How would you rate the overall care provided by your care provider during your visit.

12. How would you rate how well your care provider listened to your concerns.

Patients were also requested to make comments and describe their good or bad experience if they would like to do so.

Satisfaction was rated using a five-point Likert scale which was:

- very poor - 1

- poor - 2

- fair - 3

- good - 4

- very good - 5

Physicians can receive ratings from 1-60 points, but as it is easier for many to interpret scores from 0-100, Press Ganey converts the 1-5 score scale to 0-100. The conversion of scores is very simple where:

$1 = 0$

$2 = 25$

$3 = 50$

$4 = 75$

$5 = 100.$

Procedure

Patient satisfaction scores of fifty-five medical practice physicians serving in fourteen health care centers (of 13 cities) under the southwestern mayo health system were analyzed. All physicians were divided in to two groups US medical graduates and international medical graduates. There were 42 USMGs and 13 IMGs. Surveys from August 2009 to August 2010 are being examined in this study. During this period total 2627 patient satisfaction surveys were returned that were completely filled. Out of these 2627 returned surveys 1905 surveys were of the group 1: USMGs and 722 surveys were of group 2: IMGs. The mean scores of the two groups for the third section (Care Provider) of the survey will be calculated. Mean score for group 1: USMGs is 88.9, while for group 2: IMGs is 89. An independent t-test and inverse t-test will be conducted.

Results

Test #1: Independent Sample t-test, testing H1:

An independent sample t-test was conducted to compare the patient satisfaction scores of US medical graduates (SD=11.8) and international medical graduates (SD=12.4).

$H_o = \mu1 = \mu2$

$H_a = \mu1 \neq \mu2$

The null hypothesis is set as there is no difference between the two populations, while alternate hypothesis is set as there is a difference between the two populations. An alpha $= 0.05$ was used. According to the calculation of the independent t-test null hypothesis

(H_o) cannot be rejected because the test static does not lie within the critical regions in the tails:

$$-t\alpha/2 \quad < \quad t \quad < \quad t\alpha/2$$

$$-2.3069 \quad < \quad -0.003 \quad < \quad 2.3069$$

Therefore, we can't say with 95% confidence that the patient satisfaction scores of US medical graduates and international medical graduates are different. This supports H1 stated earlier.

Test # 2: Inverse t-test, testing H2:

An inverse t-test was conducted using the same level of significance. It tests whether or not the two groups are the same. The inverse t-test places the critical region of the test in the center of the distribution instead of in the tail. The result is that we can test whether or not the means of the two groups are the same with 95% confidence. The stated hypothesis is:

$H_o \;=\; \mu1 \neq \mu2$

$H_a \;=\; \mu1 \;=\; \mu2$

In order to reject H_o, the test static must lie within the critical region expressed as:

$-t\alpha/2 \quad \leq \quad t \quad \leq \quad t\alpha/2$

Where $-t\alpha/2 = -0.063$ and $t\alpha/2 = 0.063$ for $\alpha = 0.05$. As such, the test static, $t = -0.003$ clearly lies within the critical region:

$-0.063 \leq -0.003 \leq 0.063$

So we can reject H_o and conclude with 95% confidence that there is no difference between the patient satisfaction scores for these two groups, supporting H2.

Hypotheses Determination

Hypotheses H1 and H2 were the focal point of this research on effects of medical training background on patient satisfaction. The aim was to determine that if there is any difference between the patient satisfactions of the two groups of physicians (USMGs and IMGs). The following is the review of the original hypotheses with respective findings of this study.

H1: The patient satisfaction scores of US medical graduates and international trained medical graduates are not significantly different**.**

H1 is completely supported by the independent sample t-test. Results strongly indicate that the patient satisfaction scores of the two groups of physicians cannot be suggested different. This result leads to conclude that patients do not judge and rate international medical graduates any different than the US medical graduates.

H2: The patient satisfaction scores of US medical graduates and international trained medical graduates are same.

H2 is also supported by inverse t-test. Results confirm the results of the independent t-test in a slightly different manner; it suggests that the patient satisfaction scores of the US medical graduates and international medical graduates are indeed similar. It can be concluded that for patients background of medical training is not important. They rate USMGs and IMGs similarly; and also that the capability of satisfying a patient is not dependent on the physician being a USMG or an IMG. The ability to satisfy a patient depends on other factors.

Chapter 4

Discussion and Conclusion

Discussion

This study aimed to examine the difference in patient satisfaction between US medical graduates and international medical graduates. The results of this research strongly suggest that the satisfaction levels among the patients of USMGs and IMGs are the same and it can be concluded that medical training does not have any effect on the capability of a physician to satisfy their patients. This is an intriguing finding because this study was conducted in a region where population was homogeneous. To discover that a homogeneous population of south western Minnesota does not see USMGs and IMGs differently is quite interesting, as it is very commonly believed that physician from a foreign country, with a foreign medical degree, with a strange foreign name and with an accent is looked at skeptically by a patient.

There may be many reasons for this particular result. First, the results suggest a very typical consumer behavior which is that consumers are looking for value. When they want a product they want value that means something with quality at a lower cost. The importance of "value" is more than race, ethnicity or the accent of the physician. For patients it is not important *who* is taking care of them, the most important thing is *how* they are being taken care of. Secondly, it is reasonable to conclude that Mayo Clinic and Mayo Health System consider their patients very important; they stand very strongly behind their motto "Patient comes first". Every region has a "Patient Experience Committee". The members of this committee work with their health care providers to coach them about the importance of patient satisfaction and the techniques that can be

used to increase or maintain level of satisfaction of their patients. Thirdly, Mayo believes in providing their patients the best value, as Dr. Will Mayo said, "the best interest of the patient is the only interest to be considered."(Mayo Clinic, 2010) For Mayo paying for value isn't just about lower costs; it is the quality of care (which includes outcomes, safety and patient satisfaction) that a patient receives compared with the cost of that care over time. Good value leads to greater patient loyalty and satisfaction. Lastly, Mayo also strongly believes in 'diversity', which provides them with an enormous pool of health care providers to choose from. Hence, they choose their health care providers on the basis of quality regardless of the demographical background of the providers.

Regardless of the reasons for these results, it indicates that the health care centers can select their physicians from a larger pool without being concerned about this aspect of a physician's capabilities. In case the result might have been different, then health care industry would first have to determine the weaknesses in the group with lower patient satisfaction score, and implement different programs and workshops in order to improve their deficiencies. With this study the health care industry can continue to monitor patient satisfaction data as they routinely do without any extra concerns about any special groups based on this demographic. Also, with more physicians to choose from, competition will increase within the physicians which would eventually lead to physicians performing even better in their field of practice.

Techniques to Improve Patient Satisfaction

There are several approaches for implementing quality improvement initiatives to improve patient satisfaction, which enable health care organizations to position themselves for success in today's global and increasingly competitive environment. Press

Ganey (2010) elaborately discusses the various tools and approaches to improve patient satisfaction. They provide hospitals (they work with) a course of action with every question from care provider section in their medical practice survey; so if a physician has received a lower score on a particular question, they can use Press Ganey's elaborate approach to improve their score. Following is the brief description of the model provided by Press Ganey to the physicians of Mayo Health system in order to help them improve their scores:

1. Friendliness/courtesy of the care provider:

   - Use AIDET reliably (acknowledge, introduce, duration, explanation, thank you).

