

Società Italiana di Neurologia e Paesi in via di sviluppo
Milano, 20 marzo 2019

Le società scientifiche occidentali e i bisogni formativi nei paesi in via di sviluppo

Antonio FEDERICO

WFN, EAN, SIN and University of Siena

NEUROLOGY ATLAS presents for the first time, the most comprehensive collection and compilation of information on neurological resources across 109 countries. The results confirm that the available resources including services for neurological disorders are markedly insufficient; in addition, there are large inequities across regions and income groups of countries. Urgent action is required to enhance the resources available to address the increasing burden of neurological disorders.

This report is the result of a collaborative effort between the World Health Organization and the World Federation of Neurology.

Atlas

COUNTRY RESOURCES
FOR NEUROLOGICAL
DISORDERS
2004



World Health Organization
Programme for Neurological Diseases and Neuroscience
Department of Mental Health and Substance Abuse
Avenue Appia 20
1211 Geneva 27
Switzerland
Website: www.who.int/mental_health

ISBN 92 4 156283 8

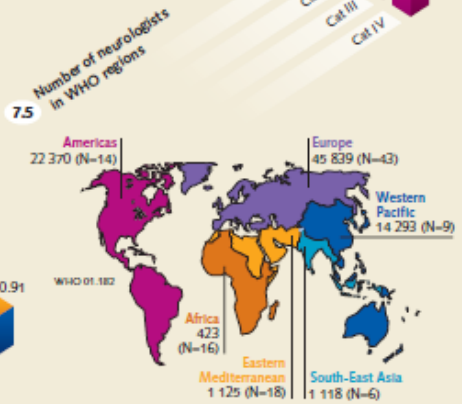
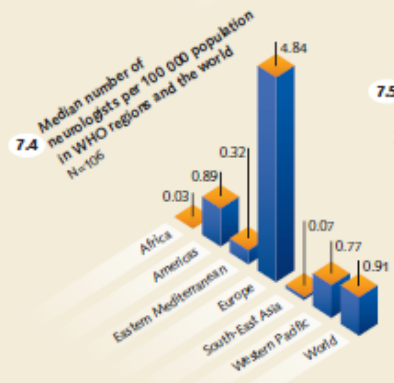
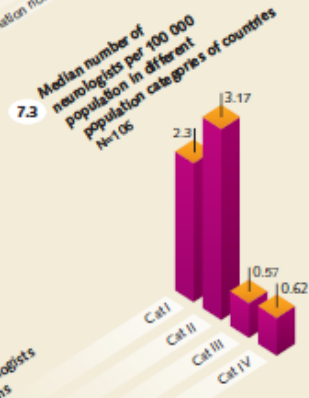
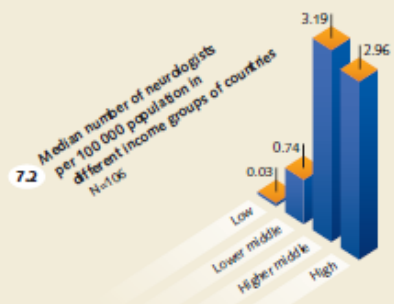
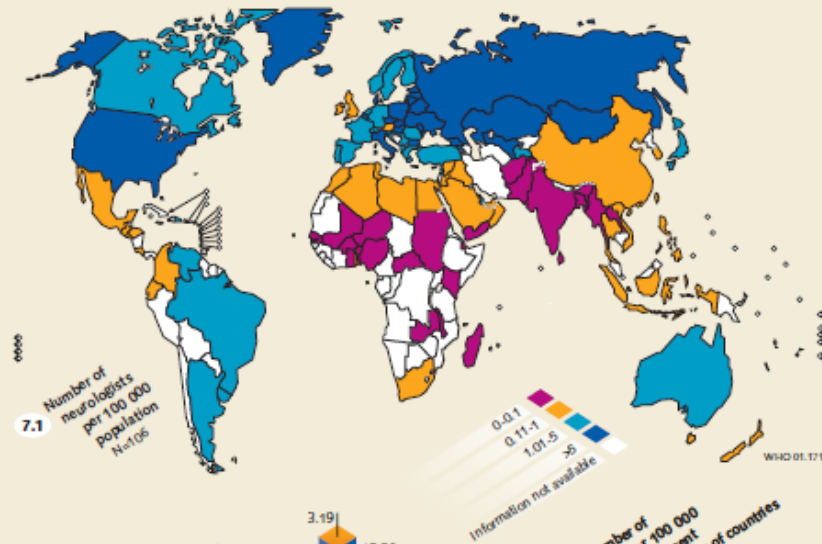


