

Impact of Participation in an International Surgical Observership Program: Results of an Online Survey

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ABSTRACT

Aim: To assess the impact of international surgical observership, the level of satisfaction of past participants and obtain their feedback on their experience. Since 2011, the international observership program (IOP) is offered in partnership with the Panamerican Trauma Society (PTS) and the Virginia Commonwealth University (VCU), Division of Acute Care Surgery Services. The IOP has facilitated knowledge exchange opportunities on trauma care and emergency medical systems (EMSs) for physicians in training from Latin America countries.

Materials and methods: An online survey using REDCap was conducted among past participants ($n = 36$). The 14-question survey had a combination of dichotomous, multiple-choice, open-ended, and Likert scale questions. To keep the survey anonymous, participant identifiers were not used. Descriptive analysis was carried out.

Results: The response rate was 53% ($n = 19$). The overall effect of IOP should be considered as positive, as 17 (89%) respondent alumni consider the IOP exceeded or met their expectations and 18 (95%) would recommend it to a friend and colleague. Similarly, 89% of the IOP's alumni believe that the observership helped them with their career growth. Most of the observers commented that the experience was inspiring, opened their minds, and broadened their horizons.

Conclusion: The present survey adds further evidence of the positive impact that international observerships offer to physicians in training coming from low- and middle-income countries. The IOP introduces students to new knowledge for comprehensive care of trauma patients that would be advantageous to their future professional roles.

Keywords: Global surgery, International experiences, International observership, Rotations, Surgical training, Survey, Trauma.

RESUMEN

Objetivo: Evaluar el impacto de un programa internacional de observación quirúrgica, el nivel de satisfacción de los participantes, y obtener sus comentarios sobre la experiencia. Desde el 2011, el Programa Internacional de Observadores (PIO) se ofrece en asociación con la Sociedad Panamericana de Trauma (PTS) y la División de Cuidado Crítico Quirúrgico de Virginia Commonwealth University (VCU). El PIO ha facilitado oportunidades de intercambio de conocimientos en el manejo de traumas y de los sistemas médicos de emergencia para los médicos en formación de países de América Latina.

Materiales y métodos: Se realizó una encuesta en línea usando RedCap entre los ex participantes del PIO $N = 36$. La encuesta de 14 preguntas tenía una combinación de preguntas dicotómicas, de opción múltiple, abiertas y de escala Likert. Para mantener la encuesta anónima no se utilizaron identificadores para los participantes. Se realizó un análisis descriptivo.

Resultados: La tasa de respuesta fue del 53% ($n = 19$). El efecto general del PIO debe considerarse positivo, ya que 17 (89%) de los alumnos encuestados consideran que el PIO excedió o cumplió con sus expectativas y 18 (95%) lo recomendaría a un amigo o colega. Del mismo modo, el 89% de los ex participantes del PIO creen que la rotación les ayudó con su crecimiento profesional. La mayoría de los observadores comentaron que la experiencia fue inspiradora, abrió sus mentes y amplió sus horizontes.

Conclusiones: La presente encuesta adiciona más evidencia del impacto positivo que las rotaciones internacionales ofrecen a los médicos y estudiantes de medicina procedentes de países de ingresos bajos y medianos. El PIO ofrece a los participantes la oportunidad de adquirir nuevos conocimientos en la atención integral de pacientes con trauma y es una ventaja para sus futuros roles profesionales.

Palabras clave: Capacitación quirúrgica, Cirugía global, Encuesta, Experiencias internacionales, Observación internacional, Rotaciones internacionales, Trauma.

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INTRODUCTION

Observerships and shadowing programs, whether in domestic or international settings, are now widely used as an educational strategy to strengthen the clinical and patient-care skills of students and trainees and are acknowledged by many US medical schools.¹ Multiple studies highlight the use of international rotations as an approach to help US students in healthcare-related careers and to advance in their professional development. It is noted that these international experiences have a positive influence not only on their clinical skills² but also on nonacademic abilities such as cultural competence, positive appreciation for public health,² awareness of resource use,² importance of cross-cultural communication skills,^{2,3}

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and a better understanding of the challenges in underserved populations.² Moreover, it has been inferred that healthcare professionals who built these soft competencies eventually increase their chances of success in their clinical careers.

