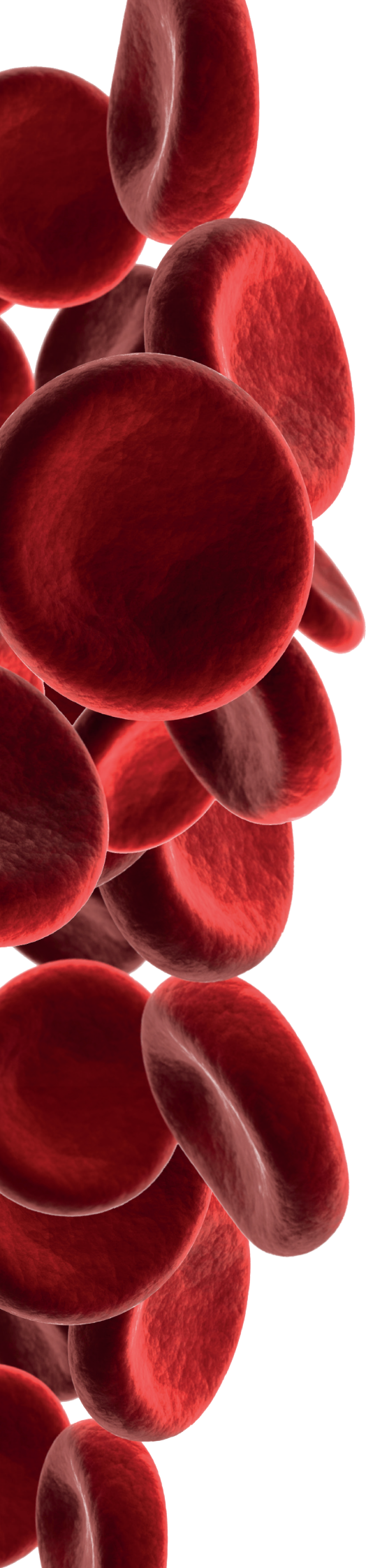




**SITS – SAFE IMPLEMENTATION
OF TREATMENTS IN STROKE**

SITS Report 2018



Dear Reader,

SITS started as an internet based registry for intravenous thrombolysis already in 1996. In 2002 it was given a broader international role when European Union authorities requested that all patients treated with thrombolysis should be registered in SITS for a period of three years.

Today, over 230 000 patient files are included from more than 75 countries. 75 scientific reports have been published/accepted for publication in international peer-reviewed journals based on SITS data, and many abstracts have been presented at different stroke conferences. This year, several abstracts based on SITS data have been submitted for presentation at ESOC 2019 in Milan, Italy.

With endovascular thrombectomy and direct oral anticoagulants revolutionising stroke care in recent years, SITS has enabled registration of data from patients who have received these and other modern therapies. SITS had recently completed its first trial, SITS-OPEN using the same electronic case record forms but separated from the registry. The SITS-OPEN trial results are under preparation for publication.

This year SITS has launched a new data entry protocol for intracerebral and intraventricular haemorrhage. The SITS ICH-IVH Registry has a new layout and we hope the data entry process will be easier in this format. We invite all current SITS centres to actively participate in the new registry.

In recent years, we have received requests to reduce the number of variables in our data entry protocols. We have initiated a project to address this in the IV thrombolysis and thrombectomy protocols and plan to have the reduction implemented as soon as possible.

With this annual report we give an overview of the registry data, ongoing and planned activities, and a list of our publications. We take the opportunity to acknowledge the contributions of more than 320 authors involved in SITS publications. National, regional, and local coordinators, and users at participating centres are also acknowledged in this report. We thank our Scientific Committee members (previous and current) who oversee scientific activities within SITS and contribute their expert knowledge. We also pass on our thanks to all patients participating in the registry. Last but not least, we are grateful to our team members at the SITS Coordination Office who have been involved in the preparation of this report.