World Health Organization
Geneva



World Federation of Neurology
London

ATLAS
SECOND EDITION, 2018
COUNTRY RESOURCES FOR NEUROLOGICAL DISORDERS



Average population per neurologist in each WHO region

Numbers of neurologists and population per neurologist

Established market economies

• Australia	360	51,900	• Italy	2500	22,900
• Austria	555	14,700	• Japan	2000	63,000
• Belgium	142	71,800	• Luxembourg	18	28,400
• Canada	573	53,900	• Netherlands	625	25,100
• Denmark	200	26,400	• New Zealand	28	137,000
• Finland	256	20,200	• Norway	263	16,900
• France	1500	39,300	• Sweden	291	30,500
• Germany	2000	41,100	• Switzerland	325	22,600
• Greece	500	21,200	• United Kingdom	358	164,000
• Iceland	18	15,500	• United States	10,516	26,200
• Ireland	13	285,000			

Numbers of neurologists and population per neurologist

Formerly socialist economies

• Bulgaria	1000	8280
• Czech Republic	500	20,600
• Estonia	160	8810
• Hungary	620	16,000
• Latvia	102	23,400
• Lithuania	590	6240
• Poland	200	194,000
• Russia	8000	18,400
• Former Yugoslav Republic	580	18,300

Numbers of neurologists and population per neurologist Latin America

• Bolivia	37	220,000
• Chile	125	120,000
• Costa Rica	32	123,000
• Dominican Republic	67	125,000
• Guatemala	25	444,000
• Honduras	16	395,000
• Mexico	327	298,000
• Panama	17	165,000
• Uruguay	108	30,600
• Venezuela	240	98,800

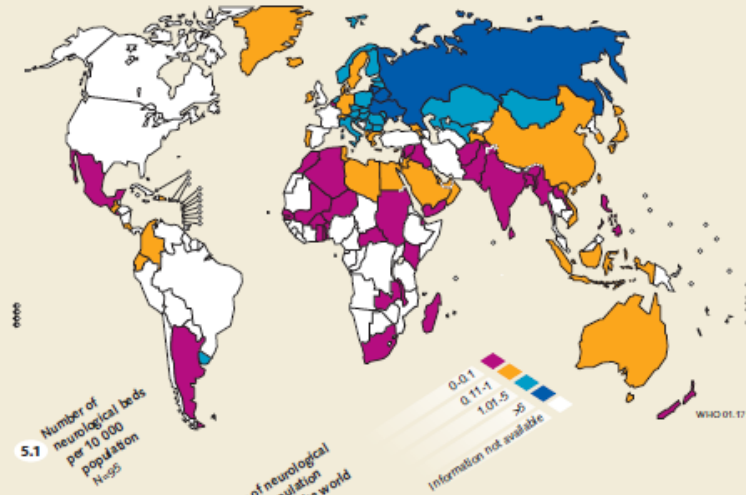
Numbers of neurologists and population per neurologist Middle Eastern Crescent

- Bahrain 4 152,000
- Cyprus 25 30,800
- Egypt 500 134,000
- Israel 300 20,000
- Jordan 38 171,000
- Kuwait 7 271,000
- Morocco 50 558,000
- Pakistan 32 4,750,000
- Qatar 4 147,000
- Saudi Arabia 25 836,000

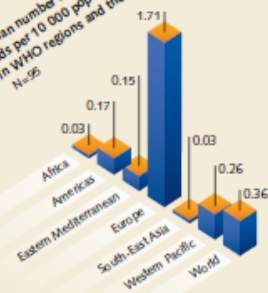
- Tunisia 45 210,000
- Turkey 900 72,800
- India 457 2,180,000

Other Asia and Islands

- Bangladesh 40 3,170,000
- Philippines 134 556,000
- Singapore 33 107,000
- South Korea 515 90,100
- Sri Lanka 16 1,160,000



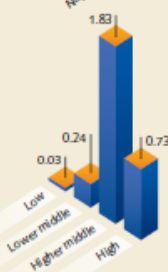
5.2 Median number of neurological beds per 10 000 population in WHO regions and the world
N=95