The majority of these studies, however, refer to students and scholars from high-income countries (HICs). The evaluation of the impact on exchange opportunities for students, trainees, and scholars from low- and middle-income countries (LMICs) remains limited. The aim of the present study is to evaluate the impact of the panamerican trauma society (PTS) integrated international observership program (IOP) at Virginia Commonwealth University (VCU).

Since 2011, VCU has served as the headquarters for PTS. One of the first initiatives of the PTS–VCU partnership was the development of IOP for LMIC students and scholars focused on clinical care of the injured as well as trauma and emergency medical system (EMS). The VCU Health System is an urban, academic tertiary care hospital. It is a state-designated level I adult, pediatric, and burn trauma center in Virginia as well as an American College of Surgeons (ACS)-verified level 1 adult and pediatric trauma center, and American Burn Association-verified burn center. The PTS and VCU partnership has facilitated knowledge exchange opportunities on trauma care and EMS for healthcare providers from Latin American countries. In recent years, however, the IOP has opened the doors to participants from other regions of the world. The overall goal of the PTS-VCU IOP is to foster understanding of a trauma system by offering access to a comprehensive hospital and regional-based experience under the guidance and supervision of trauma surgeons and EMS medical directors. The IOP is a hospital-based shadowing program as well as EMS program, where international observers (medical students, general practitioners, residents, and fellows) are granted access to a variety of clinical, educational, and EMS activities. Table 1 summarizes the activities that international observers can attend.

The IOP has the capacity to host two observers per month. The duration of the observership varies from 2 weeks up to 3 months depending on the observers' academic level, personal objectives, and financial resources. To participate in IOP, observers must meet some requirements, such as English-speaking proficiency, complete immunization records, and recommendation letters among others. The IOP is free of charge but also does not offer financial support; therefore, observers must cover transportation and their own living expenses. The IOP does work with VCU for provision of reduced cost housing options.

In this present study, we sought to perform a preliminary assessment of the program to evaluate the impact it has had

on the international scholars and their practice and to obtain feedback on how we can further enhance the experience for future participants.

MATERIALS AND METHODS

This study was approved by VCU Institutional Review Board (IRB). The purpose of this study was threefold: (1) to describe the experiences and knowledge gained by the international observers who visited VCU Health System through the IOP from 2011 to 2018, (2) to assess the self-perceived impact the observership had in their career growth, and (3) to collect input about strengths and areas for improvement, so future IOP participants will benefit greatly.

In order to collect information about the impact that the international observership had on former IOP participants, a 14-question online survey using REDCap tool was carried out.⁴ The secure software was used for survey design methodology and it was constructed to gather career information and to analyze the participants' perceived impact of IOP on their careers. The online survey questionnaire included an invitation/informational message. Three weekly survey reminders were scheduled as a strategy to reach a higher response rate. A brief survey completion text was sent after the survey was completed. The questionnaire was in English. Although for most of the observers English is not their first language, they have a high level of English proficiency. The questionnaire included basic demographic information, questions related to satisfaction with the program, and identification of the strengths and weaknesses. The questionnaire had a combination of dichotomous, multiple-choice, open-ended and Likert scale questions. To keep the survey anonymous, participant identifiers were not used. Descriptive analysis was carried out.

RESULTS

Between 2011 and 2018, a total of 36 international observers participated in the program. Since the PTS-VCU IOP establishment, the number of participants has increased over time from one in 2011 to nine participants in 2018. A total of 36 international observers come from six different Latin American countries, namely, Brazil, Chile, Colombia, Ecuador, Mexico, and Peru. In recent years, the IOP has welcomed observers from other regions of the world including India and Sudan. Tables 2 and 3 provide the demographic distribution of the IOP's participants. As noted in Table 3, the distribution of observers' academic/professional level extended to all levels from medical students to active trauma surgeons and chairs of trauma programs including past presidents of PTS.

