Bilateral pain medicine exchange framework for international pain program development: Three-year experience

Elizabeth Akintunde, MD[1], Maxim Eckman, MD[1], Robert Djagbletey, MD[2], Mfonobong Okubadejo, MD[1]

[1]Department of Anesthesiology & Pain Medicine, The University of Texas Health Science Center at San Antonio. [2]Department of Anaesthesia, University of Ghana Medical School & Korle Bu Teaching Hospital

ASRA PAIN MEDICINE
25th Annual Pain Medicine Meeting
November 5-7, 2026 | Tampa, Florida
#ASRAFALL26

Introduction

Bilateral academic exchanges in interventional pain medicine between US institutions and low- and middle-income countries (LMICs) remain rare. Existing global health models predominantly favor unidirectional volunteer structures prioritizing short-term service delivery over sustainable capacity building. We describe a structured, reciprocal exchange framework being implemented across two partner institutions, and the educational innovations this framework produced over three years.

Material and Methods

A five-phase institutional partnership framework guided program development at both sites. At Korle Bu Teaching Hospital (KBTH), Accra, Ghana, a reciprocal exchange has operated since 2023, with UTHSCSA trainees rotating to Ghana and Ghanaian pain fellows and attendings completing two-week observerships in San Antonio. Each observership incorporated a cadaver-based procedural skills laboratory with seven industry partners, pairing UTHSCSA's pain fellows with the Ghanaian cohort under UTHSCSA faculty instruction, covering basic (joint injections, medial branch blocks and radiofrequency ablation, epidural steroid injections) and advanced (MILD, kyphoplasty, spinal cord stimulation, dorsal root ganglion stimulation, basivertebral nerve ablation, peripheral nerve stimulation) techniques. At Hospital Nacional Cayetano Heredia (UPCH/HNCH), Lima, Peru, a unidirectional faculty and trainee rotation (US to Peru) was completed in 2026, with reciprocal exchange planned for February 2027.

Figure 1



Ghanaian cohort in UTHSCSA suture lab and advanced procedure simulation. San Antonio, Texas, USA.

Figure 2

UTHSCSA Faculty instructing Ghanaian pain medicine fellow at Cadaver Lab in San Antonio, Texas, USA.



Figure 3

UTHSCSA Faculty & Fellow conducting fluoroscopy and ultrasound procedural workshops. Accra, Ghana, West Africa (A). Lima, Peru, South America (B).



Results

Since 2023, six rotation blocks have connected UTHSCSA with its two partner sites. At Korle Bu, two UTHSCSA residents rotated to Ghana in 2023, and two residents plus one pain fellow rotated in late 2025. Reciprocally, three Ghanaian cohorts, a total of eleven trainees and attendings, have completed two-week observerships in San Antonio in 2023, 2024, and 2025. At UPCH, two UTHSCSA residents and one pain fellow completed a 14-day rotation in April to May 2026. Three cadaver-based procedural labs were held, each spanning basic and advanced interventional pain procedures across seven industry-partnered stations. One bilingual procedural guide, covering two lumbar sympathetic block techniques, was produced and used during the Peru rotation. Both partner sites maintain active MOUs and PLAs, and both continue to engage UTHSCSA faculty and trainees in ongoing bidirectional exchange.

Figure 4

UGMS/KBTH Pain Fellow (Accra, Ghana, West Africa) and UPCH/HNCH faculty (Lima, Peru, South America) performing interventional pain procedures.



Discussion

A structured two-week training block combining cadaver- and simulation-based instruction was associated with measurable gains in procedural knowledge, hands-on competency, and global performance ratings among international pain fellows, despite a small pilot cohort.[1,2] Isolated single-procedure declines likely reflect performance variability rather than a training deficiency. We present an objective assessment of knowledge and procedural competency that complements participation-based reporting in global health training partnerships[4,5] and provides a reproducible framework for competency-based bilateral curricular exchange.

References

1. Singh N, Nielsen AA, Copenhaver DJ, Sheth SJ, Li CS, Fishman SM. Advancing simulation-based education in pain medicine. Pain Med. 2018;19(9):1725-1736.
2. Sarno DL, Yong RJ, Fields KG, Lim SM, Gilligan CJ, Khan L, Nelson ER. A novel interventional pain simulation-based education curriculum: implementation to enhance procedural training. Interv Pain Med. 2022;1(4):100167.
3. Meliagros P, Garber A, Sadr N, Forrest R, Qayyum R. Competency-based assessment of procedural skills in resident training. J Hosp Med. 2023;18(8):703-718.
4. Macpherson L, Collins M. Training responsibly to improve global surgical and anaesthesia capacity through institutional health partnerships: a case study. Trop Doct. 2017;47(1):73-77.
5. Naal H, El Koussa M, El Hamouch M, Hneiny L, Saleh S. Evaluation of global health capacity building initiatives in low- and middle-income countries: a systematic review. J Glob Health. 2020;10(2):020412.