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R25 Funded International Practicum

Part I.

Summary

Goal 1. Practical application of family nurse practitioner skills in an international, underserved setting.

The experience of providing primary care in a clinic setting in Honduras exceeded my expectations in the practical use of my FNP skills. Each clinic day, I independently saw 15-20 patients, taking a history, performing a physical exam, formulating a diagnosis and management plan, providing patient education, and writing prescriptions as appropriate. I cared for patients with chronic and acute conditions, most of which are common in underserved settings globally (such as hypertension, diabetes, asthma, pneumonia, scabies, and parasitic infections). In addition, I frequently saw family groups for care, which is often discussed in family nurse practitioner training, but is less frequently seen in practice in the US. The opportunity to utilize family theory to guide a plan of care became much more practical when caring for a mother and her 3 children in clinic than in writing a paper about the same ideas.

Goal 2. Gaining understanding of the challenges of working in a resource-constrained setting in a developing country.

One of the challenges that I had not carefully considered prior to this experience is the lack of an affordable, reliable supply of medications for chronic disease. I saw many patients with diabetes or hypertension who were already aware of their diagnosis, but were poorly controlled because

the local public health department had run out of their medication a month or two prior to our visit, and the patient could not afford to procure the prescribed medication at a private pharmacy. The long-term prognosis of patients with chronic disease often depends on the continuity of care, including medications, and for many patients, this was not within their control. In other instances, I experienced the necessity of flexibility and adaptability, as we fixed pap smear slides with hairspray and set up collapsible tables as women's health exam rooms. It was extremely challenging to decide which patients "deserved" an albuterol inhaler for wheezing, and who had to be managed in other ways due to our limited supply of medications. Finally, making diagnosis and treatment decisions without the availability of diagnostic testing that I am accustomed to in the US was at first frustrating, but in the end, I came to realize how much over-diagnosis is practiced here in the US simply because we have the ability to do it. The challenge of utilizing excellent physical exam skills and extensive history taking to replace my dependence on diagnostic testing was formidable, but well-worth it.

Goal 3. First hand experience of diagnosing and treating parasitic and communicable infections endemic to Honduras.

While I did not see cases of malaria and dengue fever, due to the fact that we travelled to Honduras during the end of the dry season rather than during the rainy season, I did see many cases of intestinal parasites, again diagnosed through history and physical exam because diagnostic testing was not available. The most common communicable conditions that we saw were head lice and scabies, both of which are easily treatable. Going back to the "challenges" of working in Honduras, we utilized a mayonnaise hair treatment for head lice – pictured later – that is non-toxic and can later be replicated by the family if the condition recurs. This treatment consists of massaging the hair with mayonnaise, then placing a plastic shower cap over the hair

and instructing the patient (usually a child) to play in the sun for at least 2 hours before washing the mayonnaise out. The heat and lack of oxygen kills the lice, and the mayonnaise makes the nits slide right off the hair shaft. This is not only safer than chemotherapeutic agents for lice, it is also affordable for families to repeat treatments later.

Goal 4. Improvement of medical Spanish skills through application in clinical settings.

On the first clinic day, I was reluctant to communicate with patients without the assistance of an interpreter. I was afraid I would misunderstand something important or misspeak terribly and offend someone. Because translators were always in demand, I slowly transitioned into asking the questions that I could and clarifying responses to the best of my ability as the week progressed. While I am in no way fluent at the close of my experience, I did improve my medical Spanish skills and prove to myself that I could become fluent if I utilized Spanish on a regular basis. In addition, I am more confident in my ability to provide excellent patient care with the help of a translator, which I am certain will be important in any care setting in which I practice.

Goal 5. Observation of effective development projects implemented by long-term NGO workers.

The hosts of our team in Honduras are Larry and Angie Overholt, missionaries who have been living and working in Honduras for more than 30 years, more than 12 of which have been spent in Choluteca. The success of this trip depends largely on their long-term commitment to the communities in which we serve. Angie is a family nurse practitioner, holding clinic in her home and providing regular follow-up care to patient's identified through our clinic outreaches. Larry's primary work is a vocational school that trains men and women in auto mechanics, refrigeration mechanics, and sewing, and will soon provide training in auto body repair. This

school provides real opportunity for an exit out of poverty for individuals and families. It is quite clear in Honduras, as in the rest of the world, that poverty alone is a major risk factor for poor health outcomes. The long-term prospects for the positive effects of this vocational school can be readily seen as families are able to lift themselves out of poverty. It is more clear to me after seeing this project that the success of health intervention rests heavily on the alleviation of poverty.