   - Use PEARLS for relationship building (partnership, empathy, apology/appreciation, respect, legitimization, support)

   - Ask "is there anything else I can do for you"

2. Explanations the care provider gave you about your problem or condition:

   - Use AIDET. Focusing on E (Explanation).

   - Use Ask – Tell – Ask as an effective communication tool.

3. Concern the care provider showed for your questions or worries:

   - Ask the patient "what concerns you most about this"

   - Allow the patient to tell the story without interruption.

   - Use reflective listening skills.

4. Care provider's efforts to include you in decisions about your treatment:

   - Ask permission to perform tests and treatments.

   - Ask for their input.

   - Use a shared decision making model.

5. Information the care provider gave you about medications:

   - Use AIDET. Focusing on E (Explanation).

   - Use Ask – Tell – Ask as an effective communication tool.

   - Cover the basics.

   What – name of the medication.

   Why – benefits of taking the medication.

   When – schedule for taking the medication including doses.

   How – with food or on an empty stomach.

   Watch for – side effects, including when to contact you.

6. Instructions the care provider gave you about follow-up care:

   - Use AIDET. Focusing on D (Duration) and E (Explanation).

   - Use Ask – Tell – Ask.

   - Partner with patient.

   - Summarize the end.

   - Post visit call a day or two later.

7. Degree to which care provider talked with you using words you could understand:

   - 1/3 of patients have difficulty understanding simple medical terms. Mayo recommends:

   Simplify: use simple words, less than three syllables, limit number of messages given to the three most important.

   Clarify: give important messages in a number of different ways, illustrations are very useful, could use simple written instructions.

Verify: check back for understanding.

- Use Ask – Tell – Ask.

8. Amount of time the care provider spent with you:

    - Use AIDET.

    - Sit down, it gives the impression of time spent.

    - Don't appear rushed.

    - Begin visit with an open ended question.

    - Don't interrupt until the patient is finished with initial response.

    - Use reflective listening.

    - Use the Shared Agenda Setting technique as a way of managing the appointment time.

    - Ask questions like "what questions do you have" and "What else can I do for you."

9. Your confidence in this care provider: Confidence is achieved through communication and relationship by using AIDET and PEARLS.

10. Likelihood of your recommending this care provider to others: This is the highest praise received from a patient and is achieved through communication and relationship by using

    - AIDET, PEARLS, and reflective listening technique.

    - Ask – Tell – Ask technique.

11. How would you rate the overall care provided by your care provider during your visit: High overall care rating is achieved through communication and relationship by using

- AIDET, PEARLS, and reflective listening technique.

- Ask – Tell – Ask technique.

12. How would you rate how well your care provider listened to your concerns:

- Use reflective listening technique.

- Use Ask – Tell – Ask technique.

- Use AIDET.

Criticism

This is a simple yet a unique study, but it could have been improved if some other features were considered in this study. For example, this research study was not large enough to utilize other variables (patient, physician, and system related) that might influence patient satisfaction. It would have been interesting to see how different variables correlate with each other and with patient satisfaction. In addition, due to the limited information that was available to the researcher, it was not possible to create more than two groups of physicians (for example, a group of physicians who received their undergraduate education in the US and medical education in a foreign country or a group of physicians who received their undergraduate education in a foreign country and medical education in the US were not considered separately in this analysis). Also, only one year data was examined in this research; the research conducted for longer period of time might have exposed some other aspects related to the research.

Future Recommendations

During the research as well as the analysis processes various other ideas turned up that could be of interest and worthwhile to investigate. Foremost important

recommendation for the future research would be that the research should be large enough to be able to create and examine the four groups of physicians that are:

a) Physicians received undergraduate and medical education in the US.

b) Physicians received undergraduate and medical education in a foreign country.

c) Physicians received undergraduate education in the US and medical education in a foreign country.

d) Physicians received undergraduate education in a foreign country and medical education in the US.

Secondly, evaluate correlation between different patient, physician, and system related variables and patient satisfaction among these different groups of physicians. This evaluation may relate a specific group of physician to a particular variable. Thirdly, some studies suggest that gender of a physician also have an impact on the patient satisfaction; the psychosocial aspects of the physician-patient interaction are different for male and female physicians. Patients may have contrasting expectations about female physicians when meeting with them, assuming them to be more empathetic, nurturing, and responsive. For future research influence of gender in regard to medical training background may also be examined, and the physicians can be divided differently in the following manner:

a) Female USMGs

b) Male USMGs

c) Female IMGs and

d) Male IMGs.

Lastly, patient satisfaction is compared within physician's own specialty and therefore comparing USMGs and IMGs in their own specialty data would be more helpful. There are always some objection raised by certain specialty as bearer of the bad news; the scores of physicians of these certain specialties may always be poor. For example, oncologist mostly give bad news about patient having cancer may lead to lower patient satisfaction while, an obstetrician mostly dealing with patient with childbirth which is a happy time leading to a better satisfaction level. Thus, comparing physicians within their own specialty would be more appropriate.

Conclusion

IMGs today represent around twenty-five percent of the US physician workforce. The number of international medical graduates is increasing in the US not only due to immense deficiency, but also due to increase demand of physicians. This study examine if the two groups of physicians, with different medical training background (US trained and international trained), are able to equally satisfy their patients. This is a retrospective study in which returned patient experience surveys of fifty-five physicians working in the Medical Practice in south western Mayo Health System were evaluated. These surveys were returned from August 2009 to August 2010. The statistical tests reveal that the patients were equally satisfied with the physicians of the two groups examined. This study concludes that in south western Minnesota the patients are equally satisfied by their physicians regardless of the physician being USMG or IMG.

Reference List

American Medical Association. (2011). Medical journals. Retrieved October 10, 2010, from http://www.ama-assn.org/

Association of American Medical Colleges. (2009). Addressing racial disparities in health care: A targeted action plan for academic medical centers. Retrieved October 17, 2010, from https://www.aamc.org/

Bekkelund, S.I., & Salvesen, R. (2001). Are headache patients who initiate their referral to a neurologist satisfied with the consultation? *Family Practice*, 18, 524–527.

Bell, R.A., Kravitz, R.L., Thom, D., Krupat, E., & Azari, R. (2001). Unsaid but not forgotten [Abstract]. *Archives of Internal Medicine,* 161, 1977–1984. Retrieved October 22, 2010, from http://archinte.ama-assn.org/cgi/content/full/161/16/1977

Billinghurst B. & Whitfi eld M. (1993) Why do patients change their general practitioner? A postal questionnaire study of patients in Avon. *British Journal of General Practice* 43, 336–338.

Blizzard. R. (2002, December 3). Gender Comparisons: Patient Satisfaction and Loyalty. Retrieved October 22, 2010, from http://www.gallup.com/poll/7348/gender-comparisons-patient-satisfaction-loyalty.aspx

Bontempo, R., Lobel, S. A., & Triandis, H. C. (1990). Compliance and value internalization in Brazil and the U.S.: Effects of allocentrism and anonymity. *Journal of Cross-Cultural Psychology*, 21(2), 200-213.