Table 1: Clinical and institutional activities offered during the international observership program

| <i>Type of activities</i> | <i>Description of activities</i> |
|---|---|
| Clinical discussions | Morning reports, surgical grand rounds |
| Academic sessions | Burn and trauma weekly conference, PTS International tele-rounds |
| Hospital-based shadowing program | Patient rounds on various acute care surgery, burn, and surgical critical care services |
| Prehospital-based emergence program | Rotation with the Richmond Ambulance Authority (RAA) which provide emergency medical system (EMS) services to the City of Richmond with exposure to (1) mobile integrated healthcare provision (MIHP) (2) EMS data-driven decisions for strategic ambulance deployment and prediction of location of incoming calls |
| Trauma and critical care education (CTCCE) center | Exposure to trauma education programs, various prehospital and hospital-based curriculum development, and course administration (stop-the-bleed, basic life support (BLS), advanced cardiac life support (ACLS), advanced trauma life support (ATLS)) |
| Exposure to quality improvement (QI) | Attendance to mortality and morbidity meetings and medical audit committees. |
| Data management | Exposure to (1) hospital-based trauma registries—VCU trauma registry and PTS trauma registry and (2) data abstraction, audit, and management |

Table 2: Demographic distribution of international observers 2011–2018 (n = 36)

| Variable | n (%) |
|--|---------|
| Gender | |
| Female | 15 (42) |
| Male | 21 (58) |
| Country | |
| Brazil | 7 (19) |
| Chile | 4 (11) |
| Colombia | 11 (31) |
| Ecuador | 10 (27) |
| Mexico | 1 (3) |
| Peru | 1 (3) |
| India | 1 (3) |
| Sudan | 1 (3) |
| Academic level at the time of observership | |
| Medical student | 10 (27) |
| General practitioner | 6 (17) |
| Surgery resident | 4 (11) |
| Trauma fellow | 13 (36) |
| Trauma surgeon | 2 (6) |
| Emergency medicine resident | 1 (1) |

The majority of the observers, however, were trauma and surgical critical care fellows (36%).

SURVEY RESULTS

Thirty-six former IOP participants were invited to partake in the REDCap survey. Two e-mail addresses were incorrect. Therefore, only 34 past observers received the survey invitation in early January 2019. Of those, 19 (53%) completed the 14-question survey. There were no negative comments about the IOP. One participant did not provide descriptive feedback. The majority of the respondents were male medical students (academic level) from Brazil and Ecuador. Observers learned about the PTS–VCU IOP through a variety of means including professors (63%), friends/colleagues (15%), PTS Website (11%), and PTS congress (11%). Table 4 shows the descriptive variables of the respondents.

Most of the survey respondents (18) answered the question addressing their satisfaction with different locations. As noted in Table 5, the EMS experience in Richmond Ambulance Authority (RAA) was ranked the highest (89%). It was followed by the trauma and surgery intensive care unit (ICU), with 13 (72%) participants expressing being “very satisfied.”

The survey also included a question asking IOP participants to choose the top three healthcare-related activities that impressed them the most. The three top aspects were academic discussion and teamwork interaction, followed by quality improvement (QI) activities and medical technology available. Surprisingly, the aspects that impressed the least were patient safety practices, bedside manners, and overall patient-centered care. The results are presented in Table 6.

Overall the qualitative comments about the IOP were extremely positive (Table 7). The feedback collected was categorized into three main domains: (1) expansion of vision and knowledge, (2) improvement in clinical practice, and (3) decision for future career path.

Table 3: Distribution of observers' academic/professional level 2011–2018 (n = 36)

| Year | No. of scholars | Country of origin | Academic training |
|----------|----------------------|-------------------|----------------------------------|
| 2011 | 1 | Ecuador | Trauma fellow |
| 2012 | 6 | Colombia | Trauma fellow |
| | | Brazil | Medical student |
| | | Colombia | Trauma fellow |
| 2013 | 3 | Colombia | Medical student |
| | | Chile | General surgeon |
| | | Chile | Trauma surgeon |
| | | Colombia | Trauma fellow |
| 2014 | 3 | Mexico | Trauma fellow |
| | | Ecuador | Medical student |
| | | Colombia | Trauma fellow |
| 2015 | 3 | Colombia | Trauma fellow |
| | | Colombia | General practitioner |
| | | Brazil | Surgery resident |
| 2016 | 4 | Brazil | Surgery resident |
| | | Colombia | Trauma fellow |
| | | Sudan | General practitioner |
| | | Ecuador | Medical student |
| 2017 | 7 | Chile | Surgery resident |
| | | Brazil | Trauma fellow |
| | | Peru | Medical student |
| | | Brazil | Medical student |
| | | Brazil | Intensive care/medicine resident |
| | | Ecuador | Trauma fellow |
| | | Ecuador | Trauma fellow |
| 2018 | 9 | Ecuador | Medical student |
| | | Ecuador | Medical student |
| | | Colombia | Surgery resident |
| | | Ecuador | General practitioner |
| | | Ecuador | General practitioner |
| | | Ecuador | General practitioner |
| | | Chile | Trauma fellow |
| Brazil | Medical student | | |
| India | General practitioner | | |
| Colombia | Trauma fellow | | |
| Colombia | Medical student | | |