Kind regards,



Nils Wahlgren
SITS Chairman (1996-2018)



Niaz Ahmed
SITS Chairman (2019-)

SITS Scientific Committee Members

Prof. Nils Wahlgren, Sweden (Chairman, until January 2019)
Associate Prof. Niaz Ahmed, Sweden (Chairman, from February 2019)
Prof. Valeria Caso, Italy
Prof. Gary A. Ford, United Kingdom
Prof. Kennedy R. Lees, United Kingdom
Prof. Danilo Toni, Italy
Prof. Christine Roffe, United Kingdom
Prof. Adam Kobayashi, Polen
Prof. Georgios Tsivgoulis, Greece
Prof. Peter Ringleb, Germany

Previous members of the Scientific Committee

Prof. Antoni Davalos, Spain
Prof. Cesare Fieschi, Italy
Prof. Lawrence Ka Sing Wang, Hong Kong
Prof. Markku Kaste, Finland
Prof. Martin Grond, Germany
Prof. Michael Hennerici, Germany
Prof. Risto Roine, Finland
Associate Prof. Robert Mikulik, Czech Republic
Prof. Turgut Tatlisumak, Finland
Prof. Vincent Larrue, France
Prof. Werner Hacke, Germany

Current SITS Coordination Team Members

Assoc. Prof. Niaz Ahmed, MD, PhD, Chairman from February 2019
Prof. Nils Wahlgren, MD, PhD, FESO, Chairman until January 2019
Charlotte Lahnborg Alme, PhD, COO - Chief Operating Officer
Michael V. Mazya, MD, PhD, FESO, Network and Research Executive
Tiago Moreira, MD, PhD, Research Executive
Johan Lundberg, MSc, Project Leader for Registry Development
Isa Ek, Executive and Network Coordinator Assistant
Shayer Rizvi, MSc, User Services and IT Manager
Linda Ekström, Research nurse
Charith Cooray, MD, PhD, SITS researcher
Irene Escudero, MD, visiting researcher, Sevilla, Spain

Writing / Working group of this report

Michael V. Mazya
Niaz Ahmed
Nils Wahlgren
Charlotte Lahnborg Alme
Isa Ek
Johan Lundberg
Shayer Rizvi

Contents

Background and purpose	4
Support and Funding	4
SITS Studies	5
SITS Registries / Data entry forms / Protocols	8
SITS World map	10
Current countries in SITS	10
General SITS data overview	11
SITS Thrombolysis Registry	12
Outcome data	14
SITS Thrombectomy Registry	17
SITS General Stroke Registry	18
SITS-EAST	19
SIECV-SITS	20
SITS-MENA	21
SITS Award 2018	22
What is new in SITS – current and future	24
SITS Publications	26
Appendix	32

Background and purpose

SITS (Safe Implementation of Treatment in Stroke) is a non-profit, research-driven, independent, international collaboration. It is an initiative by the medical profession to assure excellence in acute treatment and secondary prevention of stroke, as well as to facilitate clinical trials.

SITS started in 1996 as an initiative by participants in the European-Australian randomised stroke thrombolysis studies (ECASS). In 2002, the European Medicines Agency (then EMEA, currently EMA) endorsed SITS as the registry for follow-up on thrombolysis treatment in acute ischemic stroke. SITS has since developed its services to enable follow-up of other evidence-based treatments in acute stroke such as thrombectomy, as well as secondary prevention.

The purpose of this report is to demonstrate how the registry has developed since 2002 with updated data since the previous report of 2017, and summarize how SITS has contributed to the body of knowledge on modern stroke treatment. The time span of the presented data is December 2002 – December 2018, illustrating the growth of SITS over 16 years. 75 scientific articles based on SITS data have been published/are accepted for publication in peer reviewed journals since 2002, with over 320 co-authors. This would not have been possible without the dedicated efforts of SITS national, regional, and local coordinators, as well as local users.

The SITS network is expanding. Almost 1200 stroke centres in more than 75 countries on five continents have contributed with data to the registry. This makes SITS one of the world's largest stroke treatment databases and networks, with participation of many leading stroke experts.

Support and Funding

SITS is financed directly and indirectly by grants from Karolinska Institutet, Stockholm County Council, the Swedish Heart and Lung Foundation, the Swedish Order of St. John, Friends of Karolinska Institutet, and private donors, as well as from an unrestricted sponsorship from Boehringer-Ingelheim.

SITS has previously received grants from the European Union Framework 7, the European Union Public Health Authority and Ferrer Internacional.

SITS has recently completed studies supported by EVER Pharma, as well as in collaboration with Karolinska Institutet, supported by the Swedish Heart and Lung Foundation, Stryker, Covidien, Phenox, and Codman. SITS is currently conducting studies supported by Boehringer-Ingelheim.

SITS Studies

Completed studies

SITS-MOST – An open, prospective, non-randomised observational study of safety and efficacy of treatment with intravenous rt-PA within 3 hours of onset of acute ischaemic stroke, based on the SITS International Stroke Thrombolysis Register. Performed in European Union countries.