Bornstien, B.H., Marcus, D., and Cassidy, W. (2000). Choosing a doctor: an exploratory study of factors influencing patient's choice of a primary care doctor. *Journal of Evaluation in Clinical Practice*, 6(3), 255-262.

Brown, J.B., Dickie, I., Brown, L., & Biehn, J. (1997). Long-term attendance at a family practice teaching unit. Qualitative study of patients' views. *Canadian Family Physician*, 43, 901–906. Retrieved October 23, 2010, from http://www.cfp.ca/

Cecil, D.W. & Killeen, I. (1997). Control, compliance and satisfaction in the family practice encounter. *Family Medicine,* 29, 653–657.

Chang, J.T., Hays, R.D., Shekelle, P.G., MacLean, C.H., Solomon, D.H., Reuben, D.B.,…, Wenger, N.S. (2006). Patients' global ratings of their health care are not associated with the technical quality of their care. *Annals of Internal Medicine*, 144, 665-672.

Chen, P.W. (2010, August 12). When the doctor doesn't look like you. *The New York Times*. Retrieved October 21, 2010, from http://www.nytimes.com/2010/08/12/health/12chen.html

City-data.com. (n.d.). Retrieved October 15, 2010, from http://www.city-data.com/

Clever, S.L., Jin, L., Levinson, W., & Meltzer, D.O. (2008). Does doctor-patient communication affect patient satisfaction with hospital care? Results of an analysis with a novel instrumental variable. *Health Services Research,* 43(5), 1505-1519. Retrieved October 22, 2010, from http://www.rwjf.org/pr/product.jsp?id=36708

Coile, C.C. (2003). 10 factors affecting the physician shortage of the future - next. *Physician Executive*. Retrieved October 12, 2010, from http://findarticles.com/p/articles/mi_m0843/is_5_29/ai_108547195/

Comstock, L.M., Hooper, E.M., Goodwin, J.M., & Goodwin, J.S. (1982). Physician behaviors that correlate with patient satisfaction. *Journal of Medical Education,* 57(2), 105-112.

Cooper-Patrick, L., Gallo, J.J., Gonzales, J.J., Vu, H.T., Powe, N.R., Nelson, C., and Ford, D.E. (1999). *The Journal of the American*

Cox Jr., T.H. (2001). Creating the multi cultural organization: the challenge of managing diversity. *Classics of Organization Theory.*

Cox Jr., T.H., & Blake, S. (1991). Managing cultural diversity: implications for organizational competitiveness. *The Executive*, 5(3), 45-56.

Crow, R., Storey, L., & Page, H. (2003). The measurement of patient satisfaction: Implications for health service delivery through a systematic review of the conceptual, methodological and empirical literature. *Health Technology Assessment*, 6(32).

Donahue, K.E., Ashkin, E., & Pathman, D.E. (2005). Length of patient-physician relationship and patients' satisfaction and preventive service use in the rural south: A cross-sectional telephone study. *BMC Family Practice,* 6, 40. Retrieved October 22, 2010, from http://www.biomedcentral.com/1471-2296/6/40

Drain, M., & Kaldenberg, D.O. (1999). Building patient loyalty and trust: The role of patient satisfaction. *Group Practice Journal*, 48(9), 32-35.

Dublin, T.D. (1972). The migration of physicians to the United States. *New England Journal Medicine,* 286**,** 870-877.

Educational Commission for Foreign Medical Graduate. (2010, December 29). ECFMG certification. Retrieved October 11, 2010, from http://www.ecfmg.org/

Fiscella, & Franks. (2006). Content of primary care visits does not differ based on the racial composition of physicians' practices [Abstract]. *The American Journal of Medicine*, 119, 348-353. Retrieved October 24, 2010, from http://www.ahrq.gov/research/minorfind4.htm

Fiscella, K. & Holt, K. (2008). Racial Disparity in Hypertension Control: Tallying the Death Toll. *Annals of Family Medicine*, 6(6), 497–502.

Fitzpatrick, R. (1991). Survey of patient satisfaction: 1 - Important general considerations. *British Medical Journal,* 302, 887-891.

Fitzpatrick, R. (1991). Surveys of patient satisfaction: II - Designing a questionnaire and conducting a survey. *British Medical Journal,* 302, 129-1132.

Foundation for Advancement of International Medical Education and Research. (2010, December 20). Retrieved October 21, 2010, from http://www.faimer.org/

Fung, C.H., Elliott, M.N., Hays, R.D., Kahn, K.L., Kanouse, D.E., McGlynn, E.A., Spranca, M.D., & Shekelle, P.G. (2005). Patients' preferences for technical versus interpersonal quality when selecting a primary care physician. *Health Service Research,* 40, 957–977. Retrieved October 23, 2010, from http://onlinelibrary.wiley.com/doi/10.1111/j.1475-6773.2005.00395.x/full

Gamboa, E. (1995). Foreign-born physicians in the United States.

Grigor, L. (2008). Patient satisfaction in an ASC. Retrieved October 12, 2010, from http://www.surgistrategies.com/articles/2008/08/patient-satisfaction-in-an-asc.aspx

Grimes, F. (2003). The measurement of patient satisfaction with acute services in Ireland: Irish patient satisfaction literature review and scoping exercise. Retrieved October 22, 2010, from http://www.dohc.ie/issues/health_strategy/action48.pdf?direct=1

Gross, C.P., Smith, B.D., Wolf, E., & Andersen, M. (2008). Racial disparities in cancer therapy: did the gap narrow between 1992 and 2002? *Cancer,* 112, 900-908.

Gross, D.A., Zyzanski, S.J., Borawski, E.A., Cebul, R.D., & Stange, K.C. (1998). Patient satisfaction with time spent with their physician. *The Journal of Family Practice*, 47, 133-137.

Hall, J.A. & Dornan, M.C. (1990). Patient sociodemographic characteristics as predictors of satisfaction with medical care. *Social Science and Medicine,* 6, 811-818.

Hardy, G.E., West, M.A., and Hill, F. (1996). Components and predictors of patient satisfaction. *British Journal of Health Psychology,* 1, 65-85.

Harris, R. and Veinot, T. (2004). The empowerment model and using E-health to distribute information. Retrieved October 24, 2010, http://www.sfu.ca/act4hlth/pub/working/Empowerment.pdf

Herring, C. (2009). Does Diversity Pay? Retrieved October 21, 2010, from http://www.genderprinciples.org/resource_files/Does_Diversity_Pay-_Racial_Composition_of_Firms_and_The_Business_Case_for_Diversity.pdf

Howard, D.L., Bunch, C.D., Mundia, W.O., Konrad, T.R., Edwards, L.J., Ahinee, A.M., Jallah, Y. (2006). Comparing United States versus international medical school graduate physicians who serve African- American and white elderly. *Health Services Research,* 41(6), 2155-2181. Retrieved October 20, 2010, from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1955313/

International medical graduates in American medicine: Contemporary challenges and

opportunities AMA-IMG. (2010). Retrieved October 11, 2010, from

http://www.ama-assn.org/ama1/pub/upload/mm/18/img-workforce-paper.pdf

Judice, D. & Rockwell, P. (1999). Patient perceptions of physicians' time management

behaviors: Satisfaction and expectations. *The International Electronic Journal of

Health Education,* 2, 76-80. Retrieved October 23, 2010, from

http://www.aahperd.org/aahe/publications/iejhe/loader.cfm?csModule=security/ge

tfile&pageid=39348

Keegan, O., McDarby, V., Tansey, A., and McGee, H. (2003). Community involvement

in A/E satisfaction survey.