In addition, the self-perceived positive effect on their career growth is reflected by their current jobs and responsibilities. Seven participants (37%) indicated that they are practicing surgery, and three (16%) and four (21%) participants are teaching at undergraduate and graduate level, respectively. Three are also carrying out research. Others are still working toward their Doctor of Medicine (MD) degrees and residency programs, completing the mandatory social year, preparing for the United States Medical Licensing Examination (USMLE) test, and one is working as a chief of a surgery department.

DISCUSSION

The goal of this study was to assess the satisfaction level of the past IOP's participants as well as outline the benefits the IOP had on the

participants' professional careers. From the collected feedback, we can infer that the biggest positive impact the IOP had on the participants was that it expanded their view and knowledge, mostly, on the different elements of a trauma care system. The IOP may have also strengthened their patient-care practices and influenced their career path and current jobs and responsibilities. The positive effect on their career growth is reflected by their actual job responsibilities.

When assessing the satisfaction level by the area of rotation, higher rates (very satisfied) were given to RAA. This was not a surprising finding; it may be due to the fact that coordinated prehospital services are rudimentary or undeveloped in the majority of their native countries and it is completely novel to witness the logistics and interconnected steps prior to the arrival of a patient

to the trauma bay and emergency room. Some of the comments in the survey as well as in informal conversations with observers, they expressed their awe for seeing how smooth the ambulance services are coordinated in conjunction with a level I trauma center.

The opportunity of rotating at VCU Health System—emergency and acute care surgical services provided international observers with a different perspective of trauma and emergency surgical care that is not available in their native countries. The majority of them had never seen a statewide trauma system model in place, which follows a comprehensive trauma care cycle including interconnected components from injury prevention program, EMS dispatch and triage, hospital transfer, team activation, first-level trauma care in acute care facility, posthospital care (rehabilitation services), and follow-up.

Additionally, observers were “very satisfied” with attending academic and QI meetings (e.g., mortality and morbidity; medical audits, death, and complications; burn and trauma; patient-care committee; international trauma tele-grand rounds). This also represents a shift of perspective and understanding of what a culture of QI means within the context of hospital and trauma system settings. The practice of hosting weekly interprofessional patient safety and QI meetings as a mechanism to improve patient outcome and monitor the progress of performance indicators in Latin America is still in the early stage of introduction and development.⁵

Other areas of rotations with high satisfaction rates were “trauma and surgery ICU” and “academic sessions.” Having separate fully equipped and staffed independent units for trauma ICU and surgical ICU is an uncommon practice in their native countries. Similarly, IOP's alumni had the chance to witness surgical techniques they had not used before (e.g., robotic general surgery using the da Vinci system) and supporting QI electronic processes that they were unaware of (i.e., electronic medical records, trauma registry). It is noteworthy, however, that when participants were asked to select the three top aspects that impressed them the most, academic discussion and teamwork interaction were on the top, followed by QI activities and then medical technology. This speaks volume regarding the influence of the collective impact of coordination and communication in an organized trauma system that is often lacking in LMIC. It also alludes to the success of the PTS–VCU IOP in delivering the most important objectives of the rotation—exposure to organizational systems—which could lead to a greater and sustainable influence in LMIC settings.