Medication Availability and Accessibility in the Developing World

A 2002-2003 World Health Organization survey conducted in over 70 countries with over 250,000 respondents demonstrated that the majority of respondents had access to acute care when necessary; this does not necessarily mean that this access was affordable, simply that it was available. However, when considering chronic disease, which represents a growing burden of care in the developing world, less than half of all respondents reported access to ongoing care for chronic diseases. When available, care for chronic disease represents a significant financial burden to patients, as the mainstay of care is often ongoing medication regimens (Wagner, Graves, Reiss, Lecates, Zhang, & Ross-Degnan, 2011).

In Honduras, many poor patients with chronic diseases such as diabetes and hypertension have irregular access to a supply of necessary medications. While medications such as metformin and enalapril are widely available throughout Honduras to be purchased at pharmacies, the cost of such medications is beyond the reach of poor Hondurans who must choose between purchasing medications and purchasing food for their families. The public health sector of Honduras is widespread and provides these essential medications at a low cost, but the supply of these medications for chronic diseases is sporadic within the public health

system, causing many patients to go months without their prescribed medications (due to the high cost to obtain the same medications at a pharmacy) until the local public health department is restocked.

This is not unique to Honduras. Much has been written in the literature regarding the factors of non-adherence to treatment for chronic diseases in low-income and middle-income countries. While cost is considered a factor in non-adherence, a recent systematic review showed that other factors such as “poor knowledge” and “negative perception of the medications” had a greater effect on non-adherence than cost, and actual availability of the medications was not even included in the review (Bowry, Shrank, Lee, Stedman, and Choudry, 2011). Similarly, much of the other literature on adherence to medication regimens in developing countries gives little credence to the affordability and realistic accessibility of medications and places more weight on the social factors of adherence. As Paul Farmer has noted, it is often more comfortable to blame poor patients than it is to critique the root causes of poor health outcomes (Farmer, 2005).

Looking beyond the literature of medication adherence, there is a wealth of literature that clearly demonstrates that availability and affordability of essential medications for chronic disease is lacking. A 2011 survey by the World Health Organization delineated 32 essential medications for chronic diseases, including hypertension, asthma, diabetes, and cardiovascular disease and then compared availability and price in the private and public sector, as well as the cost in terms of number of days wages for the lowest paid government worker to purchase a 30 day supply of the medication. The results are disturbing. In four of the six countries, less than 7.5% of the medications were available in the public sector (which is the main source of supply for the world’s poor) and in the best case, only 30% of the medications were available in the

public sector. The cost of the medications varied widely, both between public and private sectors, and between countries analyzed. In terms of number of days wages, the cost of combination treatment for coronary heart disease ranged from 1.5 days wages to 18.4 days wages (Mendis, Fukino, Cameron, Laing, Filipe, Khatib, & ... Ewen, 2007).

It is clear from this data that factors of availability and cost are substantial in the developing world. Patients cannot take medications which they cannot afford to purchase or are not available locally in regular supply. Some of the literature demonstrates that mark-up in the supply chain plays a major role in the variability of pricing, with patients regularly paying several times the international reference cost for a month's supply of cardiovascular medication (van Mourik, Cameron, Ewen, & Laing, 2010). van Mourik, Cameron, Ewen, & Laing, (2010) suggest that "To improve the situation, medicine policies should be adapted to promote the use of generic medicines, promote sustainable and reliable methods of procurement and financing, and prevent excessive mark-ups in the supply chain" (p. 9).

The burden of chronic disease is substantial, both in actual cost to the healthcare systems of developing countries, and productivity and quality of life of the patients. Policy changes must be made that improve supply and reduce cost for medications for the world's poor, because it is deplorable that an accident of geography should determine who has access to medications and who does not.

References:

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Part II.

Responsibilities

- Set up of each primary care clinic at various community sites with the team
- Complete primary care, including: history taking, physical exam, diagnosis, management plan, patient education, and prescription writing
- Women's health care, including, history taking, physical exam – with clinical breast exam, pelvic exam, and pap smear collection, diagnosis and treatment of any infections, and patient education
- Tear down of each primary care clinic at the close of the clinic day with the team
- Writing email updates to be sent back to family, friends, and supporters of the team back in the US
- Development and presentation of an educational workshop for community health workers on normal early childhood development

Site Feedback

This site is quite unique, in that it is an annual outreach of the OSU College of Nursing, with many faculty and preceptors returning year after year. This allows for building of relationships with communities and even individuals, as women return yearly to the clinic sites for their women's health exams. The presence of Angie Overholt, FNP, also allows for follow-up for patients who may need further care or testing. This allows for some continuity of care for patients, rather than a one-time encounter without needed follow-up care. The living conditions are quite nice, with accommodations in a local hotel with air-conditioning, some hot water, available bottled water at the hotel, and a clean, chlorinated swimming pool.