Lill, M.M. & Wilkinson, T.J. (2005). Judging a book by its cover. *British Medical

Journal,* 331, 1524–1527.

Lillie-Blanton, M., Maddox, T.M., Rushing, O., & Mensah, G.A. (2004). Disparities in

cardiac care: Rising to the challenge of healthy people. *Journal of the American

College of Cardiology,* 44, 503-508.

Lin, C.T., Albertson, G.A., Schilling, L.M., Cyran, E.M., Anderson, S.N., Ware, L., &

Anderson, R.J. (2001). Is patients' perception of time spent with the physician a

determinant of ambulatory patient satisfaction? *Archives of Internal Medicine,*

161, 1437-1442.

Lyttle, S. and Levey, G.S. (1994). The national study of internal medicine manpower:

XX. The changing demographics of internal medicine residency training

programs. *Annals of Internal Medicine*, 121, 435 -441.

Mahon, P.Y. (1996). An analysis of the concept 'patient satisfaction' as it relates to contemporary nursing care. *Journal of Advanced Nursing*, 24(6), 1241-1248.

Managing consumer complaints - responsive business approaches to consumer needs. Office of consumer affairs, U.S. Department of Commerce. Retrieved October 10, 2010, from http://medpractice.pressganey.com/the-importance-of-patient-satisfaction-pages-176.php

Manual for the Accreditation of Hospitals. (1994). *Joint Commission on the Accreditation of Healthcare Organisations*.

Mayo Clinic. (2011). Diversity at mayo clinic a culture of inclusion. Retrieved October 12, 2010, from http://www.mayoclinic.org/diversity

Mayo Health System. (2011). MHS location. Retrieved October 12, 2010, from http://www.mayohealthsystem.org/mhs/live/page.cfm

McCartan, D., McAleer, E., and Naqvi, I. (1996). Service Quality: A satisfaction survey of the elderly. *International Journal of Healthcare Quality Assurance*, 9(3), 4-10.

McLeod, P.L., Lobel, S.A., & Cox Jr., T.H. (1996). Ethnic diversity and creativity in small groups. *Small Group Research,* 27(2), 248-264.

Measurement of patient satisfaction guidelines. (2003). Retrieved October 12, 2010, from http://www.dohc.ie/issues/health_strategy/action48.pdf?direct=1

Medical malpractice insurance roundtable: Doctors prescribe remedies for crisis. (2004). *The Business Journal*.

Meredith, J. and Wood, N. (1995). The development of the Royal College of Surgeons of England's patient satisfaction audit service. *Journal Quality in Clinical Practice,* 15, 67-74.

Mick, S.S. and Comfort, M.E. (1997). The quality of care of international medical
graduates: How does it compare to that of U.S. medical graduates? *Medical Care
Research and Review,* 54(4), 379-413.

Mick, S. & Lee, S. (2000). Variations in geographical distribution of foreign and
domestically trained physicians in the United States: 'Safety nets' or 'surplus
exacerbation'. *Social Science & Medicine,* 50, 185-202.

Norcini, J.J., Dauphinee, W.D., Opalek, A., Krantz, I.D. & Anderson, S.T. (2010).
Evaluating the quality of care provided by graduates of international medical
school. *Health Affairs*, 29(8), 1461-1468.

Nowlan, M.H. (2006). Women doctors, their ranks growing, transform medicine. *The
Boston Globe.* Retrieved October 12, 2010, from
http://www.boston.com/yourlife/health/diseases/articles/2006/10/02/women_doct
ors_their_ranks_growing_transform_medicine/

Otani, K., Kurz, R.S., & Harris, L.E. (2005). Managing primary care using patient
satisfaction measures. *Journal of Healthcare Management,* 50, 311–324.

Ownes, D. & Batchelor, C. (1996). Patient satisfaction and the elderly. *Social Science &
Medicine,* 42(11), 1483-1491.

Ozuah, P.O., Curtis, J. & Dinkevich, E. (2001). Physical Examination Skills of US and
International Medical Graduates. *The Journal of American Medical Association*,
286(9), 1021.

Parchman, M.L., Noel, P.H., & Lee, S. (2005). Primary care attributes, health care system
hassles and chronic illness. *Medical Care,* 43, 1123–1129.

Pascoe, G.C. (1983). Patient satisfaction in primary health care. *Evaluation and Programme Planning*, 6, 185-203.

Press Ganey Associates. (2010). Importance of patient satisfaction. Retrieved October 10, 2010, from http://www.pressganey.com/index.aspx

Rahmqvist, M., Bara, A. (2010). Patient characteristics and quality dimensions related to patient satisfaction. *International Journal for Quality in Health Care,* 22(2), 86–92.

Rao, J.K., Weinberger, M., & Kroenke, K. (2000). Visit-specific expectations and patient-centered outcomes: A literature review. *Archives of Family Medicine,* 9, 1148–1155. Retrieved October 22, 2010, from http://archfami.ama-assn.org/cgi/content/abstract/9/10/1148

Rappleye, W.C. (1956, September 17). Foreign trained doctors. *Time.* Retrieved October 21, 2010, from

http://www.time.com/time/magazine/article/0,9171,893563,00.html

Redekop, W.K., Koopmanschap, M.A., Stolk, R.P., Rutten, G.E., Wolffenbuttel, B.H., & Niessen, L.W. (2002). Health-related quality of life and treatment satisfaction in Dutch patients with type-2 diabetes. *Diabetes Care*, 25, 458–463.

Rhee, S.O., Lyons, T.F., Payne, B.C. and Moskowitz, S.E. (1986). USMGs versus FMGs: Are there performance differences in the ambulatory care setting?. *Medical Care,* 24(3), 248-258.

Rider, E.A. & Perrin, J.M. (2002). Performance profiles: The influence of patient satisfaction data on physician's practice. *Pediatrics*, 109(5), 752- 757.

Rowland-Morin, P.A. & Carroll, J.G. (1990). Verbal communication skills and patient satisfaction: a study of doctor-patient interviews. *Evaluation and the Health Professions,* 13(2), 168-185.

Rubin, H.R., Gandek, B., Rogers, W.H., Kosinski, M., McHorney, C.A. & Ware Jr., J.E. (1993). Patients' ratings of outpatient visits in different practice settings: Results from the Medical Outcomes Study. *Journal of the American Medical Association,* 270(7), 835-840.

Sataline, S., & Wang, S.S. (2010). Medical Schools Can't Keep Up. The Wall Street Journal. Retrieved October 20, 2010, from http://www.studentnewsdaily.com/daily-news-article/medical-schools-cant-keep-up/

Sahin, B., Yilmaz, F., & Lee, K.H. (2007). Factors affecting inpatient satisfaction: Structural equation modeling [Abstract]. *Journal of Medical Systems,* 31(1), 9-16. Retrieved October 22, 2010, from http://portal.acm.org/citation.cfm?id=1196568

Salisbury, C.J. (1989). How do people choose their doctors? *British Medical Journal*, 299, 608.

