



# A Systematic Review of North-South/East-West Partnerships in Plastic and Reconstructive Surgery or Burn Care and Analysis of Models of Success

Marissa M. Michael BS MS<sup>2</sup><sup>1</sup>, Daud Lodin MD MPH<sup>1</sup>, Samuel Carter MPH<sup>1</sup>, James J. Gallagher MD<sup>1</sup>  
<sup>1</sup>Weill Cornell Medicine

## Introduction

- Almost 50% of all acquired surgical backlog in the developing world comprises burn patients, mostly in low resource countries. The advancement of burn care in low-/middle-income countries is of critical importance.
- We sought to examine existing models of partnerships in the field of Plastic and Reconstructive Surgery broadly and in burn-specific programs between developed countries and low-/middle-income nations.

## Methodology

- We performed a PubMed search for the following terms: international partnership, global partnership, NGO partnership, east-west partnership, north-south partnership, academic partnership and burn surgery, plastic surgery, surgical training, surgical education, surgical capacity. This yielded 37 results.
- 20 papers were excluded, as they did not describe significant partnerships.
- The remaining 17 papers were examined, and their reference lists checked for other papers meeting our search criteria.
- We contacted authors and several organizations including COSECSA and WACSOAC to ask who they consider their most valuable international plastic surgery partners to be.



Figure 1. Methodology of Search Criteria

## Results

- Our mixed-methods search yielded over a dozen North-South or East-West partnerships encompassing either plastics and reconstructive surgery or burn care specifically.
- Most of the programs are based in the US and aid English-speaking African continent.
- Partnership models included academic partnerships, NGOs, university-funded NGOs, and department of defence.
- We categorized them according to defining features including level of longevity, current availability of year-round surgical care, ability to endogenously train staff, having a catchment area beyond their own country, and presence of acute burn care within the program.



Figure 2. Venn Diagram Showing Types of Institutions of Outreach Partners. \*ACS-COSECSA Partnership

