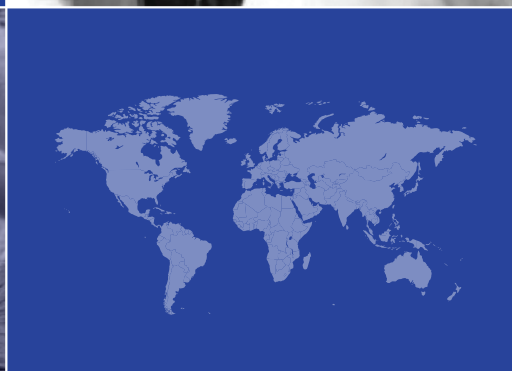


World Stroke Organization (WSO)

# Annual Report 2016



*one voice*

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# LETTER FROM THE PRESIDENT

Dear colleagues, partners and friends,

It is our pleasure to share the accomplishments and diverse initiatives of our organization in the past year. Our 2016 Annual Report highlights many of these achievements with grateful acknowledgment for our colleagues' earnest endeavors behind them.

Our membership has grown steadily. Since 2012, the number of WSO members has trebled, now reaching nearly 4'000 individual members and 55 society members around the globe. However, we still have large potential and need to grow our membership given the importance of our mission.

After a detailed consultative process, we have adopted our WSO Strategic plan for the next 5 years. Our new Vision is **"A life free of stroke"** and key priorities include strengthening our global capacity to reduce the impact of stroke, building awareness and knowledge of stroke and growing a robust organization. We have also streamlined and updated our By Laws. A key change has been the plan for 2 year terms of office for our President, President Elect and Immediate Past President.

We organized another highly successful World Stroke Day on October 29, 2016. The theme of the 2016 campaign was **'Stroke is Treatable'**. A total of 94 events were registered on the WSC website, with activity taking place in 47 countries – the largest number of participating countries to date. Online news articles featuring World Stroke Day achieved a 600m cumulative reach. The potential of social media was clearly demonstrated through the spread of a short online video in the 2016 campaign.

Another advocacy highlight was the workshop for refining Advocacy Toolkit piloted in Hyderabad, India, prior to the World Stroke Congress. The WSO Advocacy Toolkit aims to provide tools, resources and information to clinicians, survivors, carers and communities from all over the world who are interested in, or active in advocacy; and test a model for ongoing development of advocacy capacity at a local level.

In terms of global advocacy, our former President Bo Norrving, chairing the Global Policy Committee, has led another stellar year of global initiative. WSO has a seat at the main table as the WHO-recognized international lead agency for stroke. Our presence at the Economic and Social Council, ECOSOC allows us admission to the General Assembly of the UN. We also joined the Non-Communicable Diseases (NCD) Alliance, working with partner organizations in the mission to reduce the global burden of stroke in line with the WHO "25 by 25" non-communicable disease (NCD) targets and the UN NCD-related Sustainable Development Goals. Throughout the year, we have also been working to put stroke under the Diseases of the Nervous System in the upcoming ICD 11. As we close the report, we are delighted to let you know that this has finally been approved.

The 10<sup>th</sup> World Stroke Congress held in Hyderabad, India last October was a huge success. Thanks to the exceptional work of our colleagues, led by Werner Hacke, Peter Sandercock, Jeyaraj Pandian and Stephen Davis, we attracted over 2,200 participants from all over the world to Hyderabad for three days of fruitful discussions and connections. The meetings were outstanding with overflowing lecture halls, exciting speakers and impressive content.

//

I proposed a variety of initiatives and events for the next two years. They are ambitious but with your support and help we will succeed."

*Werner Hacke*

# LETTER FROM THE PRESIDENT



I would like to particularly acknowledge the huge help I have received from all my WSO colleagues over the past 4 years, particularly Bo, Werner, Michael, the rest of our Executive and Board. I want to thank all of our WSO members, supporters and our valued sponsors, for their contributions. I am delighted to be handing over the Presidency to Werner Hacke. I know that given his outstanding skills, we have an exciting time ahead. //

**Stephen Davis**

Chaired by Michael Brainin, and later by Peter Sandercock, the Education Committee contributed solid achievement in 2016. The “Cardinal Principles of Stroke” program has been successfully delivered around 20 times in Cape Town since 2006. There have been a series of regional educational meetings with a particular focus in Asian countries in 2016. Notable meetings included ones in the Philippines, China, India and Japan. Peter Sandercock, the current chair of Education Committee, has also led our educational efforts in Africa in conjunction with other major societies.

World Stroke Academy (WSA) is an e-Learning platform now completely revamped with regular updates of video and podcasts. Since educational activities are at the center of our projects, we are calling for more members for educational-related committees.

Ralph Sacco and the research committee recently published the first global stroke research priorities in the *International Journal of Stroke* (IJS). They also finalized and presented the research teaching course titled *How to Improve Your Research Methods and Get Published* during the WSC 2016.

A great strength of WSO is the partnership between lay organizations and scientific bodies. Ably led by Natan Bornstein and enthusiastic SSO committee members, achievements have included the SSO Toolkit and an implementation strategy to assist the development of SSO's around the world. Their work is an excellent synergy with work done by Advocacy Committee. The SSO was also an important component of our World Stroke Congress.

The International Journal of Stroke, our flagship journal, has gone from strength to strength under the leadership of our first President, Geoff Donnan and the innovative skills of the Managing Editor, Carmen Lahiff-Jenkins. There has been an impressive growth in its impact since its inception and strong support from the WSO membership. It is the only truly global stroke journal, including representation from various income levels, and therefore fulfils WSO's mission. After a rigorous tender process, we engaged a new publisher from 2016: SAGE.

The Guidelines Committee, chaired by Patty Lindsay, published the first global stroke guidelines in late 2014. Under the leadership of Patty, we have finalized the WSO Roadmap for Quality Stroke Care. The Roadmap was launched in Hyderabad and provided a framework for the global implementation, monitoring and evaluation of stroke services. It also provides standardization and consistency for the selection of evidence-based recommendations, approaches to implementation in clinical practice, and uses performance measures to enable continuous quality improvement.

To involve younger talent in WSO activities, we formed the Young Stroke Professionals Committee. The group has been actively contributing under the chairing of Atte Meretoja, including work on the nature of stroke training and specialization around the world. We are also seeking young talents in other important committees and task forces to prepare for future leadership. We will look actively for the representation of more women and of stroke experts from otherwise not frequently represented parts of the world.

# LETTER FROM THE PRESIDENT

Financially, WSO has stable performance and excellent financial governance, thanks to the Finance Committee chaired by Bernard Yan. However, our financial reserves remain small compared to the activities we wish to resource and the global influence of our focused topic and our role. We recognize that we are still very dependent on pharmaceutical sponsorship and our congress income. Broadening our financial income stream remains a key objective for the years to come.

To conclude, we have many challenges but are making great progress with a growing, cohesive, inclusive and vibrant organization. With another look to the future, we hope to engage more with various communities and expand our influence to another level. As a kick-off, we are having our first regional meeting in Buenos Aires on June 11-12, 2017. We are also delighted to announce that WSO and the Russian Society of Neurologists will join forces to conduct a first World Stroke Day Conference in Moscow in October 2017. The preparations for the 2018 Montreal WSC are in full swing. In 2020, the World Stroke Conference will be a joint effort with the European Stroke Organization Conference. The next Three-Year Plan has been composed and approved by the Board. We are very excited for the coming projects.