Saywell, R.W., Studnicki, J., Bean, J.A., and Ludke, R.L. (1980). A performance comparison: USMG-FMG house staff physicians. *American Journal of Public Health,* 70(1), 23-28.

Schattner, A., Rudin, D. & Jellin, N. (2004). Good physicians from the perspective of their patients. *BMC Health Services Research,* 4, 26. Retrieved October 23, 2010, from http://www.biomedcentral.com/1472-6963/4/26

Sequist, T.D., Fitzmaurice, G.M., Marshall, R., Shaykevich, S., Safran, D.G., & Ayanian, J.Z. (2008). Physician performance and racial disparities in diabetes mellitus care. *Archives of Internal Medicine*, 168, 1145-1151.

Shelton, P.J. (2000). *Measuring and improving patient satisfaction*. Gaithersburg, MD: Aspen Publishers, Inc.

Sitzia, J. (1999). How valid and reliable are patient satisfaction data? An analysis of 195 studies. *International Journal for Quality in Health Care,* 11(4), 319–328.

Sixma, H.J., Spreeuwenberg, P.M., & van der Pasch, M.A. (1998). Patient satisfaction with the general practitioner: A two-level analysis. *Medical Care,* 36, 212–229.

Sloan, V.S. (2009). Do Race and Ethnicity Play a Substantial Role in the Quality of Care That Patients Receive in the U.S. Health Care System?. *Annals of Internal Medicine*, 150(1), 60.

Stelfox, H.T., Gandhi, T.K., Orav, E.J., & Gustafson, M.L. (2005). The relation of patient satisfaction with complaints against physicians and malpractice lawsuits. *American Journal of Medicine,* 118(10), 1126-1133.

Sullivan, L.W. (2004). Missing persons: Minorities in the health professions. Retrieved October 10, 2010, from http://www.kaisernetwork.org/health_cast/uploaded_files/092004_sullivan_diversity.pdf

Taira, D.A., Safran, D.G., Seto, T.B., Rogers, W.H., Kosinski, M.K., Ware, J.E., Lieberman, N., & Tarlov, A.R. (1997). Asian-American Patient Ratings of Physician Primary Care Performance. *Journal General Internal Medicine*, 12(4), 237–242.

Tamblyn, R., Benaroya, S., Snell, L., McLeod, P., Schnarch, B., and Abrahamowicz, M. (1994). The feasibility and value of using patient satisfaction ratings to evaluate internal medicine residents. *Journal of General Internal Medicine*, 9(3), 146-152.

The Joint Commission. (2011). Retrieved October 12, 2010, from http://www.jointcommission.org/

The Nurse Patient Relationship is Central to Patient Satisfaction. (2010). Retrieved October 22, 2010, from http://www.quality-patient-experience.com/nurse-patient-relationship.html

Thiedke, C.C. (2007). What do we really know about patient satisfaction?. *Family Practice Management,* 14(1), 33-36.

United States Medical Licensing Examination. (2011). General information. Retrieved October 11, 2010, from http://www.usmle.org/index.html

U.S. Tort Costs and Cross-Border Perspectives: 2005 Update. New York, NY: Towers Perrin, March 2006.

Verghese, A. (1994). *My own country: A doctor's story*. New York, NY: Simon & Schuster.

Wallin, E., Lundergren, P., Ulander, K. & Holistien, C. (2000). Does age, gender, or educational background affect patient satisfaction with short stay surgery? *Ambulatory Surgery*, 8, 79-88.

Walling, A.D., Woolley, D.C., Molgaard, C., & Kallail, K.J. (2005). Patient satisfaction with migraine management by family physicians. *Journal of American Board of Family Practice*, 18, 563–566.

Walsch, D. (2009). Hospitals place growing importance on patient satisfaction. Retrieved

    October 12, 2010, from

    http://www.upi.com/Features/Public_Health/Health_Industry/2009/03/16/Hospital

    s-place-growing-importance-on-patient-satisfaction/12372279638446/

Ware, J.E., Davies-Avery, A., and Stewart, A.L. (1977). The measurement and meaning

    of patient satisfaction: A review of the literature. Retrieved October 12, 2010,

    from http://www.rand.org/pubs/papers/2008/P6036.pdf

Weech-Meldonado, R., Elliot, M.N., Oluwole, A., Schiller, K.C., & Hays, R.D. (2008).

Survey response style and differential use of CAHPS rating scales by Hispanics.

    Medical Care, 46(9), 963-968.

Weiss, B. & Serf, J. (1990). Patient satisfaction survey instrument for use in healthcare

    organisations. *Medical Care*, 28, 434-445.

Weiss, R.J., Kleinman, J.C., Brandt, U.C. & Felsenthal, D.S. (1974). The effect of

    importing physicians — Return to a pre-flexnerian standard. *New England

    Journal of Medicine,* 290, 1453-1458.

Williams, B. (1994). Patient satisfaction: a valid concept? *Social Science and Medicine,*

    38(4), 509-516.

Woods, S.E., & Heidari, Z. (2003). The influence of gender on patient satisfaction

    [Abstract]. *Journal of Gender Specific Medicine*, 6(4), 30-5.

Zanten, V.M., Boulet, J.R., & McKinley, D.W. (2004). The influence of ethnicity on

    patient satisfaction in a standardized patient assessment. *Academic Medicine,*

    79(10), 15-17.

Zelinsky, W. & Matthews, S.A. (1998). Foreign-Born Physicians in the United States: A

    Geographic Exploration.

Zerehi, MR. (2008). The role of international medical graduates in the U.S. physician

    workforce. A Policy Monograph of the American College of Physicians.

    Retrieved October 8, 2010, from

    http://www.acponline.org/advocacy/where_we_stand/policy/img_paper.pdf

Zhan, C., Sangl, J., Darby, C., & Moy, E. (2006). Racial and ethnic differences in patient

    assessments of interactions with providers: disparities or measurement biases?

    [Abstract]. American Journal of Medical Quality, 21(2), 109-114.

Table A

Top 20 countries of medical education for IMG physicians.

Total number and percentage

Country	Total	Percentage
India	51,447	20.7%
Philippines	20,601	8.3%
Pakistan	13,834	5.6%
Mexico	12,111	4.9%
Dominican Republic	7,979	3.2%
Grenada	6,749	2.7%
USSR	6,450	2.6%
Dominica	5,854	2.4%
China	5,375	2.2%
Egypt	5,266	2.1%
Iran	4,940	2.0%
South Korea	4,845	2.0%
Italy	4,732	1.9%
Spain	4,343	1.8%
Germany	4,197	1.7%
Syria	3,869	1.6%
United Kingdom	3,698	1.5%
Montserrat	3,569	1.4%
Columbia	3,343	1.3%
Ireland	3,302	1.3%

Source: AMA-IMG, 2010

Table B

Health Care Centers included in South Western Region of Mayo Health System of Minnesota.