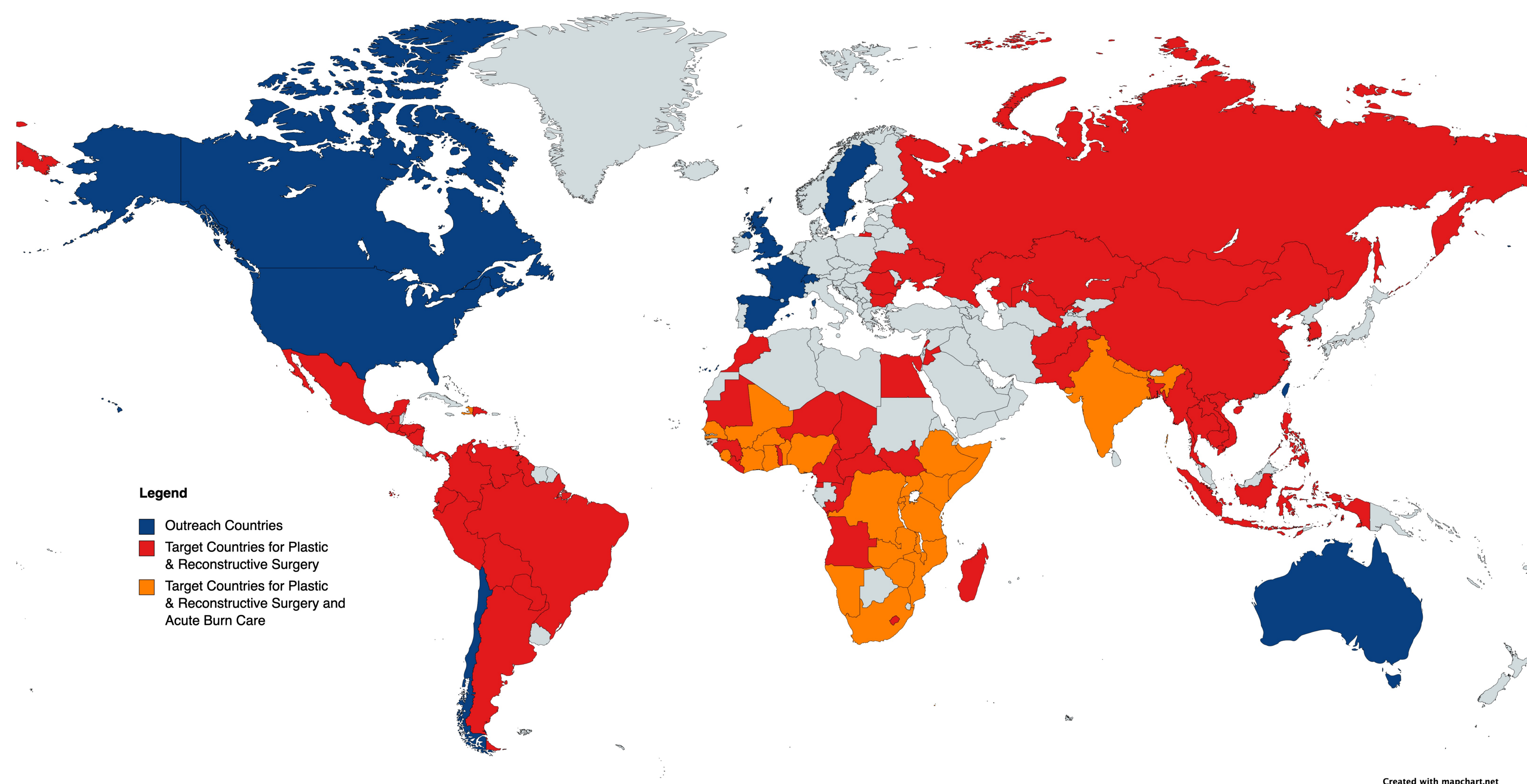


Figure 3. World Map Showing North-South/East-West Partnerships in Plastic and Reconstructive Surgery or Burn Care