SITS-NEW – An observational study of safety and efficacy of intravenous rt-PA within 3 hours of symptom onset in acute ischaemic stroke patients, according to the Summary of Product Characteristics (SPC) of the countries involved. Performed in India, People’s Republic of China, Singapore and South Korea.

SITS-UTMOST – A prospective, post-approval registry study of intravenous rt-PA (0.9 mg/kg) up to 4.5 hours after symptom onset in acute ischaemic stroke patients. The study has been completed and the main results were published in the European Stroke Journal in 2016.

SITS-OPEN – An international, multicentre, prospective, controlled, blinded evaluation study of safety and efficacy of thrombectomy in acute occlusive stroke. The SITS-OPEN trial results are under preparation for publication.

SITS TBY Study – A retrospective and prospective registry study of implementation of thrombectomy in routine clinical practice. The primary results were presented at ESOC 2018 and the manuscript is in its final stage for submission. Two main secondary result papers are also under preparation for submission.

Ongoing studies / projects

SITS AF Study 1 – A retrospective and prospective study to identify the safest and most effective time point for initiation of oral anticoagulation (OAC) following ischaemic stroke of different severity in patients with atrial fibrillation.

SITS AF Study 2 – A retrospective and prospective study to investigate the type, timing, safety and reasons for choice of acute interventions in patients taking direct OACs or warfarin prior to stroke onset. This study shall also evaluate the use of idarucizumab in patients on dabigatran suffering acute stroke.

Intracerebral Haemorrhage (ICH-IVH) Registry and Network – Intracerebral haemorrhage is the most devastating form of stroke, with 30-day mortality reaching 50% and half of the survivors suffering from severe disability. With emerging treatments, new diagnostic techniques and updated management guidelines for ICH, there is a need for a large international collaborative registry

to enable better follow-up, care quality assurance, and research studies in this field. The SITS ICH-IVH Registry and Network will become a valuable tool for clinicians and researchers striving to improve outcomes in the most severely afflicted stroke patients. We will soon establish an executive committee for the SITS ICH-IVH Registry. Initial data collection will go on for 2 years before analysis for the first publication will be performed. Top recruiting centre coordinators will be invited to join as co-authors and all participating centres will be acknowledged as collaborators.

SITS IVT >80 years Study – A prospective, post-approval registry of intravenous rt-PA (0.9 mg/kg) in acute ischaemic stroke patients over 80 years within the SITS-ISTR Registry. Although IVT in patients >80 years has been used off-label in many countries, the use of IVT in patients >80 years will probably increase further after approval. The SITS-ISTR provides an instrument for continuous monitoring of thrombolysis treatment in stroke, and provides a technical platform for the SITS->80 years post-approval study. At least 1000 patients from approximately 60 European sites are planned to be registered in this prospective study.

SITS Fertile Woman Study – A retrospective and prospective study of intravenous rt-PA (0.9 mg/kg) given up to 4.5 hours after symptom onset in female acute ischaemic stroke patients, aged between 13 and 50 years, with particular focus on pregnancy and menstruation.

SITS Collaborative Project ESO-Angels – The European Stroke Organisation (ESO) is currently implementing a Europe-wide project aiming to stimulate high quality in stroke management by awarding excellent performance in key quality factors such as high proportion of ischaemic stroke patients undergoing reperfusion treatment, door-to-needle time, and proportion of patients treated in stroke units. Based on requests from numerous SITS users, we created the SITS-Quality Registry (SITS-QR) which can be used by SITS centers, including those participating in the ESO-Angels Award Program or the Angels Program outside ESO member countries.

Planned Projects

SITS-TEST – The SITS Tenecteplase in Ischemic Stroke Monitoring Study (SITS-TEST): In the SITS IVT registry, it is now possible to enter whether tenecteplase is used as IVT therapy in acute ischemic stroke. SITS is planning an observational study of safety and outcome of intravenous tenecteplase in acute stroke in routine clinical use.

SITS IVT Pediatric Study – Until recently, IVT with alteplase was not approved in patients with acute ischaemic stroke aged under 18 years. Based on observational data, regulatory authorities in several countries have now approved use of IVT with alteplase in patients 16-17 years, if other Summary of Product Criteria (SmPC) are fulfilled. SITS will perform a monitoring study of IVT in patients with acute ischaemic stroke aged 16-17 years. The study protocol and Swedish ethics committee application is under preparation. We will contact all SITS centers to participate in this study. We encourage interested centres to inform their paediatric department about the upcoming study.