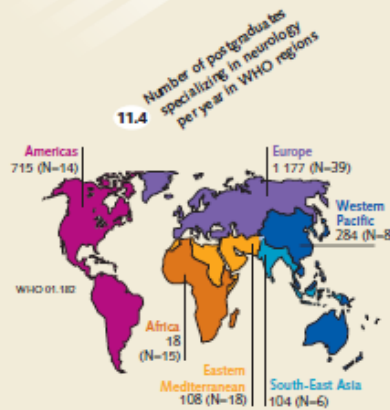
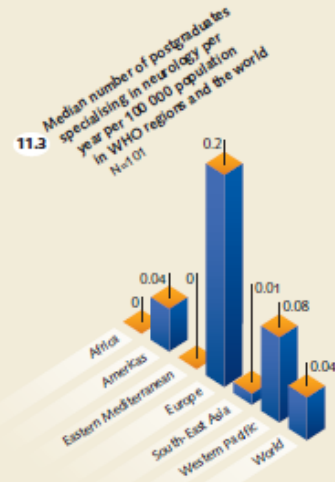
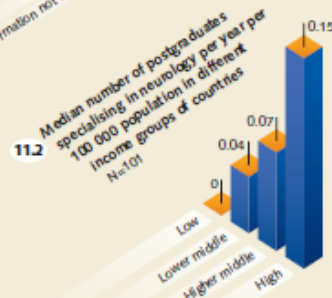
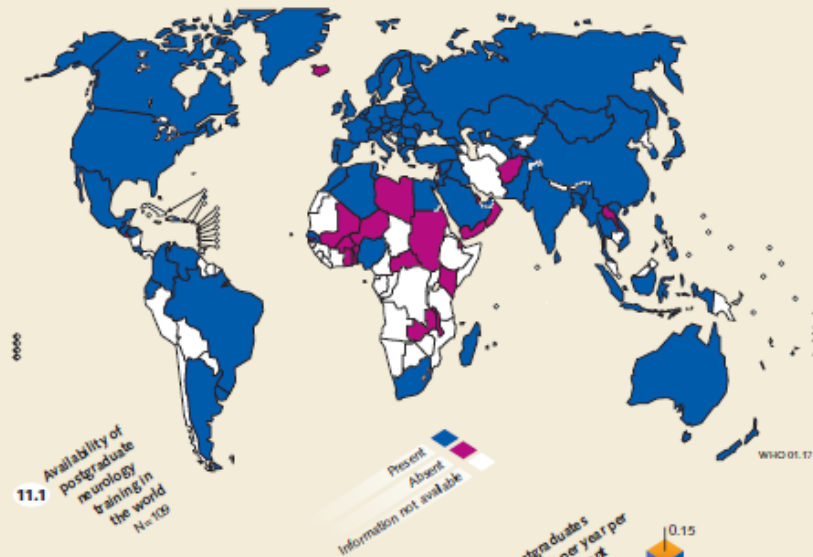


5.4 Median number of neurological beds per 10 000 population in different population categories
N=95



5.3 Median number of neurological beds per 10 000 population in different income groups of countries
N=95





OVERSEAS NEUROLOGY PROGRAM HELPS COLLEAGUES IN DEVELOPING COUNTRIES

Neurology Today, September 2004 - Volume 4 - Issue 9

Samson, Kurt

- The Academy contributes \$40,000 each year in dues to the WFN, which helps support the federation's educational outreach efforts, AAN General Counsel and Associate Executive Director Murray G. Sagsveen told *Neurology Today* in a phone interview. In addition, the AAN provides other educational materials and 400 free copies of the continuing medical education (CME) publication, *Continuum*, for distribution through the program.
- An AAN scholarship program for neurologists from developing countries has also been established. It includes sponsored attendance at the AAN Annual Meeting, where they can meet with their US counterparts, attend workshops, and learn about the latest diagnostic, treatment, and research developments.
- “The Academy has made a specific commitment to increase the number of international members, to enhance their opportunities to participate in Academy activities, and to consider modified dues for neurologists in developing countries,” Mr. Sagsveen said.
- A proposal to address outreach efforts has been submitted to the AAN Executive Committee, Mr. Sagsveen added, and the Board of Directors has adopted a proposal to develop a strategic plan to provide additional support for neurologists in developing countries, including specific educational outreach programs



Neurol Clin Pract. 2014 Jun; 4(3): 239–246.

