
2005 Health Sciences SIPs

Clinical SIPs

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Katherine L. Allen

On Site Supervisor:

Alexander M. Capron, Director

Ethics, Trade, Human Rights, and Human Law Department

World Health Organization

The clinical internship component of my SIP was done at WHO in the Ethics Unit of the Ethics, Trade, Human Rights, and Human Law Department. This department is charged with providing “ a focal point for the examination of ethical issues raised by activities throughout the organization.” While I mainly helped with the unit’s work on resource allocation and equitable access, other topics that the ethics unit focuses on are: organ transplantation, ethical issues in long-term care, and other bioethics topics. In addition to helping research and write certain documents, I was also able to attend many meetings and lectures given by WHO experts. These presentations ranged from bioethics councils, updates on the Darfur crisis to current treatment regimens for TB. I found this internship to be both eye-opening and worthwhile.

SIP Title: Shame Has Fallen On The Earth: The allocation of limited antiretroviral treatments in a legitimate and fair manner

Community Health in Urban Hawaii

Sarah Ball

Supervisor: Zavi Breese-Saunders, MPH

Department of Maternal and Child Health

Kokua Kalihi Valley Comprehensive Family Services

My clinical experience took place in the Maternal and Child Health department of a non-profit clinic called Kokua Kalihi Valley Comprehensive Family Services. KKV, as the clinic is popularly called, serves the Kalihi Valley community of Honolulu, Hawaii, population 25,000. Home to the majority of the state's new immigrants, Kalihi Valley's community is a colorful mix of Samoan, Micronesian, Philippino, Vietnamese, Korean, and Chinese influences, but also happens to be one of the poorest areas on Oahu. Kalihi Valley serves the people living the state's two largest public housing projects. Last year, 75% of KKV's clients had incomes below the poverty line. Kalihi Valley is considered to be at high risk for poor birth outcomes, substance abuse, dental disease, youth delinquency, and communicable disease.

KKV's staff is multi-cultural and multi-lingual. Approximately 17 languages and dialects are spoken in the clinic, including Iloano, Tagalog, Cantonese, Taiwanese, Samoan, Tongan, Laotian, Chuukese, Panapei, and Hindi to name a few. Most of the staff lives in Kalihi Valley and many are immigrants themselves. Although KKV works out of five locations situated around the valley, I worked primarily in the largest and newest building.

I did not know to expect when I began my internship at KKV. I had discussed helping to build a new resource library for the Maternal and Child Health Department, however this became a rather small part of my experience. I arrived at KKV just as my supervisor became excited about putting together several grant proposals, and helping with this became one of the largest components of my experience. Like healthcare organizations all over the country, KKV struggles to provide good services to those clients that do not speak their doctor's language and come from a culturally different background. KKV deals with this problem much better than most mainland institutions by employing such a diverse, medically-trained staff who can serve as translators whenever the need arises, however, communication problems do occur that could be avoided if translators received formal training. For several intense weeks, I helped do research into interpreter training programs around the country, compiled data, interviewed staff members, called and visited other community organizations, wrote a section of the proposal, created budget documents, compiled and obtained the necessary signatures for many of the government documents that needed to be submitted, printed, stapled and mailed the final drafts.

I also was able to have a great deal of patient contact through participating in a health evaluation program for the elderly in Kalihi Valley. I also was invited to attend staff meetings, shadow several OB/GYN physicians, attend prenatal classes with clients, and celebrate health at the annual health fair.

My experience gave me a huge amount of exposure to the medical field, particularly concerning minority health. This was an extremely rewarding opportunity and I enjoyed it immensely.