Overall 89% of the IOP's participants believe that the observership helped them with their career growth and 95% would recommend the observership to a friend or colleague. However, there is representation from only six countries in Latin America, with 63% of the respondents indicating that they heard of IOP through a professor affiliated to PTS. The PTS leadership members are instrumental in supporting the IOP goals. They live or have professional connections with Brazil, Colombia, Ecuador, and Chile,

Table 4: Descriptive variables of the survey responders ($n = 19$)

| Variable | n (%) |
|--|---------|
| Gender | |
| Female | 8 (42) |
| Male | 11 (58) |
| Country | |
| Ecuador | 7 (37) |
| Brazil | 5 (27) |
| Chile | 3 (16) |
| Colombia | 3 (16) |
| Sudan | 1 (4) |
| Academic level at the time of observership | |
| Medical student | 9 (47) |
| General practitioner | 3 (16) |
| Surgery resident | 2 (11) |
| Trauma fellow | 5 (26) |
| Number of weeks in the observership | |
| 1–2 | 1 (4) |
| 3–4 | 7 (37) |
| 5–6 | 7 (37) |
| 7–8 | 2 (11) |
| 9–10 | 0 (0) |
| 11–12 | 2 (11) |
| Observers' overall expectations | |
| Exceeded expectations | 13 (69) |
| Met expectations | 4 (21) |
| Did not meet expectations | 1 (5) |
| Did not respond | 1 (5) |
| Will recommend the IOP | |
| Yes | 18 (95) |
| No | 1 (5) |

Table 5: Observers' satisfaction level by location, $n = 18$ [n , (%)]

| Area | Very dissatisfied | Dissatisfied | Neutral | Satisfied | Very satisfied |
|---|-------------------|--------------|---------|-----------|----------------|
| Emergency room | 1 (5) | 0 | 0 | 7 (39) | 10 (56) |
| Trauma and surgery ICU | 0 | 1 (5) | 0 | 4 (22) | 13 (72) |
| Operating room | 0 | 0 | 5 (28) | 6 (33) | 7 (39) |
| Richmond Ambulance Authority | 0 | 0 | 1 (5) | 1 (5) | 16 (89) |
| Academic sessions (quality improvement meetings, presentations) | 0 | 0 | 2 (11) | 4 (22) | 12 (67) |

Table 6: Aspects of healthcare delivery that impressed observers the most

| Aspects | n |
|--|----|
| Academic and clinical discussion sessions | 13 |
| Team work interactions and definition of roles | 13 |
| Quality improvement activities and processes | 10 |
| Medical technologies available | 8 |
| Clinical and surgical procedures | 6 |
| Overall patient-centered care | 3 |
| Bedside manners | 1 |
| Patient safety activities | 1 |

Table 7: Positive feedback from observers

| Feedback |
|--|
| Expanded their vision and knowledge |
| “the IOP made me see that our career [medicine] can be much more than what I see in [country].” It opens your mind in relation to other professionals |
| “[opened] my perspective of the state-of-the-art trauma care” |
| “a great opportunity to know a trauma system” |
| “To see trauma centers that do not exist in my country” |
| “help me to see how is [the delivery of] medicine in other countries and this encourages me [expand my horizons] and try to go out to improve my knowledge” |
| “Improve my vision about trauma systems and implementation of projects” |
| “Amazing experience and opportunity to see how trauma patients are treated at a high level trauma center” |
| “Develop more experience in how Trauma/critical care patients are managed right after 9-1-1 calls [are] made, in the prehospital and hospital setting in a level I Trauma Center” |
| “Amazing experience, it helped to understand how a Trauma Center works and should work around the world. [from] pre-hospital till treatment and discharge, [should] be the standard practice [in] all trauma centers. It’s an open-mind[ed] experience...” |
| Improve their practice |
| “improved my practice, the protocols [learned] help my hospital and patients” |
| “improved my view of care of [trauma] patients and showed me other [approaches] in healthcare systems” |
| “... the program’s [approach] and [the] way of how the morning [rounds] and shift-[change handoff] took place, gave me the necessary experience to carry the knowledge, make it mine and use it in my daily practice. The group discussion of patients during specific days, [show me] how a single patient can be managed integrally by many doctors at the same time [while having] the opportunity as a student of taking part during the discussions.” |
| Influenced decision for future career path |
| “exposure to trauma made me want to pursue a career in surgery in particular trauma and critical care” |
| “it helped me to decide the path I will follow ... (I want to become a critical care physician ...)” |
| “...the most exciting opportunity, helped me to define what I want to be in some years” |
| “[networking option] for residency application” |
| “I did not follow a career in trauma” |

which coincide with the countries with higher representation in the IOP. Professors affiliated to the PTS are informal ambassadors of the IOP that not only let students know about the program but also encouraged them to take advantage of this unique opportunity. This, perhaps, is an indication that there is a need for more local ambassadors in other countries who would spread the word about the IOP.