Positives	Negatives
Wide range of primary care experiences, including pediatrics, geriatrics, and women's health	Limited number of translators
Excellent opportunities for intraprofessional collaboration with physicians, nurse practitioners, nurses, and pharmacists	Short time frame (8 days)
Well planned trip with all-inclusive cost	
Follow-up care available for patients	

Unique Experiences

I, along with 3 other team members, had the opportunity to provide an educational workshop to lay community health workers in one of the communities where we held clinic. These health workers specifically requested information on the topics we presented, which included venous ulcers, anemia, and early child development. The women were interested and attentive, and now have simple, colorful references in Spanish for use in their work, which is especially needed in this community that is without a public health department. This was the second year for this event, and was well received by the women.

I cared for a man with aortic stenosis who had recently become symptomatic. He had been told that he had a heart murmur before, but did not understand that it would get progressively worse. In consultation with the physician on our team, I was able to start him on medical treatment that should reduce his symptoms and increase his quality of life, while preventing heart failure for a while longer.

I also cared for two women in our women's health clinics who had breast masses. One woman was aware of one mass, but did not know that she had developed several more; and the

other woman was unaware of any masses, but had more than one in each breast. The second woman also had bilateral axillary lymph node enlargement. Both of these patients will be followed-up by Angie Overholt, FNP, who will assist them in accessing a mammogram and other care that they may need as a result of these findings.

Overall Assessment

This is an excellent site rotation for nurse practitioner and pharmacy students. The wide range of conditions seen in the clinic setting is both interesting and educational. The degree of independence given to students is remarkable, but the ratio of preceptors to students is also excellent (1:2), meaning that assistance is always available if needed. The patients are truly underserved, having basically no other access to primary care services, and are friendly and gracious. While the climate is hot and dry, the living conditions are exceptional. Finally, the experience of working in a team environment is an excellent one, requiring collaboration, flexibility, cooperation, and an understanding spirit.

Advice

Learn as much Spanish as possible before you go, or brush up on your Spanish if you took classes years ago. The only money needed is money for soda or snacks in the evening and for souvenirs; \$100 is plenty. Follow the guidance given by the group leaders; they have the safety and security of the entire team in mind and have led this trip over many years. Be willing to give up a piece of your independence and autonomy for 8 days for the benefit of the team and the people of Honduras.

Photos



The scenery on the drive from the airport to Choluteca. Start in the mountains, end in the desert.



A typical Honduran home, with shop next door.



Our hotel room in Choluteca. Four students, four beds.



The HUGE table where we ate breakfast and dinner daily at Larry & Angie Overholt's home.



The Nurse Practitioner students in the field behind the Fisherman's Village clinic site.



Our first clinic set-up at San Jorge primary school at the Choluteca dump. Betsy Zile and Sarah Richards.



Fisherman's Village Clinic. The residents of this village were so grateful to be seen by our group. Families waited for hours lined up outside from the start of the clinic at 8am.



Fisherman's Village Clinic. At the close of this day, the village leader addressed our group to express his gratitude for our healthcare services for his village. In all, we saw about 250 primary care patients and 30 women's health patients on this day.



Our day of rest at the beach near the Fisherman's Village on Sunday afternoon.



Betsy Zile, Kori Latham, and Eric Trinter – FNP students, with kids at the community health fair.



Community health workers participating in a workshop. I taught on normal early childhood development.



Providing women's health care in austere conditions is never dull! A small room with a well covered window, tables (no stirrups!), and headlamps for seeing during pap smears still affords patients the opportunity to have a comprehensive, gentle women's health exam from a female provider, which is usually not the case for these women. Serena (translator), Betsy Zile, and Niki Kritikos, FNP – preceptor.



The pharmacy team filled over 3000 prescriptions in 5 clinic days and provided excellent collaborative care with the nurse practitioner students in appropriate prescriptive practices.



Betsy Zile with Dr. Elizabeth Barker, FNP – preceptor and head of the FNP program at OSU.



O-H-I-O!