

# Strategies for Improving the International Elective Process: SWOT Analysis of an Elective in Butare, Rwanda

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### ABSTRACT

**Background:** Medical electives in developing countries present challenges in their planning and execution. We are two University of Ottawa Medical School students who recently completed a 3-week pre-clerkship elective in Butare, Rwanda and have insight into the elective planning process.

**Methods:** A Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis was conducted to evaluate the elective process for areas of improvement. “Internal factors” were defined as those pertaining to the University of Ottawa and us as the elective students. “External factors” were defined as those pertaining to Butare and Rwanda, including the teaching and administration staff, and the hospital itself.

**SWOT Analysis:** The main strengths of the elective program at the University of Ottawa was its ability to support students in the choice of elective, training, and funding, while the weaknesses involved communication between faculties and students. The opportunities for students included excellent learning opportunities and exposure to novel medical settings, while the threats involved clinical, administrative, and cultural factors.

**Conclusion:** We present a proposed template of an “elective hand-off” document for students to complete after returning from their elective. This document addresses the significant lack of longitudinal communication between students and presents a more detailed summary of the opportunities and threats associated with a given placement. We also propose mandated email contact between the elective student and the home faculty as well as between home and foreign faculties.

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### RÉSUMÉ

**Contexte:** Les stages au choix en médecine dans les pays en développement comportent des défis d'organisation et d'exécution. Nous sommes deux étudiants à l'école de médecine de l'Université d'Ottawa ayant récemment complété un stage au choix au préexternat de trois semaines à Butare, au Rwanda, et avons ainsi une vue d'ensemble du processus de planification de stages au choix.

**Méthodes:** Une analyse des forces, faiblesses, possibilités et menaces (SWOT, de l'anglais) a été menée pour évaluer les éléments des stages au choix pouvant bénéficier d'améliorations. Les « facteurs internes » étaient définis comme ceux étant reliés à l'Université d'Ottawa et à nous, les étudiants participant au stage. Les « facteurs externes » étaient définis comme ceux étant reliés à Butare et au Rwanda, incluant les personnels enseignant et administratif, et l'hôpital lui-même.

**Analyse SWOT:** La force principale du programme de stages au choix de l'Université d'Ottawa était sa capacité de soutenir les étudiants dans leur sélection de stages, leur formation et leur financement, alors que sa faiblesse était dans la communication entre les facultés et les étudiants. Les possibilités pour les étudiants incluaient d'excellentes opportunités d'apprentissage et l'exposition à de nouveaux milieux médicaux, tandis que les menaces comprenaient des facteurs cliniques, administratifs et culturels.

**Conclusion:** Nous proposons un gabarit pour l'évaluation des stages au choix, à compléter par les étudiants lorsqu'ils reviennent de leur stage. Ce document aborde le problème que représente le manque considérable de communication longitudinale entre les étudiants, et offre un résumé plus détaillé des possibilités et des menaces propres à un placement précis. Nous proposons également une communication par courriel obligatoire entre l'étudiant faisant un stage et sa faculté, ainsi qu'entre la faculté de l'étudiant et les autres facultés de médecine.

## INTRODUCTION

International medical electives serve as great opportunities for medical students to gain exposure to new types of medicine and healthcare settings, to pursue interest in global health aid work, and to network with healthcare practitioners around the world. In particular, electives in developing countries present students

with perspective into under-resourced healthcare systems and rare illnesses that many Canadian healthcare workers will never encounter. However, the process of planning and executing such electives can be rife with challenges, uncertainty, and even danger. From selecting placement locations with secure accommodations to obtaining immunizations and travel visas, planning international electives is a demanding task, and it is essential that

**Keywords:** SWOT; Elective; Developing Country

a student's faculty provides guidance for a successful outcome. The Faculty of Medicine at the University of Ottawa facilitates international electives through the Global Health Office. The Global Health Office provides students with a checklist of requirements to complete when requesting approval for an international elective placement including site, location, dates, and medical specialty. It is the student's responsibility to find and confirm the elective independently. The student must also ensure that their essential immunizations are up to date and that they are in good academic standing. Furthermore, the student must attend a pre-departure training course provided by the faculty which outlines an approach to international electives and features experiences from other medical students and physicians while abroad. After the elective is completed, the student must provide the faculty with evidence of feedback from a supervisor that they worked with during their elective along with a self-reflection of their experience.