Studying abroad has long been recognized as an effective educational methodology. The evidence indicates that these educational practices offer students a significant advantage and provide important learning experiences for them. The current literature indicates that international observerships, rotations, electives, exchanges, and shadowing programs are an important educational methodology that offers healthcare trainees across all specialties opportunities to improve their clinical knowledge, skills, and attitudes as well as further their career growth and is worth their time, cost, and effort.^{2,6-14}

It is important to note that the majority of the literature refers to U.S. and Canadian medical students and residents participating in rotations and observerships in LMIC mostly, in Latin America and Africa. There is little literature assessing the benefits that international observerships have on healthcare professionals and trainees coming from LMIC.¹⁵⁻¹⁷ Just recently, the ACS evaluated the effect of its international scholarships program for non-U.S. surgeons and found that 80 to 90% of alumni considered it a very positive experience and provided them with further career opportunities that would not have been possible without it.¹⁶ Another study concluded that international rotations in the U.S. offer Mexican medical students extensive benefits in academic and personal development, including cultural competency, knowledge on foreign health systems, sharpening English skills and medical terminology, appreciation of broader interdisciplinary team roles and interactions, improvement of students’ self-efficacy, and, expanding their global health perspective.¹⁷ The present survey adds further evidence of the positive impact that U.S. observership have on health professionals coming from LMIC.¹⁵⁻¹⁷ It also highlights the role that international societies such as the PTS can play in providing an essential platform for educational opportunities and reciprocal exchanges. This is significantly facilitated via the partnership of PTS with a major academic institution like VCU dedicated to education, research, and innovation and serving as a comprehensive Level 1 trauma center.

The future of the IOP specifically will depend mainly on the continuation of the current partnership between PTS and VCU. This international collaboration helps to meet the strategic goals of both partner institutions for disseminating knowledge and propel career growth and advancement of students and trainees coming from countries with less developed health systems. The IOP is also a good example of international collaboration through reciprocity. As North American medical and residency programs are seeking global placements for their students, there is a growing call for opening the doors of U.S. institutions to medical students and residents coming from resource-limited settings. The future of IOP also lies in expanding the PTS observership to other affiliated institutions beyond VCU that have significant international and global network structure.

Although the IOP is offered to PTS members at no charge, the PTS does not have financial resources to sponsor talented students and young physicians from countries with weak economies. This

means that only those medical students or physicians with financial resources can take advantage of what IOP offers. It would be ideal to have funds to support promising scholars and trainees with travel scholarships, so they can return to their communities and work in projects oriented in strengthening their local emergency and trauma systems.

This study has several limitations. All past IOP participants were invited to participate, so there is not a random selection process. From the total sample size, only 53% responded to the survey; this group may not be representative of all international observers. All information provided by survey participants was by self-report; we did not attempt to validate any of the responses. In addition, as with all surveys, we limited the number of items asked to minimize respondent burden. Additional factors likely influence the professional satisfaction of international observers, especially the factors that were not captured in our survey. Finally, the current study is limited to the VCU IOP experience and does not take into account the other PTS affiliated IOP in other U.S. and Canadian institutions. A multi-institutional study will be needed among all the PTS-affiliated institutions to highlight the collective impact of IOP.

CONCLUSION

The overall effect of PTS-VCU IOP should be considered as positive, as close to 90% of respondent considered that IOP exceeded or met their expectations and would recommend it to a friend and colleague. This study suggests that the IOP can introduce students to new knowledge useful to succeed in their professional roles. The feedback collected also provided a picture of the aspects and hospital areas that are more appealing to the observers. We feel confident that the IOP will continue offering future students and scholars a valuable alternate and expansive perspective for comprehensive care of trauma patients. And finally, our assessment corroborated another IOPs findings that international rotations or exchanges not only can boost clinical knowledge for the visiting physician in-training but also can spark a passion for surgical trauma care.¹⁶ More importantly, the findings should encourage VCU-PTS to remain steadfast in supporting the efforts for the advancement of surgical care and education in the global surgery settings.

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REFERENCES

1. Turner SR, White J, Poth C, et al. Preparing students for clerkship: a resident shadowing program. *Acad Med* 2012;87(9):1288–1291. DOI: 10.1097/ACM.0b013e3182623143.

