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EFFECTIVENESS OF A VOLUNTEER TRANSPORTATION PROGRAM TO INCREASE
ACCESS TO HEALTHCARE IN VIETNAM

By

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Undergraduate Thesis
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Approved by:

Peter Koehn, Faculty Mentor
Political Science
Global Public Health

ABSTRACT

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Ecological and Organismal Biology

Effectiveness of a Volunteer Transportation Program to Increase Access to Healthcare in Vietnam

Faculty Mentor: Peter Koehn

As a part of the Global Leadership Initiative capstone project at the University of Montana, my group created a website and transportation program that works to increase access to healthcare in Missoula, Montana. Ancillary aspects of healthcare such as health literacy, transportation, housing, and food are all major factors affecting a person's health. Our project titled UM Volunteers for Global Health Access seeks to unite University students and the low-income population in Missoula in order to provide rides to healthcare appointments. The transportation framework will allow patients at Partnership Health Center to be connected with University of Montana student volunteers. It will be organized through our Non-governmental organization (NGO) to ensure that any legal issues we face in transporting patients are addressed.

Since a volunteer transportation service seems to be an effective way to increase access to healthcare in Missoula, Montana, I wanted to research the potential for implementation in Vietnam. Unfortunately, the large population size and fact that almost everyone has their own motorbike suggest that a volunteer transportation service would be ineffective. Instead, increased public transportation is the solution to increasing access to healthcare via transportation in both the rural and urban areas of Vietnam.

Effectiveness of a Volunteer Transportation Program to Increase Access to Healthcare in Vietnam

Although hospitals and doctors' offices around the world do their best to make their communities healthy, many healthcare factors are overlooked. I have experienced this first hand, both in my hometown of Missoula, Montana, and throughout the rural and urban areas in the country of Vietnam. I hope to make a change in the access to healthcare, both in Missoula, and in Can Tho, Vietnam. I am a part of a Global Leadership Initiative capstone project that is focusing on increasing access to healthcare via health literacy and transportation. I will analyze this program in order to determine its effectiveness at being adapted to fit within the boundaries of healthcare in Vietnam.

Normally when a patient goes to the doctor, the doctor diagnoses the problem and identifies various treatments. What they do not focus on is the ancillary factors to healthcare. These include many factors pertaining to a person's way of life such as the ability to read and understand prescriptions and/or what is wrong with them in general. Ancillary challenges also include whether or not a patient has a roof over his or her head, a vehicle or other means of transportation to their doctors' appointments or to the grocery store, enough food on the table to stay healthy and/or to take with medicine, and whether or not they have money to afford all of these necessities. Doctors have many other issues to worry about and therefore often do not take into account a person's quality of life. Ancillary care is a major gap that needs to be addressed throughout the world.

Resources in Missoula

Many resources already exist in Missoula with the purpose of battling the ancillary challenges to healthcare. In Missoula, some of these include:

1. Child Care Resources: Offers child care payment assistance for low-income families, referrals for families seeking child care providers, a resource library, nutrition reimbursement, and trainings for child care providers.
2. Office of Public Assistance: Provides access to S.N.A.P. (Supportive Nutrition Assistance Program, formerly Food Stamps), Child Care Assistance, Energy Assistance,

Medicaid, and TANF. Healthy Montana Kids: Free or low cost health care coverage for Montana children and teens.

3. Missoula Indian Center: Services include outpatient chemical dependency counseling, youth tobacco prevention, assessments, and group counseling. Health referral programs, diabetes/health education, private HIV testing/counseling. Sliding fee scale for those who apply.
4. Blue Mountain Clinic: provides patient-centered, family practice, and primary care services to the local community through a choice-based perspective.
5. Medicab Missoula and Hamilton: Specialized non-emergency medical and wheelchair door-to-door transportation.
6. Mountain Lion “Comparable Paratransit Service”: Curb-to-curb transportation service for eligible persons with disabilities

Although all of these programs are already in place in Missoula, Montana, none of them focus specifically on increasing access to healthcare via a transportation program. We aimed to fill this gap and increase the healthcare access of the low-income population of Missoula. After meeting with the doctors and administrators at Partnership Health Center, we found out that health literacy and transportation are two main problems in Missoula and the surrounding areas. Since we, as graduating seniors, are not doctors, we cannot tackle the major health challenges in the world. Instead, health literacy and transportation are two topics that we can positively impact with the implementation of our program. Our group addresses the ancillary gap between the direct health care offered by medical practitioners and the major constraints that impede access to healthcare for low-income populations. We hoped to combat these challenges with the Global Leadership Initiative project titled UM Volunteers for Global Health Access.