Lindsay Basler

Supervisor: Dr. Greg Patera
Grand Rapids Ophthalmology Surgical Center

During the summer of 2004 I had the opportunity to be involved with Grand Rapids Ophthalmology surgical center. During this experience I was able to observe LASIK, PRK, and Cataract surgeries. The Ophthalmologists I worked with taught me about the basic anatomy of the eye as well as how it operates; essentially, I observed and assisted Dr Barrett and Dr Cowden each day for eight weeks in their practice. This experience allowed me the opportunity to interact with patients and observe doctor/patient interaction as well. Walking patients through pre-operative treatment, operation and post-operative treatment gave me first hand knowledge on patient satisfaction and experience. The variation among surgeries kept my experience exciting. The research component of my SIP, an in-depth focus on LASIK surgery, combined with the clinical experience really allowed me to completely experience the nuances of ophthalmology. Overall, my experience at Grand Rapids Ophthalmology gave me a good starting block to begin my pursuit to be an outstanding eye care provider.

SIP Title: Evolution of Refractive Surgeries: Focus on Laser Assisted In-Situ Keratomileusis

Observation of Orthopedic Surgery with Associated Study of Alternative Medicine
Katie R. Burgett

Dr. Jen Johnson, Kalamazoo Center for Medical Studies.

During the summer of 2004, I did two separate internships; one associated with the Kalamazoo Center for Medical Studies, and another done with Dr. Thomas Ryan at Kalamazoo Orthopedic.

I became involved with the first internship through the CIP, who sent out a mass mailing discussing possible health-related independent study internships. I spent most of my time at KCMS researching Alternative Medical treatments for osteoarthritis, as well as attending lectures and conferences organized by the program director, Dr. Luis Toledo. Some of the topics included art in medicine, a pediatric hematology/oncology clinic, and a discussion of specialties with the dead of students at KCMS, which is associated with Michigan State University's residency program. The program ran from early July to late August for approximately 4 hours a day.

I found the second internship through previous SIPs in the Health Science program; Dr. Ryan had with a K student doing their SIP previously and allowed me to observe his activities in the office as well as in surgery at Bronson Hospital. Office hours were usually two days a week, 9 AM to 5 PM and surgery was once a week for approx. 4 hours at a time.

Dr. Ryan's office also facilitated me getting the proper clearance to observe on the surgical ward; informing me of sterility measures and registering me with the circulation staff. I observed Dr. Ryan from mid June until mid September on a part time basis.

By doing two different internships, part time I was able to have first-hand experience relating to patients with osteoarthritis, as well as interview alternative medical practitioners in the area about their fields. My SIP finally came together as a discussion of medical treatments for osteoarthritis and the possibility of creating an integrated management system that relies on both western and alternative medicine.

Review Paper Title: Managing Osteoarthritis: An Integrative Approach.

Chicago/Cook County Community Health Council

Colleen Collins

Public Health Intern

Supervisor: Christy M. Paskiewicz-Gilmour

This past summer I was a part of the Summer Residential Enrichment Program (SREP) at the University of Illinois at Chicago's School of Public Health. This program is designed for undergraduate students seeking more experience in Public Health and offers a wide variety of preceptorship programs in the metropolitan Chicago area. Through the SREP I was able to spend 8 weeks in Chicago working with the Chicago/Cook County Community Health Council (CHC), which is a non-profit organization that seeks to facilitate and improve public-private partnerships within the scope of public health initiatives in Chicago. It is the only organization that is a directly funded partnership of both the Chicago Department of Public Health and the Cook County Department of Health.

Working with Christy at the CHC allowed me to travel to a wide variety of meetings across Chicago and observe public health in action across a broad spectrum. For example, while I was able to attend an executive board meeting of the Chicago Department of Public Health, I was also able to visit a meeting of concerned parents seeking to improve the safety of their children's' walk to school .

My interest in asthma disparities came up as a result of contributions I was able to make to a city-wide asthma conference, held October 22, 2003. I started doing some research as to which audiences would be best served by such a conference and discovered a fascinating body of research on the topic. This lead to my decision to formulate my SIP paper on what kinds of racial disparities related to asthma are out there, why they are there, and how to stop them from progressing any further. Ideally, these disparities will one day reverse and health equity will be achieved, but this past summer taught me that it would take many years of work for this to happen.

SIP Title: Try not to breathe: an examination of avoidable racial disparities related to asthma.