Thank you all to our members, partners and friends for your ongoing support and your interest in the work of the World Stroke Organization.

Sincerely,

**Werner Hacke**, President and **Stephen Davis**, Immediate Past-President





# WSO BACKGROUND AND MISSION STATEMENT

# 02

The World Stroke Organization (WSO) is recognized as the lead global organization for stroke by the World Health Organization. It was established in October 2006 through the merger of the International Stroke Society and the World Stroke Federation with the purpose of constituting once world voice for stroke.

## Our Vision

A life free of stroke.

## Our Mission

is to reduce the global burden of stroke through prevention, treatment, and long-term care.

## Our Aims

are to foster the best standards of practice, to increase stroke awareness, to influence policies for prevention of stroke and vascular dementia, to improve health services, to provide education through collaboration with private and public organizations, to facilitate stroke research, and to advocate and foster systems for long-term support of stroke survivors and their families.

Each year 17 million people suffer stroke worldwide, of these over 6 million die and another 5 million are permanently disabled. Stroke is the second leading cause of disability. Yet, 80% of stroke is preventable with appropriate awareness and prevention.

Stroke devastates lives around the world.<sup>1</sup>



1. Feigin et al 2014 -2015

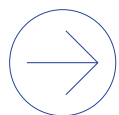
# WSO STRATEGY 2016-2020: THREE STRATEGIC THEMES

The WSO Board embarked on a strategic planning process, with evaluation of our current status and the development of a clear plan of where we see ourselves in 5 years' time as an organization. The Strategic Plan outlines WSO's directions towards 2020 by the following aspirations.



# AWARENESS AND ADVOCACY

# 04



## World Stroke Campaign

World Stroke Day 2016 was focused on raising awareness of the fact that stroke is treatable and that lives can be improved with better awareness, access and action.

Around 100 events were registered in 48 countries with thousands of people participating on the ground and 600m engaging with the campaign's online campaign messages. Toolkits were translated into multiple languages to support local awareness and engagement while social media engagement with the campaign was higher than ever before drawing attention to stroke directly to a diverse audience.



Workshop in UAE

World Stroke Day Awards are an important way for WSO to recognize the achievements of local stroke campaigners. They are also an important platform to highlight and share examples of good practice. This year three winners were selected from a total of 46 submissions. The winner of Best Campaign in a Low to Middle Income Country was the Cherassi Rehabilitation Hospital in Kuala Lumpur, Malaysia. Neeman Stroke Survivors won an Award in the High Income Country category for their work in Israel. The award for outstanding individual achievement went to MacDonald Oguike for his leadership of the MasterStroke campaign in Nigeria.



MacDonald Oguike,  
World Stroke Award Winner



Conference connecting doctors, nurses and  
administrators in Kottayam, Kerala

**96** events  
**in 48** countries  
were registered on the  
campaign website

**3,750**  
downloads of  
campaign toolkit  
materials

**Over 18,000**  
visits to the campaign website

World Stroke Campaign Facebook  
reach on World Stroke Day was

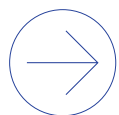
**58,000**

**#stroke** was mentioned  
**19,500** times  
during the campaign. Five times  
more than last year.

A huge thank  
you to everyone  
involved in making  
World Stroke Day  
a great success!



# 04 AWARENESS AND ADVOCACY

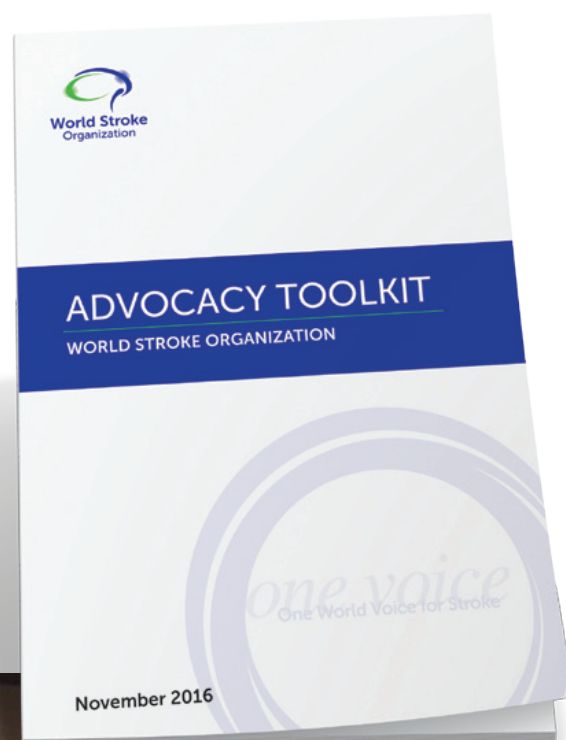


## WSO Advocacy Toolkit

The Advocacy Toolkit aims to provide tools, resources and information to clinicians, survivors, carers and communities from all over the world who are interested in, or active in advocacy. This resource aims to support users to plan and execute an effective advocacy campaign from forming coalitions; identifying goals, collecting data and making evidence based arguments.

The Advocacy Toolkit was successfully piloted in 2016 with 11 individuals from around the world. Pilot users had varying levels of advocacy experience and came from a range of clinical and patient backgrounds. Each used the Toolkit's 9-Step planning process to draft a local Stroke Advocacy Plan. Their plans were shared at in a workshop at the World Stroke Congress in Hyderabad.

The Workshop provided an important opportunity for participants to refine their Advocacy Plans and for WSO to gather feedback on the Toolkit which will be officially rolled out in 2017.



Advocacy Workshop in Hyderabad

# AWARENESS AND ADVOCACY



## WHO, UN and Global Stroke Policies Up-date

### ■ United Nations Sustainable Development Summit

The UN Declaration on Sustainable Development Goals (SDGs) took place in September, 2015. During the summit, 17 sustainable goals and 169 targets were generated, including one on Health: "Ensure healthy lives and promote well-being for all at all ages" and one specific target on NCDs: ***"By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being"*** Neurological disorders were clearly highlighted in the resolution which reads:

***"We are committed to the prevention and treatment of non-communicable diseases, including behavioural, developmental and neurological disorders, which constitute a major challenge for sustainable development."***

(Article 26 in the UN outcome document). The SDGs are highly relevant for stroke, being one of the major non-communicable diseases identified.

At present, many activities are currently on-going to initiate the implementation of the SDGs in each country, and we urge you to watch out on what actions and progress is being made in your specific country. The Sustainable Development Goals impose an important opportunity to ensure that Health, NCDs, and stroke should also be well considered in this context.

Concurrently, the work with the implementation of the WHO Global Action Plan on NCDs (one of the results of the landmark 2011 UN General Assembly that for the 2nd time in its history addressed a medical topic) continues. However, the WHO progress report released in September 2015 raised concerns, and acknowledged the lack of any more substantial progress on the nine global NCD targets to date. The problem of data collection and surveillance has also been recognized. In January 2016, the WHO Executive Board in agreed on the need to fast-track national action in the lead up to the UN High-Level comprehensive Review on NCDs that will take place in 2018. During 2016 WHO has updated Appendix 3 (recommended treatments, actions and policies) of the Global Action Plan on NCDs 2013–2020. WSO has been well represented in all these activities (see below).