According to Nerissa Koehn (Interview, January 2015), a doctor at Partnership Health Center, we can substantially benefit the low income population in Missoula by increasing their access to healthcare. Although this is a major challenge to tackle, we decided to give it a shot. Partnership Health Center, the clinic we did most of our research and project implementation at, is a community health clinic that works to serve the community of Missoula and the surrounding

areas. The medical professionals at Partnership provide behavioral health, dental, pharmaceutical, lab work, and basic medical services to all of their patients. Partnership ensures health to the medically underserved population in the region. 58 percent of the patients they serve are uninsured while the rest are on Medicare, Medicaid, or Private insurance (Partnership Health Clinic, 2014). We hoped to positively impact the lives of these patients.

Examples of Challenges

Unfortunately, transportation is a major barrier to healthcare in rural areas. This is especially the case in Missoula, Montana. According to a study completed in 2006 by Arcury *et al.*, few exist that improve access to healthcare via transportation. Healthcare providers need to work with patients, families, and volunteer agencies in the community to facilitate transportation to treatment services and healthcare clinics (Aday *et al.*, 1997). Patients with health issues and older citizens are the ones that need the most assistance (Arcury *et al.*, 2006). Along with limited health care supply, social isolation, and financial constraints, a lack of available transportation to and from healthcare services is a major problem older people have to face (Goins *et al.*, 2006).

Access to healthcare is also a struggle in Vietnam. The country is long and thin with dense cities separated by vast rural areas. Transportation to and from the cities remains limited unless a family owns their own motorbike or vehicle. Vietnam is the 13th most populated country in the world. It has a population of 92 million people in an area smaller than the entire state of Montana. With so many people, and a limited area, people become creative when finding modes of transportation. Historically, the Mekong Delta in southern Vietnam has been known for its river transportation. Boats moved people to and from their jobs and served as a part of their livelihood. The French colonizers used the vast rivers to trade and export goods. Rivers turned into roads as cities continued to grow and people were able to afford their own vehicles (Miller, 2015). Now, motorbikes are the main mode of transportation throughout Vietnam. Of the 26 million registered vehicles on the roadways, 95% are motorbikes. Also, 9000 new motorcycles show up on the roads each day (Pervin *et al.*, 2009).

The roadway infrastructure in Vietnam consists of simply designed two-lane roads with little to no traffic lights. Drivers communicate via horns and must be acutely aware of their surroundings in order to arrive at their destination safely. Although most people own a motorbike

now, reductions in vehicle taxes from 300% to 100% in 2016 will lead to greater affordability of larger vehicles for the average citizens. Unfortunately the roads are not capable of supporting this type of traffic (Miller, 2015). The rural and urban roads will become even more congested, there will be more severe accidents, there will be nowhere to park, and carbon dioxide emissions will increase. The increase in carbon dioxide emitted to the atmosphere will add to the greenhouse effect, further trapping heat in the atmosphere and adding to climate change. Unfortunately, even without many full-sized vehicles, there are a ton of car accidents in Vietnam. For example, in 2007, there were 12,800 deaths on the road. This is the equivalent of 15 deaths per 100,000 of the population dying via a road traffic injury. This is the result of few people wearing helmets. Helmets are proven to reduce injuries by 69% and fatalities by 42%. They became mandatory in 2001 but with little enforcement. Through the years, more motorbike drivers have begun wearing helmets but with a lag in children wearing helmets. Now 90% of adults and 50% of children, wear helmets (Pervin *et al.*, 2009). In order to continue saving lives via safe driving, Vietnam needs to spread information about the safety benefits of helmets and further enforce helmet laws.

In addition to transportation, income is another major factor pertaining to access to healthcare. The urban poor population in Can Tho has increased rapidly recently. In order to be considered poor, a household's per capita income must be below 150,000 dong per month. In 2000, 2.37% of the households in Can Tho fit this category. Although many others are not considered "poor" 30% of the population does not have access to water, sanitation, or adequate electricity. Programs need to be in place to help these individuals who do not have sufficient income to meet daily needs, hold a stable occupation, and remain healthy. The government of Vietnam established a program with support of the World Bank in order to prepare poor urban development projects. These projects will hopefully benefit the poorest people in the city. One example is "Enhancing Access of the Urban Poor and Vulnerable Groups in Vietnam to Basic Infrastructure and Housing." It does what its name says and was established in 2002 (Slingsby, and Do, 2002).

