

# GLOBAL NEUROLOGY PROGRAM DEVELOPMENT: A GUIDE

---



# Table of Contents



|                                       |    |
|---------------------------------------|----|
| ABOUT .....                           | 3  |
| FOREWORD.....                         | 4  |
| PART I: ORGANIZING AND PLANNING ..... | 5  |
| PART II: IMPLEMENTATION.....          | 6  |
| PART III: MAINTENANCE.....            | 7  |
| CONTACTS .....                        | 8  |
| RESOURCES.....                        | 9  |
| PROJECT TEAM.....                     | 10 |

# About

Global neurology is a subfield of neurology that focuses on the global health of neurological disorders. Through the years, many institutions around the world have begun to implement dedicated programs to global neurology efforts that train and cultivate future leaders in the field. This guide serves as an outline and a starting point for someone who may be interested in developing a global neurology program at their institution, whether it is a track, fellowship or elective. At the bottom of the checklist is a list of articles that one may reference.

# Foreword

Neurological disorders are the leading cause of disability and second leading cause of death worldwide, but this burden is not evenly distributed. Low- and middle-income countries account for more than 75% of the global burden of neurological disease. Unfortunately, these are the same countries with the smallest neurological workforce. Whereas high-income countries average more than 5 neurologists for every 100,000 people in the population, low-income countries have 0.01 neurologists per 100,000 population. It is into this gap – the gap between neurological disease burden and neurological capacity – that global neurology fits as a sub-specialty of neurology.

In the past two to three decades, global neurology has become a well-recognized sub-specialty of neurology and an increasingly viable academic career pathway. Trainees today, including medical students, residents and fellows, are also increasingly expressing interest in global health experiences during their neurology training. The increasing recognition of the importance of promoting health equity has also led to a resurgent interest in global health, including in the field of neurology.

With all of these factors converging, there is increasing interest among neurology departments of many academic institutions in developing global neurology programs, in which the resources and expertise of programs in high- and low-income settings alike are aligned and complimentary. However, setting up such programs requires careful thought and consideration of many factors, including the same factors that were the impetus for their development - equity, partnership, training opportunities, shared experiences, and bi-directional learning – in order to ensure that the resulting programs are truly equitable and equal bi-directional partnerships. We hope this guide helps to provide a framework and raise considerations one should consider when developing global neurology programs and that the resources provided will be useful in further planning the details of such programs.

**Dr. Deanna Saylor, MD, MHS**  
President, World Neurology Foundation

# Part I: Organizing and Planning

## 1. Gauge interest.

Who is interested in participating in the program? Medical students? Trainees? Researchers? Knowing if there is enough interest in such a program will be critical in ensuring the program will be sustainable for the near and far future.

## 2. Ask others with experience.

Speak and network with not only other neurologists out there but also physicians of other specialties and backgrounds involved in global health within and outside your institution.

## 3. Identify the program's mission and vision.

A global neurology program can go in lots of different directions. Is the program meant to provide formal training to medical students or trainees in an international community? Is it to provide an opportunity for students to experience medicine abroad? Is it a means to bring together a community of researchers? Is it meant to serve as a resource for international partners and collaborators? Each of these goals will lead to a different pathway.

## 4. Develop the program's curriculum.

After identifying the program's mission and vision, determine how best to promote them through the development of an effective curriculum. How much emphasis should be placed on didactic learning? Should there be a research requirement? How can community-based learning be factored in?

# Part II: Implementation

## 5. Find a partner.

Start with one or two sites between your institution and an international institution, and ensure the partnership is deep and that the goals are mutual. The current and historical state of a potential partnering institution's local health disparities and issues should be considered a priority in determining whether establishing a global neurology program will help address local conditions and larger global health issues at large.

How do you go about finding a partnering site? This goes back to your connections, either within the global neurology network or within the network of global health physicians in your own institution. Seek help from folks outside of your department to see if partnerships can be built on ones that have already been established at your institution. In addition, the resources and networks offered through schools of medicine, schools of public health and institutes of global health are an invaluable starting ground for identifying potential partnership opportunities.