### ■ WHO, UN and Global Stroke Policies Update

The key event this year was the WHO World Health Assembly in Geneva from 23 to 28, May, 2016. Margaret Chen, WHO Director General, praised the work achieved during the Millennium Development Goal era, and stated that the world was facing "three slow-motion disasters": a changing environment, antimicrobial resistance, and the rise of chronic non-communicable diseases (NCDs) - the leading killers worldwide.

The NCDs including stroke was again much in focus during the WHA. It was announced that an update on the status of the NCD goals will be presented at the 2018 United Nations General Assembly. Preparations from the WHO on this event are ongoing. WSO was also represented at the WHO Executive Board the week after the WHA.

WSO also took part in the update of the Appendix 3 to the WHO Global NCD Action Plan 2013–2020. The appendix consists of a menu of policy options to support the implementation of the 6 objectives of the WHO Global NCD Action Plan. The revised version took into consideration the emergence of new evidence of cost-effectiveness or new WHO recommendations since the adoption of the WHO Global NCD Action Plan 2013–2020, and also refined the existing formulation of some interventions based on lessons learnt from the use of the first version. Relevant areas for stroke in Appendix 3 are related to risk factors and health systems.

# AWARENESS AND ADVOCACY

Bo Norrving attended the consultation that was held with NGOs on 25 August at the WHO Headquarters in Geneva. WSO aimed to have a stronger profile of stroke in the document, including not only stroke unit care (already included) but also acute stroke services including reperfusion therapies, as well as primary and secondary stroke preventive actions. The actions recommended by WSO are now included in the revised draft of Appendix 3.

WSO was also represented at the UN General Assembly in September, and at several side events that took place during the GA in New York. WSO participated in the WHO launch of the HEARTS initiative on prevention of heart disease and stroke. Before that, the WSO also attended the WHO-EURO Regional Meeting in Copenhagen in mid-September.

WSO continues to have a very fruitful collaboration with WHO, as well as several other NGOs related to stroke, vascular disease, dementia, neurology, and stroke risk factors. A strategic aim of the WSO for the future is to further reinforce the collaboration with sister and brother NGOs to help to make stroke and the many facets of the disease more visible, and positioning the stroke case on a scale that corresponds to the high global impact of the disease.

## ■ NCD Alliance Supporters Consultation Group (SCG),

WSO has joined as member the NCD Alliance Supporters Consultation Group (SCG), which has proven to be very important for us by the provision of updates, information sharing, meeting calendars at the WHO, the UN and with other NGOs, and several other benefits. Membership in the SCG group facilitates the WSO policy to strengthen partnerships with other relevant NGOs and societies.

## ■ ICD-11

In the WHO work on updating ICD 10 into ICD 11, Bo Norrving has chaired the Cerebrovascular Diseases working group which is part of the neurological Topical Advisory Group (TAG) chaired by Raad Shakir. The work has been ongoing since 2009. A proposal from the Cerebrovascular Diseases working Group to form a single block of all cerebrovascular diseases, and to move stroke from diseases of the circulatory system to diseases of the nervous system, was provisionally approved in 2011. The change appeared on the WHO website beta version up till August 2016, when the WHO WHO Statistics and Informatics Department reverted the decision and changed Cerebrovascular Diseases back to Diseases of the Circulatory System. This was followed by protests from WSO, the World Federation of Neurology, several other non-governmental organisations, and Ministries of Health in Russia, New Zealand and Austria. A letter from WSO and WHF was also published in the Lancet. On December 21, 2016, Raad Shakir and Bo Norrving met with the lead of the WHO Statistics and Information Department.

At the time of writing this report, we are pleased to be able to include the final decision from WHO, that Cerebrovascular Diseases should be placed under Diseases of the Nervous System in the upcoming ICD 11. The decision reverses the erroneous placement of cerebrovascular diseases in Diseases of the Circulatory System held for 62 years since 1955, long felt to be incorrect and of disadvantage for stroke. The change is visible on the ICD 11 website. The ICD 11 is expected to be adopted by the World Health Assembly and released in 2018.

## ■ Mexico Declaration

WSO has been liaising with the World Heart Federation, as witnessed by the recent Mexico Declaration on Circulatory Health, aimed at the prevention of heart attacks and stroke.



# SHARING SCIENCE AND BUILDING CAPACITY



## World Stroke Congress

The 10th World Stroke Congress took place in Hyderabad, India from 26 to 29 October, 2016. With over 2,200 participants from 74 countries, it was a successful event and collaboration between WSO and the Indian Stroke Association.

Under the theme of **"One World Voice for Stroke"**, the Congress provided a cutting edge educational and scientific experience, focusing on the latest developments in acute management, rehabilitation and long term care.

Joint sessions with other key organizations were carried out to address both challenges and solutions in global stroke treatment. These sessions covered fruitful discussions from stroke prevention to restorative care after stroke, enhancing our understanding of stroke in all of its facets.

Stroke is a major cause of disability and death in India. Due to insufficient stroke care infrastructure in many public hospitals, treatment expenses for stroke become a huge economic burden on the patient. Neighboring countries in south Asia also face a similar dilemma. In response to this challenge, the Congress also put particular emphasis on the issues related to stroke care in the South Asian region.



Professor Stephen Davis with Health Minister, Mr C Laxma Reddy.



Werner Hacke with Health Minister, Mr C Laxma Reddy

# SHARING SCIENCE AND BUILDING CAPACITY

Besides health professionals, stroke survivors also actively participated and contributed to the Congress. They are an important focus of WSO. The Stroke Support Organizations Committee organized a one-day program for all parties interested in interacting, sharing ideas and learning about the global development of Stroke Support Organizations (SSO). In addition, two main sessions were scheduled and devoted to topics of general interest: Self-Management in Stroke Care and Models of Stroke Support for Children and Working Age Survivors.

Another highlight of the Congress is the awards ceremony in recognizing individuals who had made a significant contribution to the global stroke community. Ralph Sacco received the WSO President's Award for Global Stroke Leadership; Lawrence Wong received the WSO Award for Stroke Services; Hans-Christoph Diener received the WSO Award for Stroke Research, and Michael Chopp received the Barbro B. Johansson Award.

We are now in full swing for the 11<sup>th</sup> World Stroke Congress in Montreal, Canada, in 2018. Save your date, we hope to see you there!



Congress welcome reception

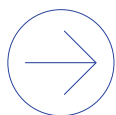
2016  
hyderabad



Congress opening ceremony



# SHARING SCIENCE AND BUILDING CAPACITY



## International Journal of Stroke (IJS)

The International Journal of Stroke has had another successful year, our most significant event of 2016 being the transition from Wiley to the SAGE publishing house. This transition between publishers has been extremely smooth and has enabled us to expand our horizons in terms of potential advertising revenue streams and international editions. At the same time, we have been able to maintain the high quality of our content, and our global focus as the flagship journal of the World Stroke Organization.