Neurology goes global, Opportunities in international health

Jori E. Fleisher, MD and Farrah J. Mateen, MD,
PhD

Table 1 Neurology-specific organizations with global interest

Alliance for Stroke Awareness and Prevention Project	www.asapp.org
Alzheimer's Disease International	www.alz.co.uk/1066
Brigada Neurologica to the Ecuadorian Amazon Rain Forest	www.cien-ecuador.org
CLIDEP: Clinique d'Epilepsie de Port-au-Prince (French or Creole language skills required)	www.clidep.org
European Federation of Neurological Societies	www.efns.org
European Neurological Society	www.ensinfo.org
Global Health Section, American Academy of Neurology	www.aan.com/go/about/sections/global
Global NeuroCare	www.globalneurocare.org
Global neurology elective in Zambia; Beth Israel Deaconess Medical Center	e-mail Dr. Omar Siddiqi: osiddiqi@bidmc.harvard.edu
India Control Epilepsy	www.facebook.com/EpilepsyIndia
Infectious and tropical neurology rotation in Kenya, Uganda, and Morocco	e-mail Dr. David Renner: david.renner@hsc.utah.edu
International Brain Research Organization	www.ibro.org
International Bureau for Epilepsy	www.ibe-epilepsy.org
International Child Neurology Association	www.icnapedia.org
International League Against Epilepsy	www.ilae.org
Lifting the Burden	www.l-t-b.org
Movement Disorder Society Visiting Professor Program	www.movementdisorders.org/education/visiting/
Movement for Global Mental Health	www.globalmentalhealth.org
Neurology Capability Development, Oceania University of Medicine/ Samoa National Health Service	e-mail Drs. Viali Lameko or Logan McDaneld: viali.lameko@oum.edu.ws ; Logan.mcdaneld@stmarygj.org
Neurology residency rotation in Ethiopia	www.globalneurocare.org
Neuropathic Pain Special Interest Group	www.neupsig.org
Tropical neurology rotation in India	e-mail Dr. Mamta Singh: mbsneuro@gmail.com
World Federation of Neurology	www.wfneurology.org
World Neurology Foundation	www.worldneurology.org
World Stroke Organization	www.world-stroke.org/

Table 2 Pretravel resources

Name	Web site	Contents
CDC Traveler's Health	www.cdc.gov/travel/page/yellowbook-home-2012	Centers for Disease Control Guide to Traveler's Health, including directory of vaccines and prophylaxis required by country
Global Health Education Consortium	Globalhealtheducation.org/resources	Global health learning modules, preparing for overseas experiences, handbooks for global engagement, global health research, and career resources
mhGAP Intervention Guide	www.who.int/mental_health/publications/mhGAP_intervention_guide/en	WHO's Intervention Guide for mental, neurologic, and substance use disorders in nonspecialized health settings
"Neurology in Africa" free online textbook	www.uib.no/cih/en/resourcesneurology-in-africa	Free online practical neurology textbook written for sub-Saharan Africa
US State Department Travel Information	Travel.state.gov	Tips for traveling abroad, updated travel alerts, information on passports and visas, trip registration
USAID Global Health Learning Center	globalhealthlearning.org	Online courses and certificate programs in global health
"Where There Is No Neurologist" manual	neurology.msu.edu/downloads/where%20there%20is%20no%20neurologist_whole%20book.pdf	Required reading for neurologic care provision in resource-limited settings
WHO Global Health Data & Statistics	www.who.int/research/en/	Searchable directory of mortality and global health estimates by region and nation

Africa Initiatives (Europe-World-Italy for Africa)

Africa for Africa

- **EFNS-EAN**
- **WFN**
- **EU**
- **Universities**
- **Italy**
- **Roma 2021 WCN**