Comparative Dental Work Experience

Noelle Cotey

Dr. Jim Vanlandschoot

Marquette Family Dentistry

For my SIP, throughout the summer I worked with five dentists in three offices. In the offices I acted as an assistant doing things such as x-ray taking and developing, examination room set up, and assisting the dentist in procedures. I worked 40 hours per week total when combining all three practices. By working in several offices, I was able to gain excellent experience and knowledge about how a prosperous dental office is run. I also was able to learn about several different specialties in the dental field I could focus on after dental school.

I focused my written SIP on the relationship between diabetes and periodontal diseases. Mainly I focused on how to recognize the relationship and the role dentists have in treating diabetics. In the offices I was able to get input from actual practitioners in the field that supported what I was learning through articles.

Review Paper Title: Relationship between diabetes mellitus and periodontal diseases

Prospective Clinical Trials

Pat Davis

Supervisor: Anthony L. Asher, MD

Carolina Neurosurgery and Spine Associates

Carolina Neurosurgery and Spine Associates (CNSA) is one of the nation's largest community-based neurosurgical groups. At CNSA physicians conduct a variety of clinical trials related to neurosurgical diseases and a number of those trials were active during a ten week internship under the guidance of Anthony L. Asher MD F.A.C.S. One of the group's most complex trials involves the administration of a recombinant immunotoxin known as hIL13-PE38QQR (IL-13 PE) to brain tumor patients. IL13-PE has been shown to possess specific anti-tumor activity against a variety of cell lines, including malignant primary brain tumors. While working under Dr Asher, an intimate understanding of the basic aspects of clinical research was established through a variety of activities including independent materials research, and active participation in patient care conferences. A weekly multi-disciplinary brain tumor conference, held at Carolinas Medical Center, was also attended regularly by physicians from CNSA. . The following composition is intended to provide a summary of the most essential concepts assimilated during this internship. A number of noteworthy experiences are also detailed in a journal that follows the preceding composition. These experiences include clinical examinations, various neurosurgical treatments, observation of surgical procedures and general health care procedures.

SIP Title: Prospective Clinical Trials

Clinical SIP at the Holland Eye Surgery & Laser Center—Summer 2004

Katherine A. McCracken

On-Site Supervisor: Dr. Eric D. Snyder, M.D.
Holland Eye Surgery & Laser Center
Holland, MI

Under the supervision of Dr. Eric D. Snyder, M.D. and Dr. John H. Arendshorst, M.D. I worked as an ophthalmologic technician at the Holland Eye Surgery and Laser Center in Holland, Michigan. My duties at the eye clinic included: performing exam work-ups before the patient saw the physician, administering visual field tests, working at the reception desk to check patients in as they arrived, and performing various clerical duties. Exam work-ups provided the opportunity for direct patient contact, and were useful in acquiring numerous skills related to patient histories, reviewing patient systems and administering eye drops. Furthermore, my position at the eye clinic allowed me to be directly integrated in the team approach of the staff. I was scheduled to work at specific positions and had direct contact with both Drs. Snyder and Arendshorst on a daily basis.

In addition to my position as an ophthalmologic technician, I performed a case study on conductive keratoplasty (CK) and patient satisfaction at the Holland Eye Surgery and Laser Center. Recently approved by the FDA for the correction of hyperopia, conductive keratoplasty offers patients a non-invasive option for hyperopic correction. This technique is based upon the principles of thermokeratoplasty, and utilizes radiofrequency energy applied to a series of circular treatment spots to induce collagen shrinkage in the corneal stroma. Therefore steepening the central cornea to correct for refractive error. The procedure is performed by certified ophthalmologists and can be completed as an outpatient procedure, without the use of anesthesia. As with any new procedure, patient satisfaction is critical to its success. I administered surveys postoperatively to 31 individuals who were treated with CK at the eye clinic. Data from 27 returned surveys was analyzed to determine the perceived quality of the patients' vision and effectiveness of CK treatment. It was found that patients were satisfied with the outcome of their CK treatment, with 93% of those surveyed being able to read without reading glasses. Thus, the results of the procedure are promising.