### Specific initiatives which have been especially successful include:

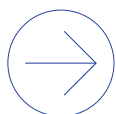
- a focus on publishing less research papers in favor of more reviews, particularly via commissioned themed editions
- more comprehensive reviewer guidelines for greater global consistency and better quality published research
- continued focus and support for papers from developing world
- better connections with the World Stroke Academy
- highest recorded downloads for the journal, and an increased presence in the USA
- restructured Editorial supports to meet our constantly rising demands, increased Associate Editors from four to six
- increased presence of women and the developing world on Editorial Board
- Increased social media presence  
(Twitter @IntJStroke, <http://ijspodcasts.podbean.com>, and find us on Facebook)
- relaunched the Russian language edition with close input from the Russian Minister for Health, Veronika Skvortsova

We would like to thank all those who have helped make the journal such a success, in particular our hard working Associate Editors, Julie Bernhardt, Thorsten Steiner, Patrick Lydon, Michael Hill, Jong S Kim and Ayrton Massaro; our very active and supportive board members, manuscript reviewers, and of course our authors, and readership!



## We look forward to an even more successful year in 2017

# SHARING SCIENCE AND BUILDING CAPACITY



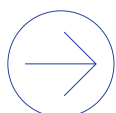
## Roadmap to Delivering Quality Stroke Care

In line with the WSO mission to reduce the global burden of stroke, the WSO has launched a Global Stroke Services Guidelines and Action Plan during the World Stroke Congress in Istanbul in 2014.

After two years of studious preparation, the WSO Stroke Guidelines and Quality Committee launched the *Roadmap to Delivering Quality Stroke Care* in this year's *World Stroke Congress in Hyderabad*. Following industry's best practices, the Roadmap presents a prioritized model for basic, essential and advance stroke care in different income level areas. A user-friendly electronic handbook, it covers a wide range of topics of: *Stroke System Development, Prehospital and Emergency Care, Acute Inpatient Stroke Care, Secondary Stroke Prevention, Stroke Rehabilitation, Community Reintegration and Long Term Recovery*. The Roadmap provides a step-by-step guide to review current stroke care resources, as well as tools for the implementation, monitoring and evaluation of stroke services globally.

The Global Stroke Services Guidelines and Action Plan is intended to augment stroke advocacy efforts throughout the world, providing a strategic plan for optimizing stroke outcomes. Despite differences in resource availability, the message the WSO wishes to convey is that **stroke is treatable** and life can improve with better

**awareness, access and action.**



## Establishment or research priorities

The WSO Research Committee sponsored the course titled **"How to improve your research methods and get published"**, which was conducted on Wednesday 26 October, 2016 at the World Stroke Congress in Hyderabad, India.

**The course was well attended and covered various topics including:**

- How to critically appraise research papers,
- How to write a research paper and get it published,
- How to develop a rehabilitation research project,
- How to make your laboratory research high quality,
- How to establish a stroke registry,
- Designing your clinical research project: some do's and don'ts,
- Estimating the burden of disease,
- Stroke riskometer & riburst study.



The Committee is delighted with the outcome of the course and would like to thank the speakers and participants for contributing to its success.

We are also very pleased to announce that a research tab has been created on the WSO website as a result of a joint WSO Education Committee and WSO Research Committee endeavour. A new section dedicated to research has therefore been added to the WSO website and the Stroke Research Committee is working actively on its content. You will soon be able to gather a lot of useful information on "How to conduct research", "Funding resources", "Career planning", "Networking" and much more.

# SHARING SCIENCE AND BUILDING CAPACITY



## World Stroke Academy

The World Stroke Academy (WSA) is the web-based education platform of the World Stroke Organisation. The WSA is an exciting and ever growing educational compendium of evidence-based clinical medicine, application of global guidelines, and at the coal face management of clinical diagnosis and stroke management in various topics; cryptogenic stroke, mechanical thrombectomy, managing blood pressure, current rehabilitation interventions, the management of TIA, treatment of stroke spasticity and more.

The World Stroke Academy is an increasing success, with an excellent cutting edge layout, and an increasing number of quality eLearning modules.

The World Stroke Organization captured and hosts our most recent conference in Hyderabad India on the World Stroke Academy site. This includes up to 19 hours of high quality presentations from some of the worlds stroke leaders, a total of 45 lectures from our congresses.

User statistics shows that there has been a 28% increase of distinct users this past year and a 24.5% increase of visitors of the WSA platform.

We are currently in the process of finalizing our application for accreditation as a CME provider through the ACCME. We are aiming to ensure that all content of the site is peer-reviewed. We have strengthened the Editorial Team by inviting Professor Peter Sandercock to join as a Commissioning Editor to support the work of the Editor in Chief, Professor Michael Brainin.

The Managing Editor, Carmen Lahiff-Jenkins is the bridge between the International Journal of Stroke, the WSOs flagship Journal and the academy, coordinating multiple efforts on both fronts. The liaison to Multilearning is now fully in the hands of our Editorial Assistant Martina Weber and our CME Editor Raoul Eckhardt is focussed on ensuring quality. The team continues to innovate and deliver a globally applicable product.

The WSA, WSO and the journal IJS have a range of social media platforms, please follow us on Twitter: @WorldStrokeEd @WorldStroke @IntJStroke Podbean, WSO You Tube, and Facebook – both IJS and the WSO Campaign.

[www.world-stroke-academy.org](http://www.world-stroke-academy.org)

# SHARING SCIENCE AND BUILDING CAPACITY



## Teaching Courses



### Teaching Course in the Philippines

#### Annual neurological meeting of the Philippines Neurological Society

Profs. Stephen Davis and Michael Brainin were invited to attend the annual neurological meeting of the Philippines Neurological Society in June. The WSO Program 'Cardinal Principles of Stroke Management' had a good start and a fruitful discussion among the audience.

A *Train the Trainers* session was a successful initiative. In addition, the four lectures delivered by Prof. Stephen Davis and Prof. Michael Brainin to approximate 200 neurologists have been adopted by activists of the local society for an extension of the program to reach non-neurologists.

The certificates bestowed to the trainers encourage them to respond to other educational incentives in the Philippines and to broaden the channels for other doctors to treat stroke patients. This will be guided and assisted by the academic leaders of the Philippine Society.

A roll out and extended program has been discussed with the neurological leaders and will be implemented over the coming years



Profs Stephen David and Michael Brainin with colleagues from the Philippine Neurological Association



### Teaching Course in China

#### World Stroke Organization joint Chinese Stroke Association session, Beijing, China

On June 24th, 2016, WSO together with Chinese Stroke Association and the organizers of Tiantan International Stroke Conference held a special stroke workshop in Beijing, China. WSO representatives travelled to China for this occasion and these included: Prof. Stephen Davis, Prof. Lawrence Wong, Prof. Marc Fisher and A/Prof. Bernard Yan. The workshop was both didactic and interactive, with the aim of giving the most up-to-date advances in acute stroke medicine. The workshop was well attended and there was good engagement with the audience.

Marc Fisher gave an excellent précis of the current status of cardiac evaluation of ischaemic stroke patients. Of particular interest was the concept of "atrial fibrillation burden" and its correlation with risk of recurrent stroke.

Stephen Davis gave a comprehensive presentation on the controversies and future directions for endovascular therapy for stroke. Special emphasis was placed on unresolved issues which included middle cerebral artery M2 segment occlusions and selection of patients for treatment beyond the so-called "golden hour" of 6 hours.

Bernard Yan presented the issues in the provision of mechanical thrombectomy to a large population. He also outlined possible solutions to streamlining the workflow of thrombectomy.