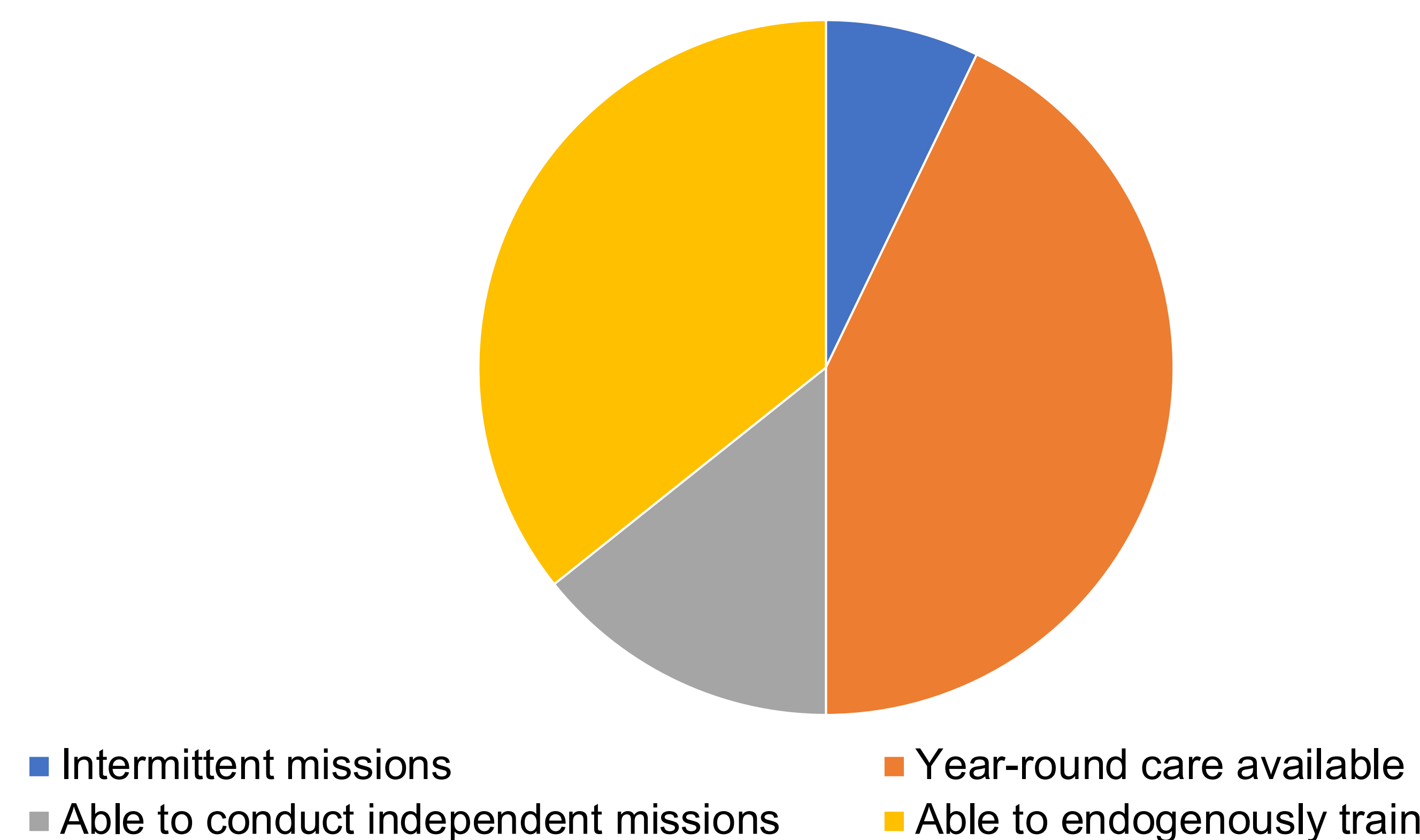


Figure 4. Pie Chart Showing Level of Maturity of Partnerships

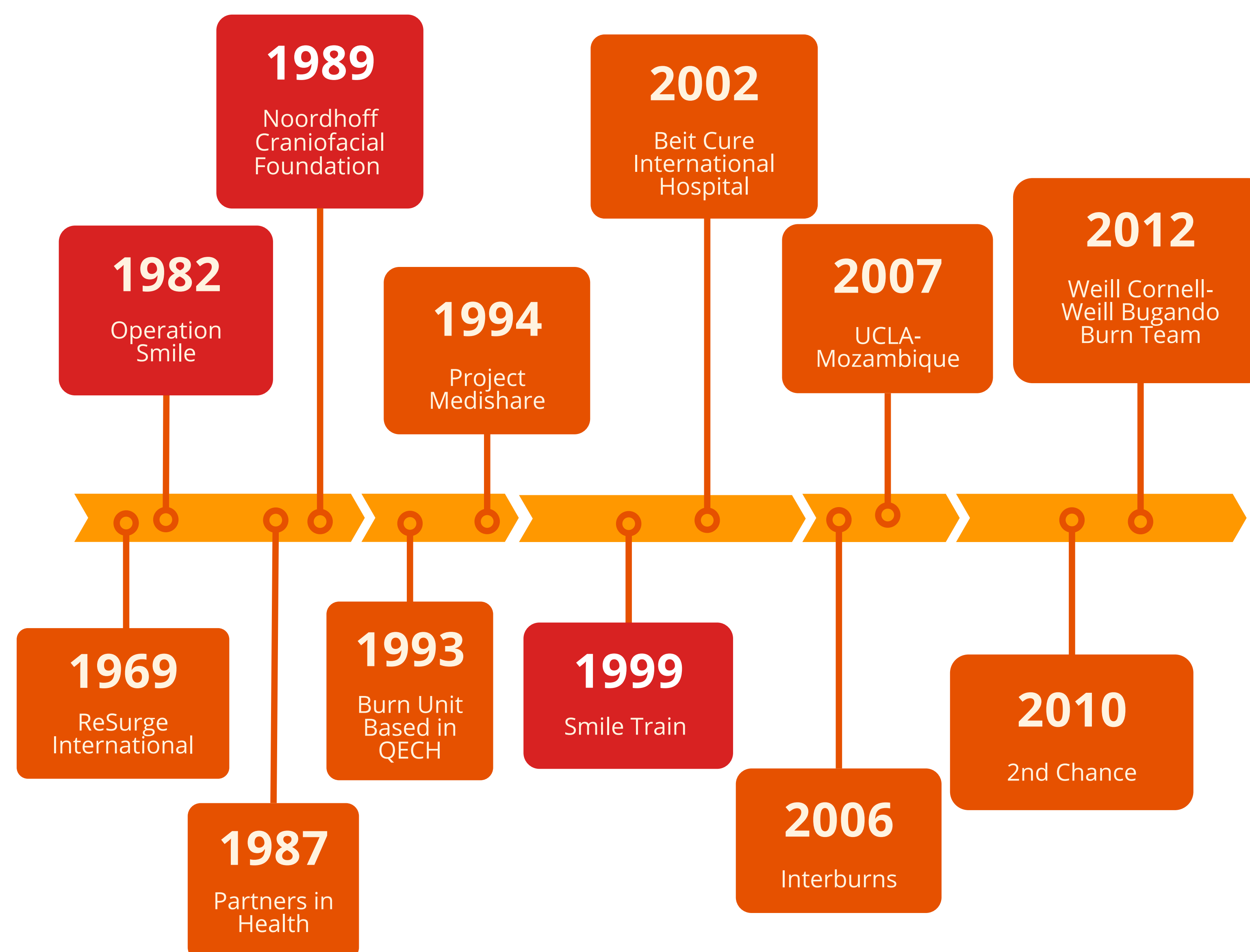


Figure 5. Timeline Showing Years of Conception of Partnerships

## Conclusions

- A wide variety of models for successful North-South and East-West partnerships in the field of Plastic and Reconstructive Surgery and burn care exist.
- Future partnerships can learn from the advantages of what each of these models has to offer.

## References

1. Hawassa Hub. Accessed July 31, 2022. <https://www.facs.org/for-medical-professionals/membership-community/operation-giving-back/cosecsa-hubs/hawassa/>
2. Interburns. Accessed January 31, 2022. <https://interburns.org>
3. Smile Train. Accessed June 18, 2022. <https://www.smiletrain.org/where-we-work>
4. ReSurge International. Accessed January 4, 2022. <https://resurge.org>
5. 2nd Chance. Accessed June 22, 2022. <https://2nd-chance.org/en/home/>
6. Operation Smile. Accessed June 18, 2022. <https://www.operation-smile.org/global-outreach>
7. Amado V, Martins DB, Karan A, et al. Global General Pediatric Surgery Partnership: The UCLA-Mozambique Experience. *Journal of pediatric surgery*. 2017;52(9):1528-1533. doi:10.1016/j.jpedsurg.2016.12.026
8. Braun TL, Louis MR, Dickey RM, Buchanan EP. A Sustainable and Scalable Approach to the Provision of Cleft Care: A Focus on Safety and Quality. *Plastic and reconstructive surgery* (1963). 2018;142(2):463-469. doi:10.1097/PRS.0000000000004580
9. DeGennaro JVA, DeGennaro VA, Kochhar A, et al. Accelerating surgical training and reducing the burden of surgical disease in Haiti before and after the earthquake. *The Journal of craniofacial surgery*. 2012;23(7 Suppl 1):2028-S80. doi:10.1097/SCS.0b013e3182587e2d