EAN mobility facilities

- **1. EAN Spring School / EAN Autumn School Eligibility** RRFS members from Corresponding Institutional Member Countries (Algeria, Egypt, Jordan, Lebanon, Libya, Mauretania, Morocco, Palestine, Tunisia, Syria, Yemen) and HINARI Group A countries are welcome to apply ☑ Application for a travel grant is possible for members of low and lower-middle income countries. A short letter of intent, why the person wants to participate including why the travel grant is needed. ☑ Previous awardees cannot apply again
- **2. Clinical Fellowship Eligibility** To be considered for the grant, applicants should, at the time of application be: ☑ residents of neurology with a minimum of 2 years training in neurology or have obtained their board certificate/completed training within the last 3 years at the time of application. ☑ fluent in English or in the local language of the hosting country ☑ have been accepted by an approved host department ☑ EAN full or RRFS member* from an EAN member country (you may apply for membership and send your application at the same time) ☑ RRFS members from Corresponding Institutional Member Countries (Algeria, Egypt, Jordan, Lebanon, Libya, Mauretania, Morocco, Palestine, Tunisia, Syria, Yemen) are welcome to apply - a recommendation letter from the National Neurological Society must be provided ☑ Previous awardees cannot apply again
- **3. Congress Bursaries Eligibility** It is also possible for RRFS members from Algeria, Egypt, Jordan, Lebanon, Libya, Mauretania, Morocco, Palestine, Syria and Tunisia as well as from sub-Saharan countries belonging to the HINARI Group A list of countries as established by WHO (www.who.int/hinari/eligibility/en/) to apply for bursaries. ☑ In order to apply for a bursary, you must submit an abstract and respect the submission time and date that can be found on the EAN website! Your abstract will be processed, reviewed and rated as all abstracts are.

Task Force - Neurology and Africa

Regional Teaching Courses in Sub-Saharan Africa

Prof. Erich Schmutzhard (Innsbruck, Austria)

Ms. Eveline Sipido – EAN Liaison Officer

Neurology and Africa

Regional Teaching Courses in Sub-Saharan Africa

Aims:

- Sharing teaching of excellence
- Sharing good practice in clinical neurology
- Creating opportunities for neurologists
 - in training



Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

2007 Start up of the project and Task Force
“**Neurology and Sub-Saharan Africa**”
by Prof. J. De Reuck and Prof. JM. Vallat



Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

2008 1st RTC in Dakar, Senegal

in cooperation with the University of Dakar and

Prof. Amadou Gallo Diop

120 participants representing **13** African nations

Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

Peripheral Neuropathies

D.B. Vodušek (EFNS)

R. Hughes (EFNS)

J.M. Vallat (EFNS)

M. Diagne (Senegal)

B. Kouassi (Côte d'Ivoire)

Neurodegenerative Disorders

M. Rossor (EFNS)

M. Gonce (EFNS)

R. Kalaria (IBRO)

P. Ndiaye (Senegal)

K. Toure (Senegal)

Becoming a Good Neurologist

R. Gouider (Tunisia), A.G. Diop (Senegal), R. Shakir (WFN), M. Dumas (EFNS)

Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

Stroke

J. De Reuck (EFNS)

R. Kalaria (IBRO)

Y. Samson (EFNS)

Th. Adoukonou (Benin)

G. Modi (S Africa)

Epilepsy

P. Boon (EFNS)

Ch. Baumgartner (EFNS)

A.G. Diop (Senegal)

R.T. Haimanot (Ethiopia)

Becoming a Good Neurologist

A.Njamnshi (Cameroon), M. El-Tamawy (Egypt), J. Aarli (WFN), M. Zebengus (Ethiopia), J. De Reuck (EFNS)



Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

2010 3rd RTC in Abidjan, Ivory Coast

- in cooperation with the University of Cocody and
- the Société Ivoirienne de Neurologie
- Prof. Beugré Kouassi
- 130 participants representing 14 African nations

Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

Infectious Diseases

J.M. Vallat (EFNS)

E. Schmutzhard (EFNS)

M. Dumas (EFNS)

F. Boa (Ivory Coast)

B. Kouassi (Ivory Coast)

Dementias

G. Roman (WFN)

F. Pasquier (EFNS)

M. Tsolaki (EFNS)

A. Kpindih (Ivory Coast)

T. Agossou (Benin)

Scientific Publications & Presentations

R. Hughes (EFNS), A.G. Diop (Senegal), M. Dumas (EFNS),
J.M Vallat (EFNS), J. De Reuck (EFNS)

Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

2011 4th RTC in Yaounde, Cameroon

in cooperation with the University of Yaounde I and
the Society of Cameroonian Neurologists

Prof. Alfred Njamnshi

100 participants representing 16 African nations

Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

Spinal Cord Pathologies

I. Berry (EFNS)

E. Schmutzhard (EFNS)

A. Njamnshi (Cameroon)

E. Boukhrissi (Mauritania)

P. Ongolo (Cameroon)

Stroke

G.L. Lenzi (EFNS)

M. Barnes (EFNS)

A. Gallo Diop (Senegal)

T. Adoukonou (Benin)

Wiley Workshop

How to publish in an international journal?

Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

2012 International Symposium Nairobi, Kenya

in cooperation with the University of Nairobi

Prof. Paul Kioy

75 participants representing 16 African nations

Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

Communicable and Metabolic Neurological Disorders during Childhood

Jo Wilmshurst (South Africa)

Prichard Idro (Uganda)

Pauline Samia (Kenya)

Simon Heales (UK)

Neuro-epidemiology and Sub - Saharan Africa

Erich Schmutzhard (EFNS)

Raj Kalaria (IBRO)

Dismand Houinato (Benin)

Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

2013 5th RTC in Dakar, Senegal

in cooperation with the University of Dakar and
Prof. Amadou Gallo Diop

54 participants representing 23 African nations

Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

Stroke

- J. Ferro (ENS)
- P. Sandercock (WSO)
- G.L. Lenzi (EFNS)
- K. Toure (Senegal)
- Th. Adoukonou (Benin)
- S. Japhet Urasa (Tanzania)

Movement Disorders

- J. Bower (AAN)
- J. Ferreira (MDS)
- R. Kalaria (IBRO)
- Ch. Hicham (Morocco)
- R. Akinyemi (Nigeria)
- Y. Fogang Fogoum (Senegal)

Crash Course: how to write a scientific paper

R. Gouider (WFN), A.Gallo Diop (Senegal)

Neurology and Africa

Regional Teaching Courses (RTC) in Sub-Saharan Africa

2014 6th RTC in Lusaka, Zambia

- in cooperation with the University of Zambia and Prof. Masharip Atadzhanov
- 124 participants representing 22 African nations

Regional Teaching Course (RTC) organised in a country of sub-Saharan Africa

- In 2018 the 10th RTC was organized in **Antananarivo, Madagascar**.
- The RTCs are organized by EAN in cooperation with AFAN - African Academy of Neurology , AAN and WFN as core sponsors
- Several other scientific societies contribute to this educational event with an unrestricted educational grant and with Teachers of excellence (IBRO, MDS, ECTRIMS, WSO)
- The RTCs are hosted by the local African Universities;
- The grants received are used to invite residents from other sub-Saharan African countries and covers the expense of their flight and stay;
- Participation in the RTC is free of charge;
- An exam - MC questions prepared by the faculty - evaluates the benefit of the RTC;
- The RTC is a strictly academic endeavor with no input from industry
- The 11th RTC will take place in Accra, Ghana from 4 - 7 September 2019 and will be hosted by Dr. A. Charway-Felli, President-Elect of AFAN.

WFN Africa Initiative: Committee Guidelines and Mandate

Chairman: Prof. Amadou Gallo DIOP, MD, PhD

e-mail: agallodiop@gmail.com

- The Africa initiative is a collective term used for describing various WFN activities related to the development of neurology in the African region. They comprise training of new neurologists, establishing educational programmes in neurology, supporting new national neurological associations, assistance in fund-raising for neurology in this part of the world, travelling fellowships, support of public health activities in sub-Saharan Africa and collaboration with **WHO, EFNS and IBRO**.
- The WFN structural basis of the Africa initiative has two arms, the **Task and Advisory Force for Africa (TAFNA)** and the **WFN Africa Committee (ACWFN)**.
- **TAFNA** ("Friends of Africa") is chaired by the WFN President. The members are neuroscientists with a personal background in African medicine.
- **ACWFN consists of neurologists living and working in Africa**. For French-speaking African countries, training of neurologists will mainly be in Senegal, Morocco and Tunisia, while training of neurologists from the English-speaking countries may be established in South Africa. The ACWFN shall therefore have members from French- and English-speaking sub-Saharan African countries. It is presently (2008) chaired by Amadou Gallo Diop (Senegal), Alfred Njamshi (Cameroon) and Beugre Kouassi (Ivory Coast).
- The Task and Advisory Force for Africa Committee shall consist of the President, the First Vice-President, the Secretary-Treasurer General and the Chair, Education Officer and Treasurer of the WFN Africa Committee. This committee shall be empowered to act on behalf of the Council of Delegates between regular meetings of the Council and its decisions shall subsequently be reported to the Trustees.