Lawrence Wong presented the advances in intravenous thrombolytics in acute ischaemic stroke. This was also follow up on the controversy of the usage of different dosages of thrombolytics.

# SHARING SCIENCE AND BUILDING CAPACITY

# 05

## African Teaching Course

### 8th Regional Teaching Course (RTC) on Neurology in Sub-Saharan Africa. Maputo, Mozambique



The 8<sup>th</sup> RTC took place in Maputo, Mozambique and was hosted by the Eduardo Mondlane University of Maputo, Mozambique. The RTC, organised by the EAN, was supported by a consortium of African and international scientific societies:

- Eduardo Mondlane University of Maputo, Mozambique.
- AFAN – African Academy of Neurology
- WFN - World Federation of Neurology
- AAN - American Academy of Neurology
- IBRO - International Brain Research Organisation
- IPDMDS– International PD and Movement Disorder Society
- WSO - World Stroke Organisation

Our gratitude goes to the local organizing committee led by Amina Ismael Daude and Lucia Chambal. Her help and the support of the Mozambican Ministry of Higher Education and the Faculty of Medicine at the Eduardo Mondlane University was essential for the success of the RTC.

Thanks to their support, 23 young doctors and trainees coming from 12 SSA countries were invited to the 8<sup>th</sup> RTC and supported by a scholarship from the RTC fund. These individuals were selected by the course organisers from a larger number of neurological trainees who had been put forward by their Head of Department as potential course participants. Thus these selected participants represent some of the very best trainees from across Africa. Many doctors and trainees from the Eduardo Mondlane University and the Maputo Central Hospital as well attended the course; the RTC counted 100 registered participants. The Faculty for the course was truly international. This three-day RTC had three main themes: stroke, epilepsy and HIV and the nervous system in SSA.

The RTC was also acknowledged by the Mozambican Ministry of Health. Mr. Mouzinho Saide, Vice Minister for Health of Mozambique opened the works of the 8<sup>th</sup> RTC and stressed the importance of courses such as this Regional Teaching Course for Africa. Dr Rufus Akinyemi represented the WSO.



The Opening Ceremony of the 8<sup>th</sup> Regional Teaching Course



# SHARING SCIENCE AND BUILDING CAPACITY



Prof Jose Ferro (Portugal) delivering a presentation on stroke

The core organisation of the course is led by the “Neurology and SSA” Task Force team at the European Academy of Neurology (EAN) chaired by Prof. Erich Schmutzhard (Austria) together with Ms Eveline Sipido, EAN Liaison Officer. The high international reputation for academic excellence of the course is underlined by the wide range of learned societies and institutions that support this annual course.

The format of the course was a mixture of lectures in the morning, supplemented by a case presentation fitting into the theme of the day. The afternoons were taken up with small group interactive workshops to discuss cases brought by the experts.

Given the escalating burden of stroke in Africa, the enthusiasm of the course participants and the very large numbers of questions fielded by the Faculty about stroke over the course of the RTC. The support from WSO will prove to have been an extremely cost-effective investment that will help develop a cadre of stroke neurologists in Africa to tackle the emerging epidemic of NCDs there.

The 9<sup>th</sup> RTC will be held on 8-11 November, 2017 in Ouagadougou, Burkina Faso. It will be hosted by Prof. Jean Kabore and Peter Sandercock will represent WSO.

# SHARING SCIENCE AND BUILDING CAPACITY



## Scholarships

The Young Stroke Professionals committee was established in 2014 to support and promote best practice among young stroke professionals. Planned activities include establishing networks for education; addition of a Young Stroke Professionals section in the IJS to present and promote networks of young stroke researchers; and recruitment of young members.

In addition, the committee established the WSO Brief Clinical Exchange Scholarship Program which was launched in January 2015. These scholarships worth up to US\$2000 are designed to expose young stroke professionals from medical, nursing and allied health backgrounds to best practice clinical stroke care at international centers of excellence. At least 2 of the 5 scholarships every year are granted to applicants from developing countries. The primary purpose of the exchange should be clinical but opportunities for collaborative research may arise and are strongly encouraged. The selection panel consider the potential benefit to the applicant and stroke patients at their institution. The host institution must have recognized status as a center of excellence in stroke care

### ■ In 2016, a total of five scholarships were awarded

**Yi Dong** (neurologist) from Huashan Hospital, Shanghai, China visited Medical University of South Carolina (MUSC), Charleston, South Carolina, USA. She spent 4 weeks observing the acute stroke, telestroke and rehabilitation teams in action and learned about meta-analysis techniques, completing two meta-analyses which were submitted as abstracts to the International Stroke Conference.

**Joanna Fletcher-Smith** (occupational therapist) from University of Nottingham visited the VU Medical Centre and Reade Rehabilitation Unit in Amsterdam, the Netherlands and spent 1 week learning about advanced movement assessment and treatment of limb pain and contractures. She noted differences in the systems of rehabilitation between the two countries and has also brought back new understanding of research methods in her field.

**Chrispine Owuor Oduor** (neurologist) from Kenya attended Duke University Hospital, North Carolina USA and spent 2 weeks observing the neurocritical care unit, learning advanced skills in intracranial pressure blood pressure management. He also observed the "code stroke" team's efficient workflow for rapid patient assessment and delivery of reperfusion therapies.

**Stephen Van Gaal** (neurologist) from the Ottawa Hospital (TOH), Ottawa, Canada travelled to the Helsinki University Hospital, Helsinki, Finland and spent 5 days observing the ultra-efficient acute stroke treatment process. He has brought back new ideas to implement in Ottawa, particularly in the pre-hospital identification and prenotification of suspected stroke patients.

**Jie Yang** (neurologist) from Nanjing, China visited the National Cerebral and Cardiovascular Center, Osaka, Japan. In her 2 week observership she learned about the emergency, inpatient and outpatient management of stroke in Japan and established links for future collaborative research.

**Michelle Canavan** (Geriatrician - Ireland) from the 2015 round of scholarships also completed a deferred visit to Hamilton General Hospital, Canada, learning about organisation of stroke services, acute stroke management and stroke rehabilitation in a busy tertiary referral stroke centre

# STROKE SUPPORT

## ■ Development of Stroke Support Organizations (SSOs)

In 2016 the SSO Committee and International Development Manager worked towards establishing, supporting and strengthening a global network of SSOs, particularly in low and middle income countries.

## ■ International Development

The International Development Manager continued to act as a focal point for SSO enquiries from across the world. During 2016, 36 individual and organisation contacts were established. Enquirers were signposted to the SSO Toolkit, to WSO membership and to the World Stroke Campaign. In some cases more intensive support was possible, including the facilitation of in-country and regional networking with SSOs and individuals in Nigeria, Timor Leste, Uganda, Malta, South Africa and Ghana. In Nigeria SSOs have now developed a partnership and support has been given to these SSOs in the development of funding proposals.