10. Dumont L, PEchEre M, Gold B, Modarresi A, Zeidan A, Quinodoz P. Training in reconstructive surgery in sub-Saharan Africa: the '2nd Chance' model. *Revue medicale suisse*. 2021;17(737):885.
11. Mao S-H, Ajiwe T, Wang R, Wong F-H, Chou P-Y, Lo L-J. The Effectiveness of an International Cleft Mission Model in Asia: An Update. *Annals of plastic surgery*. 2019;82(1S Suppl 1):S23-S28. doi:10.1097/SAP.0000000000001730
12. Purnell CA, McGrath JL, Gosain AK. The Role of Smile Train and the Partner Hospital Model in Surgical Safety, Collaboration, and Quality in the Developing World. *The Journal of craniofacial surgery*. 2015;26(4):1128-1133. doi:10.1097/SCS.0000000000001656
13. Stevenson JH, Borgstein E, Broadis E, Chokocho T, Watson S. Global surgery and burn injuries experience from a 25 year partnership in Malawi. *The surgeon (Edinburgh)*. 2021;19(6):338-343. doi:10.1016/j.surge.2020.11.006
14. Taro T, Yao C, Ly S, et al. The Global Surgery Partnership: An Innovative Partnership for Education, Research, and Service. *Academic medicine*. 2016;91(1):75-78. doi:10.1097/ACM.0000000000000859
15. Whitaker J, Murgitroyd E, Baden J, Kendrew J, Bowley D. The UK defence anaesthesia experience with the Zambia Anaesthesia Development Programme: a surgical response. *BMJ military health*. 2021;167(4):289-295. doi:10.1136/bmjilitary-2020-001714
16. Youssef A, Harrison W. Establishing a children's orthopaedic hospital for Malawi: an assessment after 5 years. *Malawi medical journal*. 2010;22(3):75-78. doi:10.4314/mmj.v22i3.62192