2. Thompson MJ, Huntington MK, Dan Hunt D, et al. Educational effects of international health electives on U.S. and Canadian medical students and residents: a literature review. *Acad Med* 2003;78(3):342–347. DOI: 10.1097/00001888-200303000-00023. Available from: <https://insights.ovid.com/pubmed?pmid=12634222>.
3. Blue A, Mutchnick IS, Moyer CA, et al. Expanding the boundaries of medical education: evidence for cross-cultural exchanges. *Acad Med* 2003;78(10 Suppl):S1–S5. DOI: 10.1097/00001888-200310001-00002. Available from: <https://insights.ovid.com/pubmed?pmid=14557080>.
4. Harris PA, Taylor R, Thielke R, et al. Research electronic data capture (REDCap) - a metadata-driven methodology and workflow process for providing translational research informatics. *J Biomed Inform* 2009;42(2):377–381. DOI: 10.1016/j.jbi.2008.08.010.
5. De Geyndt W. Improving the quality of health care in Latin America. *Int J Health Care* 2001;13(2):85–87. DOI: 10.1093/intqhc/13.2.85.
6. Ferrada P, Ivatury RR, Spain DA, et al. International rotations: a valuable source to supplement operative experience for acute-care surgery, trauma, and surgical critical care fellows. *J Trauma Acute Care Surg* 2017;82(1):51–57. DOI: 10.1097/TA.0000000000001307.
7. McKinley DW, Williams SR, Norcini JJ, et al. International exchange programs and U.S. medical schools. *Acad Med* 2008;83(Suppl):S53–S57. DOI: 10.1097/ACM.0b013e318183e351. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/18820502>.
8. Kusnoor AV, Stelljes LA. Interprofessional learning through shadowing: insights and lessons learned. *Med Teach* 2016;38(12):1278–1284. DOI: 10.1080/0142159X.2016.1230186.
9. Hau DK, Smart LR, DiPace JI, et al. Global health training among U.S. residency specialties: a systematic literature review. *Med Educ Online* 2017;22(1):1270020. DOI: 10.1080/10872981.2016.1270020.
10. Butteris SM, Schubert CJ, Batra M, et al. Global health education in US pediatric residency programs. *Pediatrics* 2015;136(3):458–465. DOI: 10.1542/peds.2015-0792. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26260713>.
11. Merchant AI, Walters CB, Valenzuela J, et al. Creating a global acute care surgery fellowship to meet international need. *J Surg Educ* 2017;74(5):780–786. DOI: 10.1016/j.jsurg.2017.01.012. Available from: <https://www.sciencedirect.com/science/article/pii/S1931720416302008?via%3Dihub>.
12. Abdalla M, Kovach N, Liu C, et al. The importance of global health experiences in the development of new cardiologists. *J Am Coll Cardiol* 2016;67(23):2789–2797. DOI: 10.1016/j.jacc.2015.10.089.
13. Bohman DM, Borglin G. Student exchange for nursing students: does it raise cultural awareness? A descriptive, qualitative study. *Nurse Educ Pract* 2014;14(3):259–264. DOI: 10.1016/j.nepr.2013.11.006.
14. Nguyen KA, Hart SR, Pidcock KN, et al. Creating learning opportunities for pharmacy students through an observership program. *Am J Heal Pharm* 2012;69(21):1905–1909. DOI: 10.2146/ajhp110714.
15. Fornari ED, Sabharwal S, Schwend RM. The POSNA-COUR international scholar program. Results of the first 7 years. *J Pediatr Orthop* 2017;37(8):570–574. DOI: 10.1097/BPO.0000000000000721. Available from: <http://www.posna.org/education/cour/application/COU>.
16. Nigri G, Early K, Tsoufas G, et al. International scholarship programs of the American College of Surgeons: expansion of the global surgical network. *World J Surg* 2018;42(5):1222–1237. DOI: 10.1007/s00268-017-4284-0.
17. Carlos Serna Ojeda J, Pérez Jiménez M, Domínguez Cherit G, et al. La expansión de los horizontes en los campos clínicos: los beneficios de las rotaciones nacionales e internacionales en la educación médica. *Revista AVANCES* 2012;9(27):23–25.