As a result of using the toolkit I have started to motivate some people about the idea of establishing an SSO in Rwanda. "

*Gerard Urimubenshi, Rwanda*



The toolkit is very useful and is helping us a lot, especially the section that talks about how to grow an SSO. As a result of contacting the International Development Manager, our community stroke care has been spurred on, beginning with door to door surveys of needs. "

*Harshita Mittal and  
Ashin Gurung, Community  
Stroke Officers, Neuro and  
Allied Clinic, Nepal*



World Stroke Day 2016 Neuro and Allied Clinic, Nepal

During the year, we reviewed and updated the Patient Education Repository, where we collect details of patient and public educational materials that are submitted by various partner and member organizations. There are now 160 resources listed in the repository that are searchable by different categories: prevention; acute treatment; rehabilitation; recovery; and specific information and support.



Gerard Urimubenshi, Rwanda



# STROKE SUPPORT

## ■ SSO Working Conference 2016

The SSO Working Conference in Hyderabad, India in October 2016 was very well attended by SSOs and individuals interested in delivering stroke support services in the community. Sessions at the Working Conference were: Establishing and Growing SSOs; Long Term Support for Stroke Survivors; and Best Practice Campaigns. A selection of presentations from these sessions can be found at <http://www.world-stroke.org/for-patients/wso-activities-for-ssso>

## ■ WSO SSO Committee

We begin 2017 with new membership of the WSO SSO Committee, with members from across the world, and the Committee has agreed its approach and plan for supporting and strengthening SSOs. The focus of the plan is to support the establishment and sustainability of SSOs; to enable SSO knowledge and skills development; and to facilitate SSO networking.



We have developed the structure of the committee of our SSO as suggested by the toolkit. We have also gained insights into the activities of SSOs. We understand that there has to be some enthusiasm created for stroke survivors to attend meetings regularly."

*Dr Padma Gunaratne, Stroke Support Organization of Sri Lanka*



The International Development Manager introduced me to a member of WSO (SAFE) and supported me whenever I had any queries. This was a way for me to learn more about how to support stroke survivors."

*Johanna Pizzuto, Nurse, Malta*



SSO Working Conference 2016

# STROKE SUPPORT



SSO networking,  
Hyderabad 2016

“

I was doing this stroke support project all alone and the toolkit really helped me. It was because of the toolkit that I was able to write our proposal. It has also strengthened my focus on what my organisation intends to achieve and the way we will go about it. ”

*Michael Francisca, Nigeria*



Sri Lanka Stroke  
Support Group



Neuro and Allied Clinic home visit, Nepal



# MEMBERSHIP

**3,995**  
members

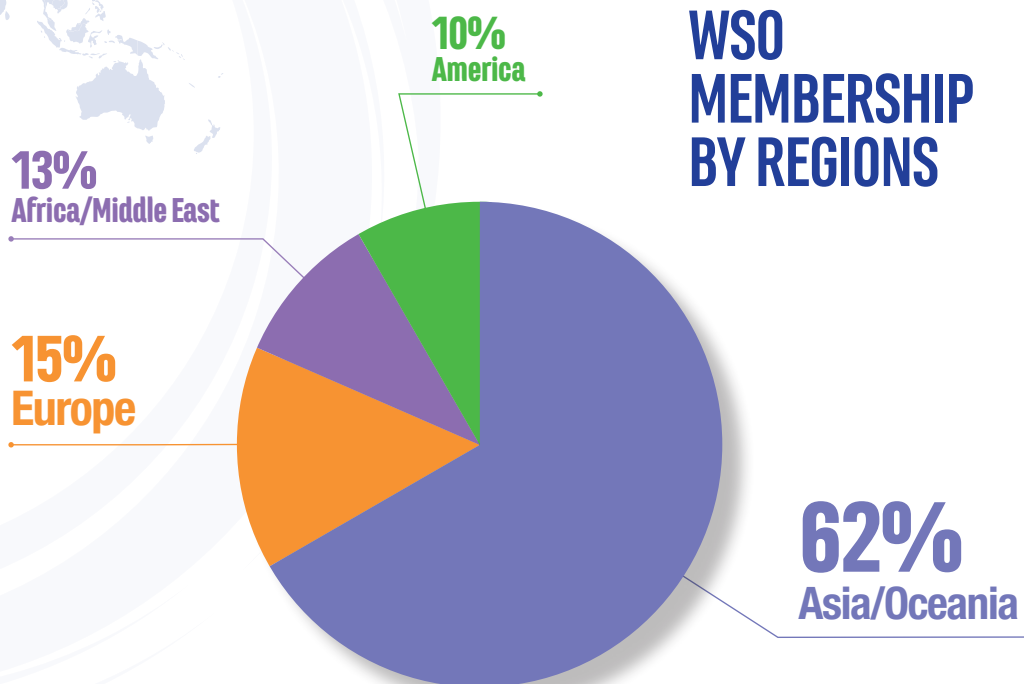
**55**   
societies

**112**  
countries

We are extremely proud and fortunate to count among our members some of the world's eminent stroke clinicians, researchers and including the major stroke societies, ministries of health, research institutes, and patient groups.

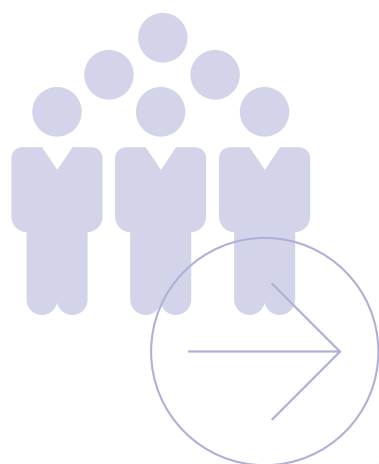
WSO has worked diligently throughout 2016 on member engagement and recruitment. As of December 31<sup>st</sup>, 2016, we had a recorded number of 3995 individual members and 55 society members from 112 countries. This marked the concrete and healthy advance of WSO's global influence. We thank you our members for your continuous trust and support.

## WSO MEMBERSHIP BY REGIONS



# 07 MEMBERSHIP

## WSO Society Members as of December 31 2016



### ■ Scientific Societies

Stroke Society Of Australasia - *Australia*  
Austrian Stroke Society - *Austria*  
Belgian Stroke Council - *Belgium*  
Brazilian Stroke Network - *Brazil*  
Brazilian Stroke Society - *Brazil*  
Canadian Stroke Consortium - *Canada*  
Central And Eastern European Stroke Society - *Croatia*  
The Danish Stroke Society - *Denmark*  
Egyptian Cerebro-Cardio-Vascular Association - *Egypt*  
The Finnish Stroke Society, a Division of the Finnish Neurological Association - *Finland*  
German Stroke Society - *Germany*  
Iranian Stroke Association - *Iran*  
Neurosciences Research Center (NSRC)-Tabriz - *Iran*  
The Japan Stroke Society - *Japan*  
Korean Stroke Society - *Korea, South*  
IASO Ibero\_American Stroke Organization - *Mexico*  
Section Of Cerebrovascular Diseases Polish Neurological Society - *Poland*  
Romanian National Stroke Association - *Romania*  
All-Russian Society of Neurologists - *Russian Federation*  
Spanish Society of Neurology (SEN)-GEECV - *Spain*  
National Stroke Association of Sri Lanka - *Sri Lanka*  
Sahlgrenska sjukhus - *Sweden*  
European Stroke Organization - *Switzerland*  
Swiss Stroke Society SHG - Schweizerische Hirnschlaggesellschaft - *Switzerland*  
Taiwan Stroke Society - *Taiwan*  
Thai Stroke Society - *Thailand*  
Turk Beyin Damar Hastalıkları Derneği/Turkish Cerebrovascular Disease Society - *Turkey*  
Ukrainian Society for Neurorehabilitation - *Ukraine*  
American Heart Association - *United States of America*  
American Stroke Association - *United States of America*  
Intermountain Stroke Center - *United States of America*  
The Chinese Stroke Association (CSA) - *China*