We are two University of Ottawa medical students who attended a clinical elective at the University Teaching Hospital of Butare in Butare, Rwanda in June 2016. This took place immediately after we completed our final pre-clerkship examinations at the end of the second year of a four-year medical degree. We were each in Rwanda for approximately three weeks, with ten of those days coinciding with the other. We worked on different services but stayed in the same accommodations and met daily for meals and after our respective shifts. Additionally, we prepared for and planned parts of the elective together. Our individual and common experiences gave us insight into the overall elective experience with the unique disposition to reflect upon and evaluate the elective both individually and collectively.

We systematically analyzed our elective experience using a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis. The SWOT model is a commonly used tool in business, industry, education, and community health to assess efficacy and strategize improvements [1-3]. It involves identifying strengths and weaknesses intrinsic to a program or organization itself which are defined as the "internal factors." These are considered in the context of the opportunities and threats posed by the environment in which the program functions which are defined as "external factors."

The purpose of this study was to analyze our elective in Rwanda in order to identify strategies for improving the University of Ottawa's international medical elective process, specifically with regards to electives in developing countries. While our experiences were limited to a pre-clerkship elective in a developing country, we anticipate that the strategies we suggest may be applicable to electives in clerkship and developed countries as well.

## **METHODS**

A SWOT model was used to analyze the elective experience. The "internal factors" were defined as those pertaining to The Faculty of Medicine at the University of Ottawa and the medical students attending the international elective. The "external factors" were defined as those pertaining to the Faculty of Medicine at the National University of Rwanda, the teaching and administration staff at the University Teaching Hospital of Butare, as well as the broader setting of Butare and Rwanda itself.

The SWOT analysis identified key elective components and categorized them into strengths, weaknesses, threats or opportunities. These components were then analyzed using a cross-factor method, identifying strategies in "Strength-Opportunities," "Strength-Threats," "Weakness-Opportunities," and "Weakness-Threats". For example, "Strength-Opportunities" contained strategies that utilized the identified strengths to optimize opportunities, whereas "Strength-Threats" utilized the identified strengths to mitigate threats. Major trends were recognized in each of these groups, which informed the proposed strategies.

## **STRENGTHS**

### ***Freedom of Choice***

The Faculty at The University of Ottawa allowed us to attend an international elective in a service and location of our choice, provided that the Canadian federal government had not issued any severe travel warnings for that country. This allowed us to reach out to a breadth of international medical faculties and pursue electives in medical fields in which we were interested and considering as career options.

### ***Pre-departure Training***

As medical students attending an international elective we were required to complete a 7-hour pre-departure training course. The course outlined safety and travel precautions, essential immunizations, and expected behaviour and attitude. During the training there were a series of lectures by physicians and students who had worked internationally which provided us with a chance to inquire about different locations and get advice on optimizing our elective experience.

### ***Action Global Health Network (AGHN)***

The AGHN is an organization that provides international healthcare resources for professionals and students. The information made available to us included contact information for global health projects and groups, and training modules pertaining to cultural competency and ethics. The AGHN also hosts an annual

global health conference at the University of Ottawa.

## **Scholarship Opportunity**

The Office of Global Health at the University of Ottawa Faculty of Medicine annually provides twenty awards of \$1000 to students attending international electives to mitigate the high costs of international travel. We were both awarded this scholarship pending submission of our elective reflections.

## **WEAKNESSES**

### ***Limited contact to home faculty while abroad***

There is currently no mandated contact with the home faculty when the student has arrived at their elective location. Although we were both fortunate to have very positive elective experiences, situations may arise where students face difficulty with transportation, boarding, the hospital setting, or adapting to a new culture. Additionally, the faculty has no way of knowing that a student has arrived at their location safely. This lack of contact could also provoke a sense of isolation for students traveling alone.

### ***Limited feedback to foreign faculty***

Following the elective, there was no formal process to give feedback to the faculty with which we did the elective. While student suggestions may not be especially valuable following a single elective, the foreign faculty could utilize ongoing feedback if more students wish to attend the elective in the future.

### ***No communication between home and foreign faculties***

Throughout the span of our elective, there was no direct contact between the home and foreign faculties — we facilitated all communication. This jeopardized the potential for a longitudinal relationship between faculties in order to garner a better elective experience for all the involved parties.

### ***Limited longitudinal communication between students traveling to the same centre***

While we were fortunate to know a student who had done an elective in Rwanda, there is currently no system in place for students interested in an elective to communicate with past attendees who would be an invaluable resource of suggestions for travel, accommodations, etc. Currently, a host of information is being lost between subsequent electives. While there is an electives database provided by the University of Ottawa Global Health Interest Group, the feedback is limited and does not provide the level

of detail that is practically useful for elective students.