## 6. Determine funding needs.

Depending on the goals of your program, the amount of funding you will need will vary. For example, if your goal is to provide a forum to mentor global health researchers, you may not need funding. However, a track for trainees for international electives will require funding. Some sources of funding to consider include:

- Philanthropic funding
- Departmental funding
- Global equity initiatives

# Part III: Maintenance

## 7. Ensure bi-directionality.

Both your institution and your international partners' needs and goals must be met for the partnership to be successful and sustained for the future. Consider having regular meetings with leaders from both institutions to ensure the needs and goals of the program are being met, to the satisfaction of both parties.

## 8. Spread awareness.

This may require administrative and technical support to develop websites, social media presence, and more. This is important for your program to grow at your institution and internationally, but also may be important for donors and funders as well. Encourage students to apply and participate in the program, and help promote interest in the opportunities offered through the program.

### Logistical issues to consider:

- Type of supervision that may be needed at a partnering site if the goal is an international elective
- Visa requirements
- Medical license requirements
- Insurance requirements (travel insurance, malpractice insurance, etc.)
- and more!

# Contacts

Individuals below have prior experience implementing a global neurology program at their home institutions. Please feel free to reach out and connect with these individuals!

|                                     |  |                                     |
|-------------------------------------|--|-------------------------------------|
| <b>Dr. Deanna Saylor, MD, MHS</b>   | Johns Hopkins School of Medicine       | dcettom@jhmi.edu                    |
| <b>Dr. Kiran Thakur, MD</b>         | Columbia University                    | ktt2115@cumc.columbia.edu           |
| <b>Dr. Farrah Mateen, MD, PhD</b>   | Harvard Medical School                 | fmateen@mgh.harvard.edu             |
| <b>Dr. Aaron Berkowitz, MD, PhD</b> | Kaiser Permanente                      | aaron.l.berkowitz@kp.org            |
| <b>Dr. Felicia Chow</b>             | University of California-San Francisco | Felicia.Chow@ucsf.edu               |
| <b>Dr. Nirali Vora</b>              | Stanford University School of Medicine | nirali@stanford.edu                 |
| <b>Dr. Joseph Zunt</b>              | University of Washington               | jzunt@uw.edu                        |
| <b>Dr. Omar Siddiqi</b>             | Harvard Medical School                 | osiddiqi@bidmc.harvard.edu          |
| <b>Dr. Gretchen Birbeck</b>         | University of Rochester                | gretchen_birbeck@urmc.rochester.edu |
| <b>Dr. Serena Spudich</b>           | Yale University                        | serena.spudich@yale.edu             |

# Resources

Agostini AM, Halstead MR, Venkatesan A, Saylor DR. Training in Neurology: Resident Perception of the Utility and Applicability of Global Neurology Morning Reports. *Neurology*. 2022;98(1):44-47. doi:10.1212/WNL.00000000000012950

Berkowitz AL, Milligan TA, Cho TA. Development of a track in global and humanitarian health for neurology residents. *Neurology*. 2015;85(21):1894-1895. doi:10.1212/WNL.0000000000002154

Deb A, Fischer M, DePold Hohler A. Education Research: A framework for global health curricula for neurology trainees. *Neurology*. 2018;91(11):528-532. doi:10.1212/WNL.00000000000006155

Israel K, Strander SM, Pierre S, Martineau L, Morse ME, Berkowitz AL. Development of a neurology training program in Haiti. *Neurology*. 2019;92(8):391-394. doi:10.1212/WNL.00000000000006960

Rodríguez DC, Jessani NS, Zunt J, et al. Experiential Learning and Mentorship in Global Health Leadership Programs: Capturing Lessons from Across the Globe. *Ann Glob Health*. 2021;87(1):61. Published 2021 Jul 12. doi:10.5334/aogh.3194

Schiess N, Saylor D, Zunt J. Global Neurology: Navigating Career Possibilities. *Semin Neurol*. 2018;38(2):145-151. doi:10.1055/s-0038-1647245

Siddiqi OK, Brown M, Cooper C, Atadzhanov M, Lakhi S, Koralnik IJ. Developing a successful global neurology program. *Ann Neurol*. 2017;81(2):167-170. doi:10.1002/ana.24863

# Project Team

## TEAM

Soonmyung Hwang  
Nehali Mehta, MD  
Jeremy Tanner, MD  
Alex Peloso, MD  
Farrah Khan, MD  
Clayton Buback, MD  
Emery Buckner-Wolfson

## ADVISORS

Deanna Saylor, MD, MHS  
Felicia Chow, MD, MAS  
Kiran Thakur, MD