1. Janesville Clinic.

2. Parkview Clinic.

3. Lamberton Clinic.

4. Le Sueur Clinic.

5. Madelia Clinic.

6. ISJ Specialty Clinic.

7. ISJ Clinic - East Ridge.

8. ISJ Clinic – North Ridge.

9. Springfield Medical Center.

10. St. James Medical Center.

11. St. Peter Clinic.

12. Trimont Clinic.

13. Waseca Medical Center.

14. Waterville Clinic.

South Western Region of Minnesota Mayo Health System

Source: Mayo Health System website

Table C

Percentage of Races living in South Western Region of MHS:

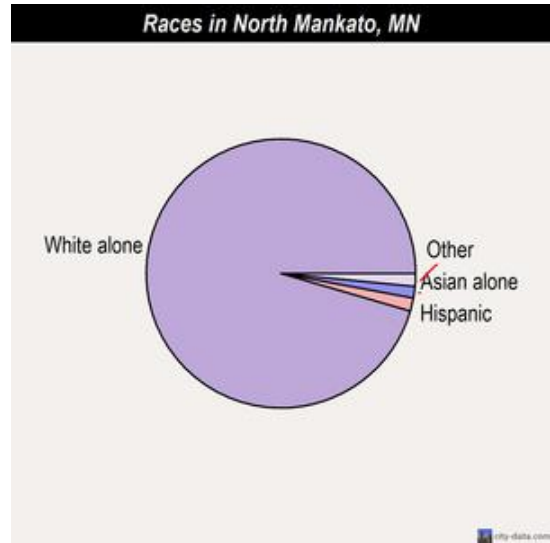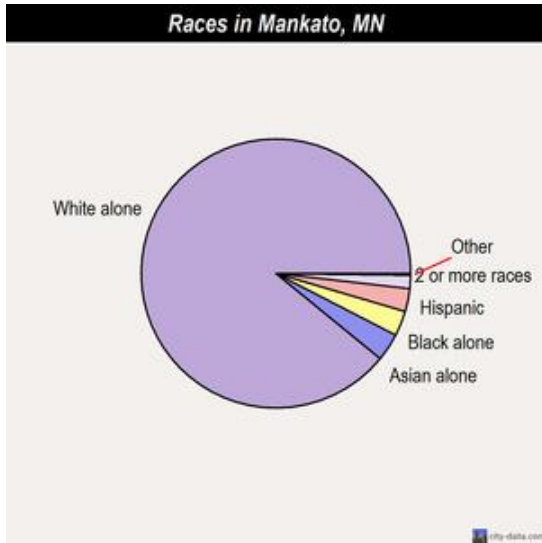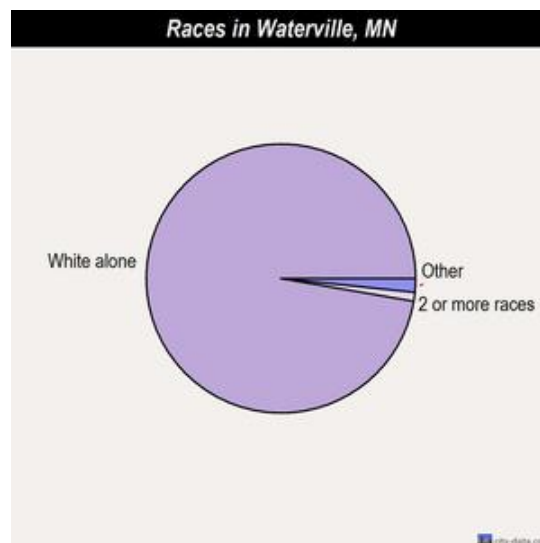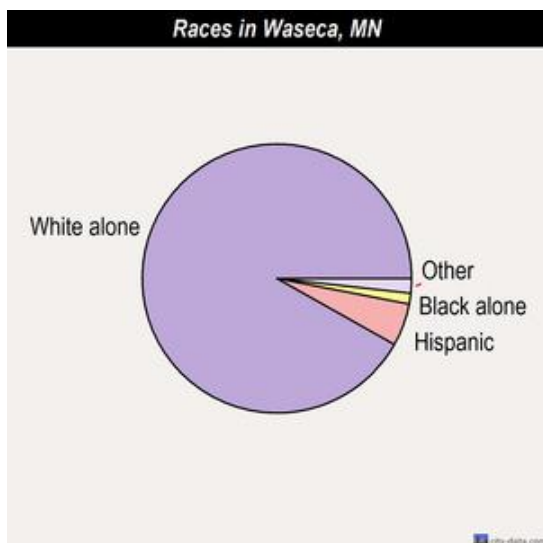|	White Alone	Hispanic Alone	Black Alone	American Alone	Asian Alone	Two or more races	Native Hawaiian/ Pacific Islander Alone	Other Races Alone
Janesville	97%	1.6%	0.09%	0.8%	0.2%	0.7%		
Lake Crystal	97.8%	0.7%	0.3%	0.5%	0.3%	0.4%	0.04%	
Lamberton	99.7%	0.1%						
Le Sueur	89%	9.6%	0.3%	0.2%	0.3%	0.6%	0.08%	
Madelia	77.4%	21%	0.6%	0.1%	0.3%	0.6%	0.09%	
Mankato	89.1%	2.8%	3%	0.1%	3.4%	1.6%		0.06%
North Mankato	95.5%	1.6%	0.6%	0.2%	1.4%	0.7%	0.03%	0.03%
Springfield	96.8%	2%		0.3%	0.5%	0.3%		0.2%
St. James	74.9%	23.8%	0.3%	0.1%	0.5%	0.4%		
St. Peter	92.7%	3%	1.6%	0.3%	1.5%	0.9%	0.02%	0.04%
Trimont	97.7%	0.4%	0.5%	0.3%	0.1%	0.9%		
Waseca	91.8%	5.1%	1.3%	0.3%	0.6%	0.8%	0.05%	0.07%
Waterville	97.3%	0.3%	0.1%	0.9%	0.3%	1.1%	0.05%	

