

**Kellogg-Kroc Undergraduate Research Grant
Project Report**

Building a Biocultural Understanding of Traditional Medical Practices in Rural Ecuador
Nathan Serazin

Three hours west of Quito, Ecuador situated on one of the most breathtaking roads through the Andes Mountains is Pedro Vicente Maldonado. This Ecuadorian city in itself is not outwardly unusual. In fact, on the bus ride from Quito you will undoubtedly pass through numerous cities that on the surface appear identical to Pedro Vicente Maldonado. You will encounter the same run down storefronts, the same half-finished concrete houses, and the same farmers with weathered faces. However, just off of the main road through Pedro Vicente you will also find one of the most successful privately owned hospitals in all of Latin America. During the past two summers, I have called Pedro Vicente home, and it is this hospital that has provided me with an unparalleled perspective to learn about providing health care to rural population in a developing country.

During my first summer in Pedro Vicente, I had the opportunity to not only work in the hospital helping the doctors with their daily tasks but was also able to get to know the community that uses the hospital by teaching in the schools and coaching in an after school baseball program. As my relationships with people in the community developed, it became very clear to me during that summer that this hospital was unique. Not only was it running at 100% cost recovery and providing first class primary and secondary care, it also operated at full capacity drawing patients from as far as six hours away. Through my interaction with the hospital's patients I learned that people did not go to the hospital because it is the only facility in the region. On the contrary, there are more than 90 hospitals that are run by Ecuador's

Ministry of Health throughout Ecuador, many of which are en route to Pedro Vicente Maldonado. Instead, the reason that people turned to this hospital for their health care needs was that they felt that employees of the hospital understood the patients' and treated them with the respect that they deserved. This, however, was something that they saw to be lacking at other hospitals.

A major component to the hospital's success was its ability to deal with many of the cultural obstacles inherent in implementing a Western-based health care system in a developing country. Numerous times throughout that summer I saw the doctors handle their patients' concerns and preoccupation with biomedicine in a respectful manner that helped the patient feel more comfortable undergoing unfamiliar medical procedures. These situations were as simple as the doctor taking time to explain treatments to patients in a comprehensible manner. However, they were also as complicated as working with traditional healers in the town to gain the trust of their patients. In either situation, it was by making this extra effort that the doctors were able to earn the confidence and respect of their patients.

While the hospital did demonstrate a clear proficiency for handling cultural complications, it by no means has been able to overcome them all. In fact, for every instance that I saw biomedicine coexist with cultural tradition, there was another instance where the two were in direct conflict. This conflict, however, was not something that I believed to be impossible to eliminate, especially if the two approaches towards treating disease made the effort to better understand the other. It was this conclusion that led me to develop my own research project entitled "Building a Biocultural Understanding of Traditional Medical Practices in Rural Ecuador" that was funded by a Kellogg Undergraduate Research Grant.

Combining my own training as biochemist with my experience in Ecuador, I designed this project to look at traditional medicine under the lens of biomedicine. More specifically, I hypothesized that some traditional remedies using plants could be supported by previous biomedical research on the plants. To test this hypothesis, I conducted interviews with traditional healers and citizens of Pedro Vicente Maldonado this past summer to learn about different plants that are commonly used in Pedro Vicente Maldonado for medicinal purposes. Thanks to the relationships that I had made during my first summer in Pedro Vicente, I collected information on over 100 plants that were used for medicinal purposes. This information included photos of the plants, their common uses in Pedro Vicente, and how to prepare treatments using the plants. In addition to information on the plants, I also conducted interviews in the hospital to learn about the general attitude of the doctors in the hospital towards such treatments to gain a better idea of how these two perspectives view the other.

Over the course of the following months, I will be comparing the information gathered on the medicinal plants in Pedro Vicente to that found in the scientific literature. Based on my preliminary work, it has been clear thus far is that there is a definite overlap between what the plants are commonly used for in Pedro Vicente and what the biomedical research has shown to be effective medicinal uses of the plants. One such example is the plant cacao (*Theobroma cacao*), which during the interviews I found to be a commonly used plant to treat cases of severe diarrhea. When compared to the information found in different scholarly articles on this plant, this use is in fact supported by biomedical research that goes on to give the biochemical explanation for why this plant is in fact effective at treating severe diarrhea. However, it is also already apparent that that not all of the plants will be like cacao. For some plants, it is likely that

finding any biomedical research to support an intended use will not be feasible. For example, I found that numerous plants were used to treat illnesses referred to as *susto* or *mal de ojo*. These illnesses were commonly described to me by the citizens of Pedro Vicente as having spiritual causes and indefinable according to symptoms that fit into the biomedical model. It is at this point where the anthropological side of my research becomes important in overcoming this shortcoming of biomedicine.

Regardless of how many plants are identified as having medicinal properties, the most useful part of this research actually comes from having the vantage point to see these two seemingly different approaches towards treating a person side by side. It has been seeing how regulars at the hospital could still have a strong preference for tradition and how traditionalists were willing to forgo their beliefs for a more effective treatment that has led me to conclude that the two are not so different that a common ground cannot be found. Unfortunately, what both lack is a basic understanding of the other that is often responsible for conflict between the two. Studies such as this one are useful in that they begin to form a bridge between cultural traditions and biomedical practices so that this understanding can be developed.

My project will continue over the course of the following year during which time I will be working on making the information available both to the citizens of Pedro Vicente Maldonado and to the biomedical community. The first task will be compiling the information into a handbook on effective medicinal plants in Pedro Vicente. This handbook will be given to the doctors working at the hospital and to the citizens of the town so that both are aware of the effective medicinal plants that grow in the area. It is my hope that this handbook will be useful in helping to create a better, mutual understanding between traditional medicine and biomedicine in

Pedro Vicente. The second task will be to make this information available to the academic community. To accomplish this, I will be submitting my research to one of several academic journals to add my own experiences to the body of knowledge that is already available on this field. More specifically, I want this project be useful in helping health care providers to better understand traditional medicine so that more effective health care systems can be implemented in areas where cultural barriers currently hinder access to quality health care.

¹ Schuler, Maximilian. "Cocoa-Related Flavonoids Inhibit CFTR-Mediated Chloride." *The Journal of Nutrition* 135 (2005): 2320-2325.