### ■ Support Organizations

National Stroke Foundation - *Australia*  
Bangladesh Stroke Association (BSA) - *Bangladesh*  
Heart and Stroke Foundation of Canada - *Canada*  
March of Dimes Canada - *Canada*  
Finnish Brain Association - *Finland*  
Stroke Association Support Network-Ghana - *Ghana*  
Indian Stroke Association - *India*  
Stroke Foundation Of Bengal, India - *India*  
Fightthestroke - *Italy*  
Japan Stroke Association (JSA) - *Japan*  
Neuro and Allied Clinic - *Nepal*  
Stroke Foundation of NZ Limited - *New Zealand*  
Acha Memorial Foundation c/o Timothy Oguike - *Nigeria*  
Stroke Action Nigeria - *Nigeria*  
Stroke care International Initiative - *Nigeria*  
Slovenian Stroke Support Organisation - *Slovenia*  
The Heart And Stroke Foundation South Africa - *South Africa*  
The Stroke Survivors Foundation - *South Africa*  
Stroke Action UK - *United Kingdom*  
Stroke Alliance For Europe - *United Kingdom*  
The Stroke Association - *United Kingdom*  
International Alliance for Pediatric Stroke - *United States of America*  
YoungStroke, Inc. - *United States of America*

approximately  
**+7.5%**  
income

**164'561 USD**  
**PROFIT**  
**2016**

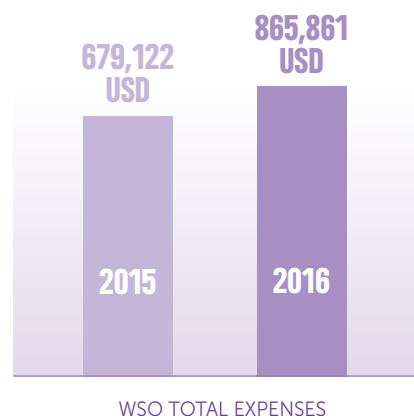
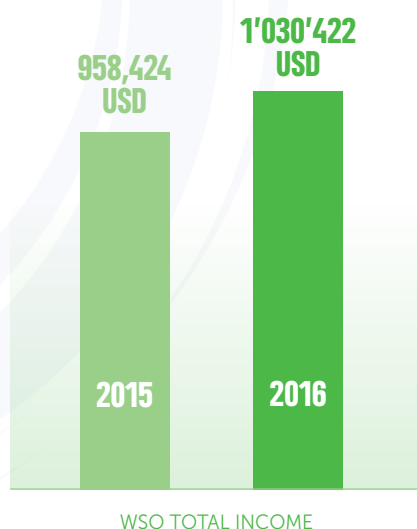
WSO concluded the 2016 financial year in a positive position with a profit of USD 164'561 which has been added to the general reserve.

Total income increased to USD 1'030'422. This is an increase of approximately 7.5% despite that the income from the 2016 congress will be credited in 2017.

Total expenses also increased to USD 865'861, about 27%, but this was because, 2016, there was a contribution for the US Editorial office from Sage which was used to pay the Editorial office, in 2015 this was not the case. Other costs were more or less the same and as budgeted.

Our main operational expenses are related to projects and to staff costs. Our goal for the next few years will be to diversify our sources of income.

The detailed financial report for all WSO activities is shown below, this includes the operations of both WSO Switzerland and WSO USA.



# 08 FINANCIAL REPORT

## WORLD STROKE ORGANIZATION INCOME AND EXPENSES FOR THE YEAR ENDED DECEMBER 31, 2016 (in United States Dollars)

		Total	
		2016	2015
Cash & Other Assets		1,506,157	1,280,018
Liabilities		325,006	263,428
<b>Net Funds</b>		<b>1,181,151</b>	<b>1,016,590</b>
<b>Income</b>			
	Donations	747,600	580,881
	Membership Dues	133,960	113,810
	Income on Congress	0	235,177
	Interest	70	191
	Revenue from the journal	40,606	24,198
	Contribution IJS Editorial Office	104,868	0
	Reimbursement of promotional expenses	3,318	4,167
<b>Total</b>		<b>1,030,422</b>	<b>958,424</b>
<b>Expense</b>			
	WS Campaign	162,705	151,844
	WS Academy	74,648	99,623
	IJS Editorial Office	119,556	0
	WSO Programs (Grants and Award)	45,877	52,838
	Promotion and Marketing	24,675	22,685
	Meeting Expenses	41,321	44,442
	Membership and journal Subscription	67,699	79,921
	Secretariat	200,528	177,198
	Special projects	64,144	0
	Administrative cost	25,693	29,307
	Exchange difference	14,015	20,801
	NCD Alliance	25,000	0
	Provision for B Johansson Awards	0	463
<b>Total expenses</b>		<b>865,861</b>	<b>679,122</b>
<b>Result</b>		<b>164,561</b>	<b>279,302</b>
	Balance brought forward	1,016,590	737,287
	Balance carried forward	1,181,151	1,016,590

# PARTNERSHIP

**"Med**tronic is proud of our partnership with the World Stroke Organization that in the past year helped make the Road Map for Quality Stroke Care available to providers of stroke treatment across the globe," said Stacey Pugh, vice president and general manager of Medtronic's Neurovascular business, which is part of the Restorative Therapies Group. "Through these ongoing initiatives, we are hopeful that we will continue to see improvements in protocols that allow for fast, effective, and appropriate treatment for acute ischemic strokes."

**S**troke is one of the leading causes of death and the leading cause of disability. It has been proven since years that timely treatment of acute stroke in organized stroke care (stroke units) effectively reduces mortality and morbidity. Nonetheless the majority of patients with an acute stroke do not have access to stroke units.

"We highly appreciate the professional and passionate strategy and activities of the WSO to change this devastating situation. It is a great privilege for us to work closely with the WSO."

said Thomas Fisher, Teamleader Angels International, Boehringer Ingelheim GmbH

**"T**he World Stroke Organization is an important partner for Medtronic as we work to increase awareness about the causes of cryptogenic stroke and the diagnostic tools available to detect atrial fibrillation and other clinically relevant arrhythmias in this important patient group," said Nina Goodheart, vice president and general manager of the Patient Monitoring and Diagnostics businesses at Medtronic. "We share the goal of ensuring that clinician, patients and caregivers have access to information and cardiac diagnostic tools which can detect atrial fibrillation, a common cause of stroke, even when the patient has no symptoms."

**A**chieving our vision of a life free of stroke is a task that WSO cannot achieve alone. We are committed to building our partnerships at global, regional and national level to scale up and deliver improvements in prevention, treatment and support to reduce the burden of stroke at global, regional and national level.

Having made the decision to join the NCD Alliance, this year we have developed collaborations that are focused on bringing the voices of stroke survivors into consultations around UN health improvement goals.