Source: citydata.com

Table D

Races of the South Western Mayo Health Region
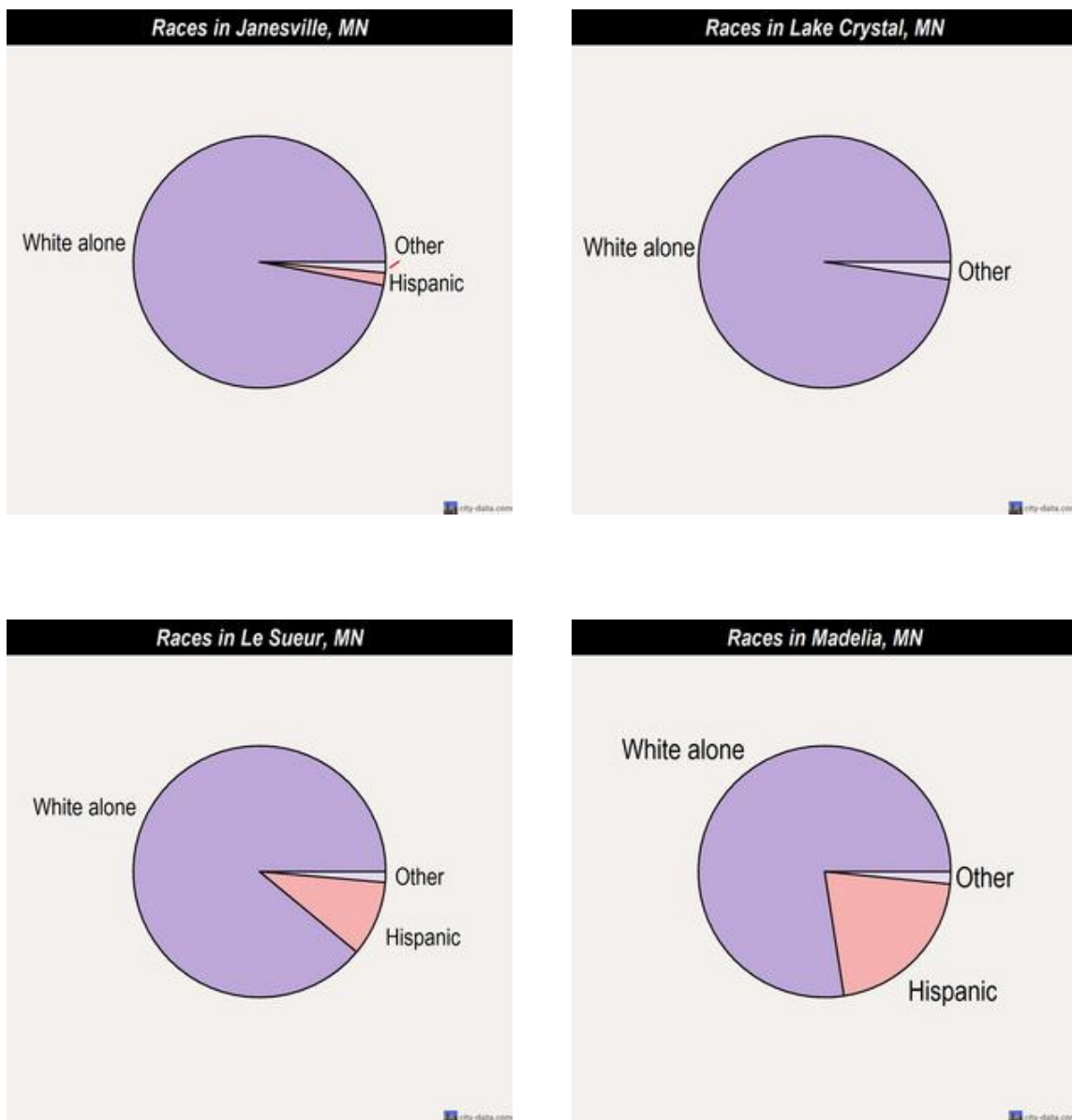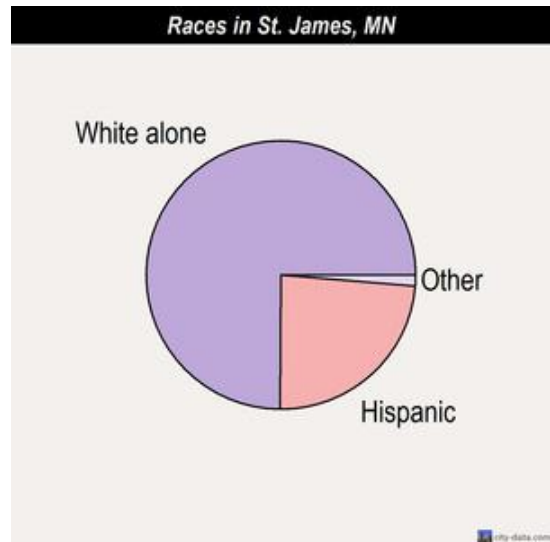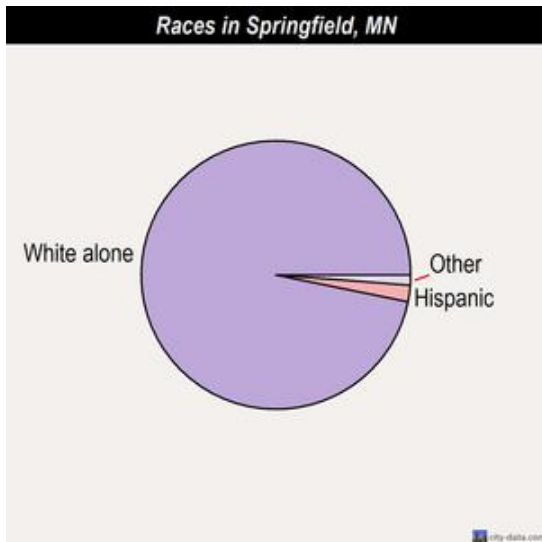
Source: city-data.com