With predicted challenges due to climate change in the near future, even more households and individuals will have to face climatic stressors and health problems. With a four degree Celsius predicted temperature rise, coastal developing countries such as Vietnam are going to be

the most greatly affected. Flooding will be a major challenge to farmers and low-lying cities. Climate change is also predicted to cause various health problems. Increased temperatures will put stress on the young and elderly specifically. More frequent strong storms and increased rainfall will cause problems with housing and affect the way of life in general. All of these challenges will increase the demand for healthcare throughout Vietnam.

Although transportation is very different in Vietnam, similar problems occur in Montana. Missoula specifically has a lot of bicycles. Increasing traffic congestion in recent years has encouraged alternative modes of transportation. Without available public transit, both car-pooling and bicycles have become popular modes of transportation. With so many people biking to work and/or school, new roadway projects have been necessary to accommodate bikes. These include bike lanes, bike paths, extra-wide shoulders, overpasses, and increased sensors at intersections (Maki and Marshal, 1998). Although transportation via bikes has become easier in Missoula, many elderly or sick individuals are unable to bike to their appointments.

Transportation is also a major barrier to healthcare in the rural areas of Missoula, Montana. Now, patients trying to access Partnership Health Center have limited options of transportation. First, they can use their own vehicle. This is a problem since most patients have very low income and cannot afford their own car. A second option is public transportation. Although the bus system in Missoula is decent, the schedule could be improved. Some routes only run once an hour, making it difficult to schedule appointments around the bus schedule. Also, many of Partnership's patients are from rural areas surrounding Missoula. The buses don't run all the way to Hamilton and Lolo where patients live. A third option for transportation is a van service that drives south of Missoula on Tuesdays. If you are to participate in this service, it will take all day and you would have to schedule all of your appointments around the same time. Due to the fact that transportation options for low-income rural populations currently are limited, we wanted to provide more options. We have developed the framework for a program that we planned on implementing this year, but couldn't due to liability and insurance issues. Our hope is that it can be set up in the future by a graduate student who is interested in helping increase access to healthcare in Missoula, Montana. The framework is malleable enough to adapt in other towns like Can Tho or Ho Chi Minh City, Vietnam. It consists of linking student and community

volunteers with patients of Partnership Health Center, or the corresponding clinic in the other countries.

A study by Bernier and Seekins in 1999 ties in a previous study focused on increasing access to healthcare via transportation options for disabled individuals. They arranged and observed a voucher program that provided 35 thousand miles of free rides for employment, daily living, and medical treatment in rural areas around Montana. The program was very effective since a lack of transportation is a frequent problem facing people living in rural areas and it removed this barrier. Part of their program enlisted agencies to coordinate volunteer rides for these patients. We used this as an example for the program framework we developed.

Project in Missoula: UM Volunteers for Global Health Access

Our Global Leadership Initiative project in Missoula exists as a framework for a Non-Governmental Organization (NGO) that can easily be picked up and initiated by someone interested in increasing access to healthcare. In order to create the framework, we came up with the vision, purpose, and goals of the NGO, brainstormed potential Board of Directors members, met with the University lawyer, wrote the Articles of Incorporation, and thought of fundraising ideas; all of these steps are crucial when establishing an NGO. Further steps will include establishing the Board of Directors, drafting bylaws, registering as an NGO, and actually meeting with all members to figure out the goals of the project and everyone's duties.

Once the NGO becomes established, it will be in charge of linking student and community volunteers with patients who need a ride to their appointments at Partnership Health Center. The NGO website will have a link to our "Volunteer Missoula" profile. This is where student and community volunteers can create a personal profile in which they can provide their available hours and their driving records. This will be the driver volunteer pool from which the volunteers and social work students at Partnership Health Center will match up the driver volunteers with patients who need a ride. Since one of the main issues to health access in Missoula is the lack of transportation, we want to fill that gap. Through the *UM Volunteers for Global Health Access* website we will raise awareness about the need for volunteer drivers and spread the word about our volunteer opportunities.

Our goal is for students to hear about the volunteer program through Griz eRecruiting, the Davidson Honors College, outreach to classrooms, and through their student email accounts. Student volunteers will be motivated individuals who have a couple spare hours to spend helping their community. All volunteers will go through a screening process to ensure they have a working vehicle, car insurance, and no criminal records. Patients will be individuals who indicate that they need a ride to their doctor's appointment. These appointments can range from an annual check-up, to a prescription pick-up, to an appointment regarding the common cold. Patients who need a ride will fill out a request form in a box at Partnership Health Center. The social work students at Partnership have agreed to be in charge of sending these requests to the volunteers at the NGO where patients and volunteers will be connected. This will provide greater accessibility to healthcare since more patients will be able to reach their appointments.