Guidelines for TAFNA Committee:

- To conduct an annual review of the neurology training status in sub-Saharan Africa.
- To be responsible for securing any and all additional funds designed for development of neurology in Africa.
- To have a close relationship with the EFNS Africa Committee.
- To have a close relationship with the Pan African Association of Neurological Sciences.
- To make recommendations to the Regional Director for the Africa region.
- To make recommendations to the Trustees regarding future meetings and congresses.

Guidelines for the WFN Africa Committee:

- The ACWFN will have a close contact with the WFN Regional Director for the Africa region.
- The ACWFN is responsible for monitoring the status of neurology training in sub-Saharan Africa.
- The ACWFN shall collaborate with the PAANS.
- The ACWFN prepares a budget with the mandatory prioritization.

WFN

**Migration and Neurology, Research
Group**

Co-Chairs:

Mustapha El Alaoui Faris, Rabat, Morocco

Antonio Federico, Siena, Italy

WCN
2017

XXIII World Congress of Neurology



September 16–21 2017,
Kyoto, Japan

Defining the Future of Neurology

1-Neurology and Migrants: what we know, what we learned by Neurosciences, what we can do

Antonio Federico (Italy)

2-Neurocognitive Disorders in Aging Migrants

Mustapha El Alaoui Faris (Morocco)

3-Movement Disorders in Migrants :

Serufnur Öztürk (Turkey)

Conveners:

**Mustapha El Alaoui Faris
and Antonio Federico**

Neurology in Migrants

**SUNDAY, SEPTEMBER
17, 2017**



Migration as a reality of today

Antonio Federico

Department of Medicine,
Surgery and Neurosciences



The meeting of the World Federation of Neurology (WFN) Migrant Neurology Applied Research Group took place Dec. 14, 2018, in Marrakech, Morocco, during the 12th Maghreb Congress of Neurology. This meeting coincided with the meeting of **the Intergovernmental Conference on the Global Compact for Migration**, a United Nations meeting held Dec. 10-11, 2018, in Marrakech. The charter of the global alliance was adopted by the U.N. General Assembly on Dec. 19, 2018, and this constitutes real progress for the cause of migrant people.

The topics covered in this meeting included: “Migration and Global Health” (Mustapha El Alaoui Faris, Rabat, Morocco), “Neurology and Migration: What We Know, What We Learn by Neurosciences, What We Can Do” (Antonio Federico, Italy), “Vascular Risk Factors in Migrants” (Serefnur Ozturk, Turkey), “Neuroinfections in Migrants” (Erich Schmutzhard, Austria), “Multiple Sclerosis in Migrants” (Riadh Gouider, Tunisia), “Somatization in Migrants” (Maria Benabdeljlil, Morocco), and “Neuro-oncology and Palliative Care in Migrants” (Wolfgang Grisold, Austria).



Neuromediterraneum Forum

- Fondato dal **prof. Serratrice** (Marsiglia) negli anni 70.
- Chairman: A. Federico (Italia) dal 2012
- Vice-Chairmen: Mustapha El Alaoui Faris, Rabat, Morocco; Serefnur Ozturk, Turkey
- Secretary: prof. El-Tamagi, Cairo; Riad Goudier, Tunisi

- Si sono avuti meetings a Cipro, Cairo, Horgada, Rabat, Libano, Istanbul, Tunisi, Siena (2)

La SIN ha ospitato 2 workshops durante il Congresso di Cagliari e Napoli.

Agreement tra SIN e Tunisian Society of Neurology per ospitare 2 specializzandi che presentano abstracts al congresso Nazionale

Etiopia

- Da 10 anni è in atto una collaborazione tra Siena ed Addis Abeba per la formazione di Neurologi, attraverso stages della durata di 8 mesi, attraverso borse di studio della WFNF.
- Sono stati ospiti 6 neurologi in formazione.
- Un nostro specializzando è stato in Etiopia per 4 mesi.

Erasmus Projects

- Erasmus+ for Africa, and the EU-Africa Strategy
- In commissione affari costituzionali alla camera in settembre 2018 viene cassato, in una mozione, il riferimento a scambi "tra Paesi appartenenti al Nord del Mediterraneo". La proposta era stata dei 5Stelle, ma la Lega si è opposta-
- Erasmus Mundus



Dalla SIN ospitalità a Roma durante il Congresso per 150-200 neurologi dei paesi in via di sviluppo.