My position at the eye clinic lasted fifteen weeks and was extremely valuable to both my personal and academic development.

Paper Title:

Conductive Keratoplasty & Patient Satisfaction: A Case Study at the Holland Eye Surgery & Laser Center

Clinical SIP in the Pediatric Emergency Department

Molly L. Shelters

Dr. Stuart Bradin D.O.

University of Michigan Medical Center Pediatric Emergency Department

My clinical SIP was completed at the University of Michigan Hospital in Ann Arbor, Michigan. The hospital is a level 1 pediatric trauma center with a volume of greater than 20,000 patients per year. I interned under Dr. Stuart Bradin, who is an attending in the pediatric emergency department. This was a wonderful opportunity as it allowed me to become familiar with a hospital setting and experience every aspect and level of the medical profession

I was present in the hospital with Dr. Bradin for all of his shifts during the ten week period I was interning. This was by no means a consistent schedule. Dr. Bradin routinely had late night shifts which could extend until two in the morning and also had very early morning shifts beginning at seven am. These varied shifts gave me insight into the amount of time that is spent working in a hospital.

During my time at the hospital, I witnessed and participated in many procedures. I witnessed blood work being done, lumbar punctures, burn debriding, radiologic testing and orthopedic procedures. I was also active in direct patient care; I learned to take patient histories, physical exam skills and took part in discussions concerning differential diagnoses and treatment plans. Each shift I focused on a different level of medicine; one day I would follow the medical students, the next the residents and so on. It gave me the understanding of what is yet to come in my medical endeavors. The residents and medical students taught me some suturing techniques that I could practice on towels, in order to perfect the tying and also assisted me with my paper research. Also, the pediatric care center is connected to the adult emergency room and trauma care center so I was able to spend some time there and witness trauma medicine in action. The University hospital is always bustling and I learned more about medicine in the ten weeks I was there with Dr. Bradin than in the preceding twenty years of my life. I have so many memories and a new medical vocabulary that will remain with me.

Another great piece of knowledge I gained from working with Dr. Bradin was how a doctor of osteopathic medicine fits into the hospital setting. What I found was that he had the same qualifications as one with an M.D. degree but he practiced with a slightly different philosophy in thinking. Interning with him allowed me to decide that osteopathic medicine was my ideal path. He helped me decide on my paper topic which is one that I witnessed many times and is a condition that affects many children. Fever in children is often benign but can be an indicator of serious infection. Infants are the most challenging patients as bacterial infections are often not seen and they cannot verbalize symptoms. At least once per shift I came into contact with the issues involved in management and care of febrile infants so I figured it would be a suitable topic for review.

Review paper: Management and care of the febrile infant aged 0-36 months noting associated risks of occult bacteremia.

Radiology Nursing Clinical Experience

Matt Smith

On-site Supervisor: Donna Elis

Radiology Department

Bronson Methodist Hospital

For the clinical aspect of my SIP I worked with the Bronson Radiology Nursing staff in Kalamazoo to gain experience in working with patients and becoming more familiar with the nursing profession. The Radiology Nurses have a somewhat unique hospital nursing position because they deal with the majority of patients on an outpatient basis. These nurses are responsible for the administration of conscious (moderate) sedation for procedures done in angiography (Special Procedures), the floors of the hospital, MRI, ultrasound, and diagnostics. The procedures include studies of vessels, biopsies, trans-esophageal echocardiograms (TEEs), and discograms.

My position this summer would be best described as a nurse's aide. I would help work patients up for procedures by doing various tasks that included asking questions about medical history, taking pulses and other vital signs, looking up lab values, and starting IVs. When the nurses had to recover their own patients post-procedure, I would do dressing checks, take additional vital signs, attend to general patient requests, do some discharge instructions, and a little charting. Other jobs I had included helping the Special Procedures staff prepare sterile trays for procedures as well as making sure that charts and rooms were stocked with the appropriate supplies and functioning equipment.