## **OPPORTUNITIES**

### ***Expatriate physicians available to orient and teach***

Expatriate physicians working in developing countries can be excellent supervisors and educational resources for visiting elective students. In Butare, there were several physicians from countries such as the United States and Australia who were participating in one-year placements in their department of specialization. The primary goal of these physicians was educating the medical students and residents in Rwanda which created an excellent environment for learners in the department, including visiting students.

### ***Excellent housing available***

Situated next to the hospital were student dorms that provided all necessities for approximately \$15 CAD per night. The rooms they provided us were private, clean and secure, and included en suite bathrooms with hot water. Laundry and meals were also offered for very reasonable prices. The proximity of the accommodation to the hospital and the available amenities greatly enhanced the elective experience.

### ***Full service hospital***

The hospital at which we were placed was a full-service referral hospital and included subspecialty departments such as otolaryngology. The variety of specialties allowed us to rotate through and see a variety of cases, as well as observe inter-department transfers and consultations.

### ***Teaching hospital***

There were many Rwandan medical students around the hospital who provided us with support and orientation. The medical students were very welcoming and willing to share their knowledge about common illnesses in Rwanda such as malaria, while we reciprocated by sharing our knowledge about topics such as developmental disorders in children and mental health disease. The medical students also provided a good example of what kind of responsibilities we could take on as fellow medical students.

### ***Rare illnesses***

We had the opportunity to see patients who were sick with regional illnesses that we learn about but rarely see in Canada. These cases served as an invaluable learning opportunity. Some examples of the rare illnesses we encountered were malaria,

rheumatic fever in children, cryptococcal meningitis, osteogenesis imperfecta, trachea-esophageal fistula in an adult, and trauma cases such as stabbings, clubbings, and motor vehicle accidents.

## ***Small registration fee***

The hospital asked for a \$200 USD elective fee. Although this may seem expensive, it is extremely small when compared to setting up an international elective with a large company such as Work the World. Additionally, the cost of living in Butare was small compared to any developed country.

## **THREATS**

### ***Language***

In Butare, nearly all of the patients exclusively spoke Kinyarwanda. This language barrier made it mandatory to work with another physician, medical student, or allied health care worker to communicate with patients. Often the doctor and patient would speak Kinyarwanda for the entire appointment and the doctor would quickly summarize the interaction for us in English between patients. This situation caused us to miss out on the nuances of the conversation which are key components of clinical encounters.

### ***Limited investigations and tests available***

There was no availability of advanced diagnostic medical imaging machines such as CT scanners or MRIs. There was also a lack of laboratory tests available for specific organisms or antibodies. The lack of resources made clinical care and learning difficult at times and facilitated it at other times, as students were required to hone and trust their physical examination.

### ***Different standards of care can put students in difficult ethical situations***

The standard of care in Rwanda was very different than in Canada making it difficult to decide when to advocate for patients. For example, pain management is not emphasized in the Rwandan medical system or culture and it was often difficult to know when to advocate for patients to receive proper pain management. Additionally, due to the lack of staff and overcrowding of the hospital, we sometimes felt pressured to do procedures that we may not have been qualified to do in Canada. Even with prior training in dealing with these types of situations the uncomfortable position was unwelcome.

### ***Lower hygiene standard***

Many departments ran out of gloves, masks, and alcohol-based

hand sanitizer. Additionally, surgery often used cloth face-masks and caps that were reused and not necessarily washed between wearers. Had we not brought our own personal protective equipment, this would have been a threat to our own health and safety.

### ***No formal orientation to program/hospital***

There was no formal orientation upon arrival in Butare. Students were required to find their own way around the hospital and locate the department they were to start in. There was very little contact from the elective administrator and physicians were not always aware we were going to be on their service before our arrival or contact a few days prior.

### ***Limited teaching opportunities***

The hospital was understaffed and overcrowded which sometimes created a difficult learning environment. Rwandan doctors were overwhelmed by patient load and had less time for teaching even if they were very eager to do so. There was also a variable amount of enthusiasm by some physicians despite being in a teaching hospital.

### ***Transportation planning can be difficult***

Given that the elective was outside of Kigali, where the international airport is located, some extra transportation planning was required by the students. Unlike in Canada, Google searches and telephoning bus companies is not a viable option for planning transportation. Taxis often had to be arranged through hotels or hostels and motorcycle taxis were the standard mode of transportation. Additionally, the Kigali-Butare bus schedule was only available at the bus station where we bought our tickets. The buses were often overfilled and had no designated luggage space.

## **ANALYSIS**

Upon identifying the strengths, weaknesses, opportunities and threats of the elective, major themes were extracted from the information in hopes of creating strategies to enrich the elective experience.