In 2016 we worked in close partnership with our Member Associations to raise awareness of key issues in stroke treatment. Using World Stroke Day to share the message that action to improve awareness and treatment of stroke is crucial, the World Stroke Day focus on treatment enabled us to leverage the day to increase engagement in the WSO Roadmap to Quality of Care. We owe our thanks to our supportive industry partners who enable us to continue our work to tackle stroke globally.

We welcome and actively seek new partners and in 2017 will be working to broaden our industry, NGO and philanthropic partners.

## Our Corporate Sponsors

**PLATINUM  
PLUS SPONSOR  
PARTNER**

**Medtronic**

**GOLDEN  
SPONSOR  
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**AstraZeneca**



**Bristol-Myers Squibb**



**Boehringer  
Ingelheim**



**BRONZE  
SPONSOR  
PARTNERS**





# EXECUTIVE COMMITTEE AND BOARD OF DIRECTORS



WSO Board meeting held in February 2016 in Los Angeles, US.



Professor Werner Hacke took over the Presidency from Professor Stephan Davis at the World Stroke Congress in Hyderabad in October 2016. Professor Hacke will remain President until 2018 when Professor Michael Brainin will take over.

The WSO board is comprised of 40 world renowned individuals. The members represent a balance of all world regions and include stroke professionals as well as representatives from both Scientific Stroke Organizations and Stroke Support Organizations.

In 2016, we thanked 11 outgoing board members for their commitment and hard work. We also welcomed the same number of new board members joining. Three new Executive Officers joined the crew last year, including one Vice President and two Members at Large. The official approval of the new Board and Executive Officers took place in Hyderabad in October.

The Executive Committee and Board of Directors meet three times per year (February, May and September/October).

Current members are listed below:

## WSO EXECUTIVE COMMITTEE MEMBERS

**President** - Werner Hacke (Germany)  
**President-Elect** - Michael Brainin (Austria)  
**Vice-President** - Natan Bornstein (Israel)  
**Vice-President** - Marc Fisher (USA)  
**Immediate Past-president** - Stephen Davis (Australia)  
**Treasurer** - Bernard Yan (Australia)  
**Secretary** - Ka Sing Lawrence Wong (Hong Kong S.A.R.)  
**Member at large** - Peter Sandercock (UK)  
**Member at large** - Sheila Martins (Brazil)  
**Member at large** - Patrice Lindsay (Canada)  
**Ex Officio Member** - Bo Norrving, Chair of Global Policy Committee  
**Ex Officio Member** - Geoffrey Donnan, Editor of IJS

## WSO BOARD OF DIRECTORS

### INDIVIDUAL MEMBERS

**Sub-Sahara Africa, Middle East/East Mediterranean**  
**Foad Abd-Allah**, Egypt  
**Gloria Ekeng**, Nigeria  
**Mehdi Farhoudi**, Iran  
**Abayomi Ogun**, Nigeria

**Americas**  
**Marc Fisher**, USA  
**Pooja Kharti**, USA  
**Vladimir Hachinski**, Canada  
**David Liebeskind**, USA

**Europe**  
**Michael Brainin**, Austria (President-Elect)  
**Werner Hacke**, Germany (President)  
**Philip Bath**, UK  
**Peter Sandercock**, UK

**Asia/Oceania**  
**Julie Bernhardt**, Australia  
**Christopher Chen**, Singapore  
**Graeme Hankey**, Australia  
**Valery Feigin**, New Zealand  
**Masayasu Matsumoto**, Japan  
**Stephen Davis**, Australia  
**Norihiro Suzuki**, Japan  
**Ka Sing Lawrence Wong**, Hong Kong (Secretary)

### SCIENTIFIC SOCIETIES

**Craig Anderson**, Asia Pacific Stroke Organisation  
**Jose Ferro**, European Stroke Organization  
**Vida Demarin**, Central and Eastern European Stroke Society  
**Patrik Michel**, Swiss Stroke Society  
**Roland Veltkamp**, German Stroke Society  
**Gord Gubitz**, Canadian Stroke Consortium  
**Gabriel Rodriguez de Freitas**, Brazilian Stroke Society  
**Ralph Sacco**, American Stroke Association  
**Bernard Yan**, Stroke Society of Australasia (Treasurer)

### STROKE SOCIETIES

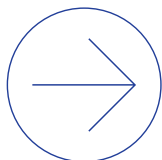
**Jon Barrick**, The Stroke Association Stroke Alliance For Europe  
**Natan Bornstein**, The Neeman Association for Stroke Survivors Israel (Vice-President)  
**Amy Edmunds**, YoungStroke.Inc  
**Juliet Bouverie**, UK Stroke Association  
**George Scola**, The Stroke Survivors Foundation  
**Patrice Lindsay**, Heart and Stroke Foundation  
**Sharon McGowan**, Stroke Foundation, Australia  
**Sheila Cristina Ouriques Martins**, Brazilian Stroke Network (Member at Large)  
**Kazuo Minematsu**, Japan Stroke Association  
**Risto O. Roine**, Finnish Brain Association

**Co-opted members**  
**Liping Liu**, China

### WSO IMMEDIATE PAST-PRESIDENT

**Stephen Davis**, Australia, 2012-2016

# JOIN US IN THE FIGHT AGAINST STROKE NOW



## Why Act NOW

Every six seconds someone somewhere will die of stroke.

One in six people will have a stroke at sometime in their lives. Stroke is responsible for more deaths annually than those attributed to AIDS, tuberculosis and malaria combined, yet stroke remains a silent epidemic.

Now is the time to act. Without coordinated effort on the part of the international community, stroke will claim the lives of up to 6.5 million people each year.

- **Act NOW** by using the WSO Advocacy Toolkit to support your local Stroke Advocacy Events [http://www.worldstrokecampaign.org/images/wso\\_advocacy\\_toolkit/2016-11\\_-\\_Advocacy\\_Toolkit\\_REVISION\\_Final.pdf](http://www.worldstrokecampaign.org/images/wso_advocacy_toolkit/2016-11_-_Advocacy_Toolkit_REVISION_Final.pdf)
- **Act NOW** by using the Global Stroke Guidelines and Action Plan to establish and implement stroke systems of care globally. [http://www.world-stroke.org/images/GSGAAP/Global\\_Stroke\\_Guidelines\\_and\\_Action\\_Plan\\_All\\_in\\_one.pdf](http://www.world-stroke.org/images/GSGAAP/Global_Stroke_Guidelines_and_Action_Plan_All_in_one.pdf)
- **Act NOW** by becoming our members and joining our global team to fight against stroke. <https://wso.multiregistration.com/>
- **Act NOW** by learning and promoting the Global Stroke Bill of Rights to stroke care providers and governments. <http://www.worldstrokecampaign.org/global-stroke-bill-of-rights.html>
- **Act NOW** by marking your dates for World Stroke Congress 2018 in Montreal, Canada. <http://worldstrokecongress.org/2018/Pages/default.aspx#.WQcmuLZtMw>



*one voice*  
One World Voice for Stroke



**World Stroke  
Organization**

**WSO Administrative Office**  
c/o Kenes International  
7, rue François-Versonnex C.P. 6053, 1211 Geneva 6, Switzerland  
Tel: + 41 22 908 0488 | Fax: + 41 22 906 9129  
E-mail: [admin@world-stroke.org](mailto:admin@world-stroke.org)

[www.world-stroke.org](http://www.world-stroke.org)