Implementation in Vietnam

Because Missoula, Montana and Can Tho, Vietnam are very different places, a volunteer transportation system may not be very beneficial to patients in Vietnam. Most people in Vietnam have their own motorbike or vehicle; they therefore have no need for a volunteer to drive them to their appointment. Also, people who would potentially need a ride don't have enough money to go to an appointment in the first place. Even if they received a free ride, many patients still wouldn't be able to benefit from the system. Instead of a volunteer transportation program, increased access to public transportation would positively benefit the low-income population throughout Vietnam.

In order to figure out where the greatest need is in the Vietnamese healthcare system, a little bit of background information is needed. According to an interview and email correspondence with Nathaniel Rettenmayer, the Economic Officer to the U.S. Consulate General in Ho Chi Minh City, in general, the Vietnamese healthcare sector is dominated by public hospitals. Private hospitals only account for 3% of Vietnam's total hospital beds. There are approximately 170 private hospitals versus around 1,200 public hospitals in Vietnam. This is because public hospitals are generally heavily subsidized. Financial resources from national budget allocations and health insurance typically constitute 60-70% of their operating budget. In addition, public hospitals, especially leading ones in the large cities such as Ho Chi Minh City and Hanoi, enjoy a

perception among Vietnamese for having the best trained and most experienced doctors in the country (Rettenmayer, 2015).

Private hospitals in Vietnam have appeared recently - the oldest private facilities were established in 1997. Since public hospitals often attract the best doctors, private hospitals tend to cooperate with doctors from public hospitals, especially in the early years of their operation, in order to attract clients before they can build their own physician team and attract their own clientele. Doctors in Vietnam are allowed to have their own clinics, and doctors from public hospitals are allowed to cooperate with private hospitals/clinics after official working hours. Most doctors from public hospitals have their own clinics or cooperate with a private hospital/clinic (Rettenmayer, 2015). Walking around the cities in Vietnam, it is easy to see the privately-run clinics. They will open on the side of the street, just like the neighboring bakery or clothing store. Although these private clinics are legit and run by actual doctors, it is hard to imagine going to a clinic where everyone outside can observe any procedure done on you as a patient.

Healthcare facilities often face overwhelming demand though, especially at leading provincial and central hospitals. While bed occupancy rate at private hospitals is low (More than 56.9% private hospitals had bed occupancy rate lower than 60%), public hospitals often face occupancy rates of over 100%, especially at specialized hospitals such as oncology, cardiology, pediatrics, obstetrics. While walking around various cities in Vietnam, I observed the high demand in the hospitals. There was always a long line leading out of the hospital with conditions varying from the common cold, to the desire to have laser eye surgery. The number of health workers has increased recently, reaching 7.5 doctors and 2.01 university-trained pharmacists per 10,000 people. The number of health workers at the district and commune level has also risen. In 2013, about $\frac{3}{4}$ of the commune health stations were served by a doctor. The Ministry of Health continues to implement measures to improve the quality of the healthcare workforce. The capacity of the healthcare workforce remains unequally distributed. Highly qualified healthcare practitioners are mainly concentrated in cities and economically developed areas (Rettenmayer, 2015).

As the demand for more qualified healthcare increases, so should the amount of access to it. Increased public transportation such as buses, subways, and trains will provide rides to

individuals living both within the cities and in rural areas. Many individuals live in extremely rural areas and only make it to the cities with qualified hospitals once or twice a year. Public transportation would allow for increased access to healthcare at a low cost. In addition to providing access to healthcare for rural communities, increased public transportation would dramatically decrease the amount of motorbikes and other vehicles on the road. This will have many benefits. One improvement will be much less carbon dioxide emissions sent into the atmosphere. Vietnam will therefore contribute less to the greenhouse effect in the atmosphere and encourage action towards other carbon dioxide reductions in their country. Fewer motorbikes on the road will also lead to fewer traffic accidents and therefore fewer cases of people needing to go to the hospital in the first place.

Although a volunteer transportation project may be beneficial to the low-income population in Missoula, Montana, it may not be the most effective way to increase access to healthcare via transportation in Vietnam. Instead, increasing the amount of transportation will increase the access to healthcare in both the rural and urban areas of Vietnam.

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