The intrinsic strengths of the University of Ottawa elective program were primarily due to the Global Health Office and its ability to support students in elective choice, training, and funding. Medical students are fortunate to have thorough training prior to departure, and it should be further utilized to address some of the external threats posed by international electives.

The opportunities for students include excellent learning envi-

ronments and exposure to novel ways of practicing medicine. Factors such as safe, comfortable housing and low registration and living costs can be very important to students in unfamiliar settings. The learning opportunities, in the form of both cases and teachers, provided depth and enriched learning that are vital to a successful elective.

The weaknesses of the University of Ottawa elective program involved communication-related factors. The identified gaps in communication expose the need for increased sharing of information between all involved parties in the elective process, namely the current attending medical student, the home faculty, the foreign faculty, and past attendees. The need for communication between the home faculty and the student during the elective is essential, as it poses a personal safety concern for the student especially in developing countries where safety is not always assured. Mandated email contact with the home faculty provides the student with support on arrival in an unfamiliar setting — a crucial time for ensuring the rest of the elective goes smoothly.

The threats posed by the elective setting involved both clinical and administrative components. It is important to note that neither the visiting medical student nor the home faculty can solve all threats, nor is that necessarily an ideal outcome; some of the threats identified may be the reason why the student is interested in the elective in the first place, such as exposure to resource-limited healthcare settings. The goal is for students to recognize what they may encounter and be prepared for all scenarios. Pre-departure training does an adequate job of broadly addressing these threats but it would be useful for students to have specific information about their chosen placement.

## STRATEGIES

As an outcome of the analysis we have outlined one primary and two secondary strategies. Our primary strategy is a longitudinal resource that is specific to each elective experience in order to facilitate ease of registration, planning, and preparation. This resource can be implemented into the online electives database and consists of a form that students fill out upon return home from their elective (**Figure 1**). This “elective hand-off” document will contain information outlined in the threats section as well as the opportunities section, which is specific to the elective. The document should be dated and every time a student visits the same location they will update the document with new resources and information. This document will help to enhance the experience of all students doing a future elective in the same location.

A secondary strategy is to mandate contact from students traveling to developing countries or countries with travel precautions once the student has arrived. This point of contact will give the

student a sense of security and allow the student to touch base with the faculty and voice any concerns with the placement.

An additional secondary strategy is to foster a single point of communication between the University of Ottawa Faculty of Medicine and the foreign Faculty of Medicine. When repeated over multiple electives, this could help forge a relationship between faculties and familiarize the foreign faculty with Ottawa medical students, with the hope of making them more inclined to accept elective requests in the future.

## CONCLUSION

The SWOT analysis presented outlines specific themes for which the elective process at the University of Ottawa both succeeds and needs improvement. Through this analysis we were able to identify factors that we could influence versus those that were specific to the environment we entered. This served to make the strategies we developed realistic and feasible. Furthermore, the manner in which we defined our internal and external factors allowed us to generalize our findings to other developing country electives facilitated by the University of Ottawa faculty. In all such electives, the internal factors would be the same as those in our analysis, with the external factors having similar themes.

Planning an elective is a great deal of work. While it is incumbent upon medical students to be motivated and proactive in their efforts to attain a placement, it is also crucial that one’s home faculty facilitates a streamlined approach in order to make such a valuable opportunity accessible for their students. Providing resources for finding and contacting foreign faculties, funding opportunities to help mitigate personal costs, along with developing strategies for students to prepare and deal with uncertainties regarding accommodation, transportation, and security during their elective, will undoubtedly optimize the student’s learning experience. We present a proposed template of an “elective hand-off” document for students to complete after returning from their elective. This document addresses the major lack of longitudinal communication between students and presents a more detailed, specific summary of the opportunities and threats associated with a given placement.

## REFERENCES

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# Research

Location	Length of time
<b>Ground Transportation Advice</b>	
Transfer from airport	
Transfer from airport city to elective city	
<b>Location Advice</b>	
Was your place rural or urban? Was this a positive or negative?	
<b>Accommodation Advice</b>	
Where did you stay?	
Website/Contact Info	
Price	
Comment on cleanliness/safety	
Overall advice on accommodation	
<b>Education Advice</b>	
Is the hospital a teaching hospital?	
Are other learners present?	
Are foreign doctors placed in the hospital? What departments?	
What was the quality of clinical teaching?	
What services did you rotate on?	
Comment on education	
<b>Miscellaneous Advice</b>	
Do you need your white coat?	
Day to day attire?	
What personal protective equipment should be brought?	
Tourism advice	
Extra advice	

**Figure 1:** Elective hand-off document. This is a form for students to complete post elective to provide key information for future students.