Source: city-data.com

Races in St. Peter, MN

White alone
Other
Hispanic
Black alone
Asian alone

Races in Trimont, MN

White alone
Other

Races in Waseca, MN

White alone
Other
Black alone
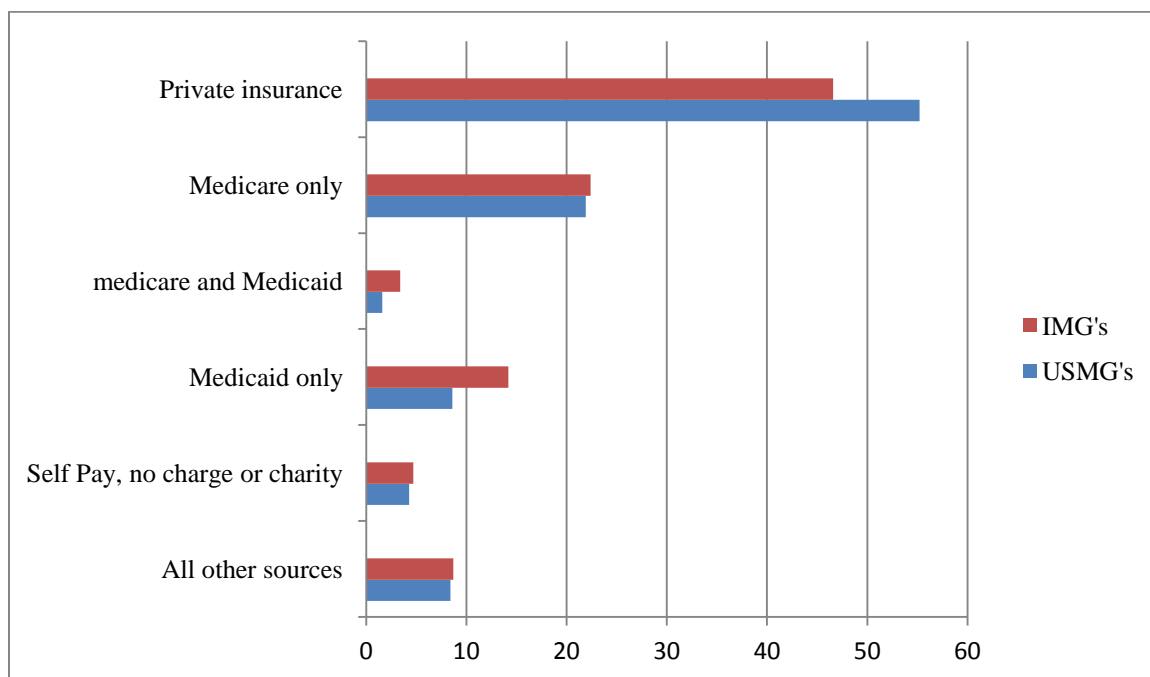Hispanic

Races in Waterville, MN

White alone
Other
2 or more races
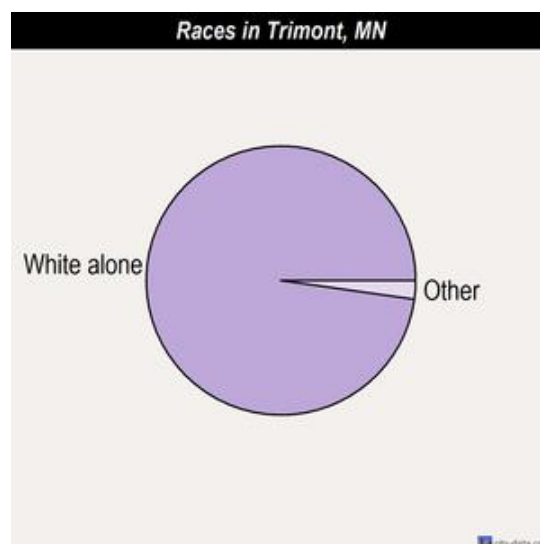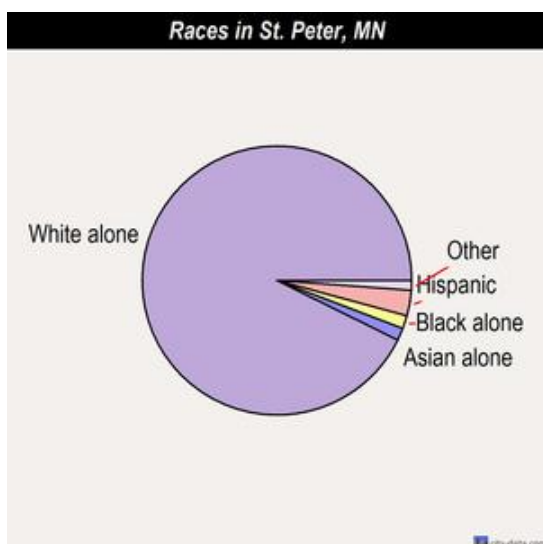
Source: city-data.com

Table E

Percentage of office visits to USMGs and IMGS by patients' primary expected sources of payment

Statistically significant difference between U.S. medical graduate and international medical graduate office visits.

Source: AMA-IMG Section Governing Council, 2010.

Table F

ISJ-MHS Medical Practice Survey

Immanuel St. Joseph's
Mayo Health System

Please rate the following visit date and provider:

MEDICAL PRACTICE SURVEY

We thank you in advance for completing this questionnaire. When you have finished, please mail it in the enclosed envelope.

BACKGROUND QUESTIONS [write in answer or fill in circle (for example ●) as appropriate]

1. If someone other than the patient is completing this survey, please fill in circle: ○

2. Patient's first visit here .... ○ Yes ○ No

3. How many **minutes** did you wait after your scheduled appointment time before you were called to an exam room? .... [ ][ ][ ] minutes

4. How many **minutes** did you wait in the exam room before you were seen by a doctor, physician assistant (PA), nurse practitioner (NP), or midwife? .... [ ][ ][ ] minutes

INSTRUCTIONS: Please rate the services you received from our practice. Fill in the circle that best describes your experience. If a question does not apply to you, please skip to the next question. Space is provided for you to comment on good or bad things that may have happened to you.

Please use black or blue ink to fill in the circle completely.
Example: ●

A. ACCESS TO CARE	very poor 1	poor 2	fair 3	good 4	very good 5
1. Ease of scheduling your appointment	○	○	○	○	○
2. Courtesy of person who scheduled your appointment	○	○	○	○	○
3. Our helpfulness on the telephone	○	○	○	○	○
4. Our promptness in returning your phone calls	○	○	○	○	○
5. Ability of getting an appointment for when you wanted	○	○	○	○	○
6. Ability to see the care provider of your choice	○	○	○	○	○

Comments (describe good or bad experience): _____

_____

_____

B. DURING YOUR VISIT	very poor 1	poor 2	fair 3	good 4	very good 5
1. Speed of the registration process	○	○	○	○	○
2. Courtesy of staff in the registration area	○	○	○	○	○
3. Comfort and pleasantness of the waiting area	○	○	○	○	○
4. Length of wait before going to an exam room	○	○	○	○	○
5. Comfort and pleasantness of the exam room	○	○	○	○	○
6. Friendliness/courtesy of the nurse/assistant	○	○	○	○	○
7. Concern the nurse/assistant showed for your problem	○	○	○	○	○
8. Waiting time in exam room before being seen by the care provider	○	○	○	○	○

Comments (describe good or bad experience): _____

_____

_____

continued ...

Draft

C. YOUR CARE PROVIDER

	very poor 1	poor 2	fair 3	good 4	very good 5

DURING YOUR VISIT, YOUR CARE WAS PROVIDED PRIMARILY BY A DOCTOR, PHYSICIAN ASSISTANT (PA), NURSE PRACTITIONER (NP), OR MIDWIFE. PLEASE ANSWER THE FOLLOWING QUESTIONS WITH THAT HEALTH CARE PROVIDER IN MIND.

1. Friendliness/courtesy of the care provider... ○ ○ ○ ○ ○
2. Explanations the care provider gave you about your problem or condition.................. ○ ○ ○ ○ ○
3. Concern the care provider showed for your questions or worries .... ○ ○ ○ ○ ○
4. Care provider's efforts to include you in decisions about your treatment..................... ○ ○ ○ ○ ○
5. Information the care provider gave you about medications (if any) .... ○ ○ ○ ○ ○
6. Instructions the care provider gave you about follow-up care (if any) .... ○ ○ ○ ○ ○
7. Degree to which care provider talked with you using words you could understand ..... ○ ○ ○ ○ ○
8. Amount of time the care provider spent with you... ○ ○ ○ ○ ○
9. Your confidence in this care provider.. ○ ○ ○ ○ ○
10. Likelihood of your recommending this care provider to others..................................... ○ ○ ○ ○ ○
11. How would you rate the overall care provided by your care provider during your visit ○ ○ ○ ○ ○
12. How would you rate how well your care provider listened to your concerns .... ○ ○ ○ ○ ○

Comments (describe good or bad experience): _____
_____
_____

D. PERSONAL ISSUES

	very poor 1	poor 2	fair 3	good 4	very good 5

1. Convenience of our office hours... ○ ○ ○ ○ ○
2. Our sensitivity to your needs .... ○ ○ ○ ○ ○
3. Our concern for your privacy... ○ ○ ○ ○ ○
4. Our response to concerns/complaints made during your visit .... ○ ○ ○ ○ ○

Comments (describe good or bad experience): _____
_____
_____

E. OVERALL ASSESSMENT

	very poor 1	poor 2	fair 3	good 4	very good 5

1. Overall cheerfulness of our practice .... ○ ○ ○ ○ ○
2. Overall cleanliness of our practice... ○ ○ ○ ○ ○
3. Overall rating of care received during your visit .... ○ ○ ○ ○ ○
4. Likelihood of your recommending our practice to others............................... ○ ○ ○ ○ ○

Comments (describe good or bad experience): _____
_____
_____

How can we improve safety and security?
_____
_____
_____

Patient's Name: (optional) _____

Telephone Number: (optional) _____