One of the additional projects that I took on during my time there was to make an updated and electronic version of their prep-book. This book contains the instructions that patients are to follow before a procedure. The electronic prep-book allows the healthcare professionals easy access to the information and they are able to simply print a copy that the patient can take with them.

I gained quality experience working with patients in a setting that in many regards is similar to the profession that I am working towards. I would like to be a certified registered nurse anesthetist (CRNA), who are not responsible for the long-term care that many nurses in the hospital are. I started to learn about clinical pharmacology but it was obviously only a fraction of what is necessary to be a CRNA.

Overall, it provided a good understanding of the nurses' role in the administration of conscious sedation. With experiencing this style of clinical practice, I feel confident in my decision to become a CRNA because of similarities in the level of patient contact and healthcare provided.

SIP Title: "The Major Agents and the Role of the Nurse in Conscious Sedation"

Clinical Internship at Cristo Rey Community Health Clinic

Jill E. Weatherhead

Supervisor: Peter H. Cooke M.D.

Cristo Rey Community Medical Clinic Lansing, MI

My Senior Individualized Project (SIP) was performed at Cristo Rey Community Medical Clinic and mobile health clinic. This organization provides medical assistance to low income residents of Ingham County. Yearly, the clinic attends to about 12,000 patients. It is an establishment within the community functioning for the past 35 years. While the clinic is located in a Community Center, it also provides medical attention to those living on sod farms around the Lansing area. Furthermore, the clinic offers care for a largely Hispanic and migrant farmer population which has allowed me to further my practice in both medicine and Spanish. While I was working at the health clinic, I acted as a physician aide and prepared the patients for their appointments. I was able to shadow physicians, assist in procedures and complete "prep-work" before the physicians saw the patient. During this internship I worked alongside Dr. Peter Cooke, Dr. Maria Carmen Soto and Linda Hughes N.P. However, with the lack of funds to support a full staff, I was given many hands-on opportunities within the clinic setting. Along with the medical aspect of the internship, I gained a more in depth perspective of how to run and maintain a low-income clinic. I was able see how to manage funds, resources and employees. Working at the migrant health clinics also allowed me to act as a translator for non-Spanish speaking health professionals. The small group of health professionals traveled to migrant camps around the Lansing area providing free medical attention for the workers. At the camp sites I was able to take the vital signs of the patients and accompany them into the observation room. Through this experience I was able to advance my medical knowledge (in both English and Spanish) as well as develop a new perspective of medical treatment and accessibility in the United States.

SIP Title: *Health Concerns and Healthcare Accessibility of Migrant and Seasonal Farm Workers in the United States.*

Coordinator: Dr. Peter H. Cooke Email: crstorey@ameritech.net

Location: Cristo Rey Community Center- Family Health Clinic

1717 N. High St.

Lansing MI

A MEASURE OF STRESS IN HORSES WITH RECURRENT AIRWAY OBSTRUCTION USING HEART RATE VARIABILITY AND CORTISOL AS INDICATORS

Anna Sleder

Onsite Supervisor: Dr Deborah Wilson

Pulmonary Laboratory, Department of Large Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University, East Lansing, MI 48823, USA

It is known that heart rate becomes more stable and measures of heart rate variability (HRV) are reduced in exercising horses and stressed people. HRV may also be reduced in pain-related and non-painful stress. This study was aimed to characterize the changes in HRV and cortisol in horses in respiratory distress (recurrent airway obstruction, RAO). Seven conditioned heaves-susceptible horses were housed on shavings and fed pellets for 4 days (baseline), then on straw and fed hay to induce RAO. Respiratory effort, rate, signs of distress, and data were collected twice daily. Horses were videotaped and blood was collected daily (cortisol). The study was terminated when respiratory effort reached a score of 7 (of 8) on a previously published scale. HRV data were filtered using Polar equine software (Version 4) and analyzed using Software for Advanced HRV Analysis.

Inducing heaves took 6 ± 3.2 (SD) days. Cortisol levels were lower and heart rate was higher during respiratory distress than following transport. Significant changes in HR, HRV and cortisol occurred over the baseline period, but there were no other significant results after the induction of RAO.