SITS Seizure Study – A prospective study of seizures in acute stroke patients treated with intravenous rt-PA (0.9 mg/kg) up to 4.5 hours after symptom onset.

SITS IVT Wake-up Stroke Study – SITS has published one article on IVT in patients with unknown stroke symptom onset. However, the main weakness of the study was missing data on whether the unknown onset time was due to wake-up stroke, the last known well time being known, or truly unknown timepoints. Relevant variables have been added to the registry and data collection is ongoing. Top recruiting centre coordinators will be invited to join as co-authors.

SITS Low-dose IVT Study – In many Asian countries, 0.6 mg/kg bodyweight IVT thrombolysis is given instead of 0.9 mg/kg. Although the ENCHANTED trial did not show noninferiority of low-dose alteplase compared to standard-dose alteplase with respect to death and disability at 90 days, significantly fewer symptomatic intracerebral haemorrhages with low-dose alteplase occurred. SITS has now added the option to specify the alteplase dose and data collection is ongoing.

Data Completeness and High Quality Data Entry Project – SITS has started a pilot project to identify causes for incomplete data entry and ways to assist centres to complete and enter high quality data in the SITS registry. National and Local Coordinators will receive reports on data completeness at centers in their respective countries, in order to inform initiatives for improvement. The SITS-EAST Coordination Committee has agreed to start the project in SITS-EAST centres as a pilot project. The project will later be extended to SITS on a global level.

SITS Registries / Data entry forms / Protocols

A range of SITS data entry forms allow centres to collect data on patients receiving treatments during the acute stroke phase, care quality parameters and long-term outcomes.

SITS protocols are electronic forms that are automatically enabled in the registry depending on the chosen acute phase intervention. SITS protocols can also be downloaded as Case Record Forms in PDF format on the SITS website.

Current Registries / Data entry forms / Protocols

Thrombolysis Registry (IVT data entry form) – suitable for all stroke patients treated with IV thrombolysis.

- **Intravenous Thrombolysis Protocol, standard version (IVTP-s)** – protocol for registering stroke patients treated with IV thrombolysis.
- **Intravenous Thrombolysis Protocol, minimal version (IVTP-m)** – protocol for registering all stroke patients treated with IV thrombolysis. The minimal version omits certain variables at various time points, making the protocol less extensive compared to IVTP-s.

General Stroke Registry (APP-S and APP-m data entry forms) – suitable for any stroke and TIA patients who have not received IV thrombolysis or thrombectomy or for centres which do not use the IV thrombolysis or thrombectomy registries.

- **All Patients Protocol, standard version (APP-s)** – protocol for registering stroke and TIA patients who have not been treated with IV thrombolysis or thrombectomy or for centres which do not use the IV thrombolysis or thrombectomy registries.
- **All Patients Protocol, minimal version (APP-m)** – protocol for registering stroke and TIA patients who have not been treated with IV thrombolysis or thrombectomy. The minimal version omits certain baseline and imaging variables, 2-, and 24-hour follow-up.

Thrombectomy Registry (TBY or Bridge Protocol: IVT + TBY data entry form) – suitable for all stroke patients treated with thrombectomy.

- **Thrombectomy Protocol (TBYP)** – protocol for registering stroke patients treated with thrombectomy without prior treatment with IV thrombolysis.
- **Bridging Protocol: IVT + Thrombectomy** – protocol for registering patients who initially receive intravenous thrombolysis and are subsequently treated with thrombectomy.

Atrial Fibrillation and Oral Anticoagulation in Acute Stroke and TIA Registry – suitable for all patients admitted to hospital with an acute ischemic stroke or TIA, diagnosed with atrial fibrillation. The registry provides additional data entry options for details surrounding atrial fibrillation and the use of oral anticoagulation for secondary stroke prevention.

SITS Quality Registry (SITS-QR) – suitable for some SITS centres, which prefer a short and simple stroke care quality registry protocol completed in 5 minutes. Can be used by centres in western European countries participating in the ESO-Angels Award Program or the Angels Program outside ESO member countries.

SITS Intracerebral Haemorrhage Registry (SITS ICH-IVH) – suitable for all stroke patients suffering intracerebral haemorrhage and/or intraventricular haemorrhage. The layout and data entry form for the SITS ICH-IVH Registry is different than the traditional SITS registry data entry form. Our aim with the new layout is to simplify data entry.

SITS World map



Current countries in SITS

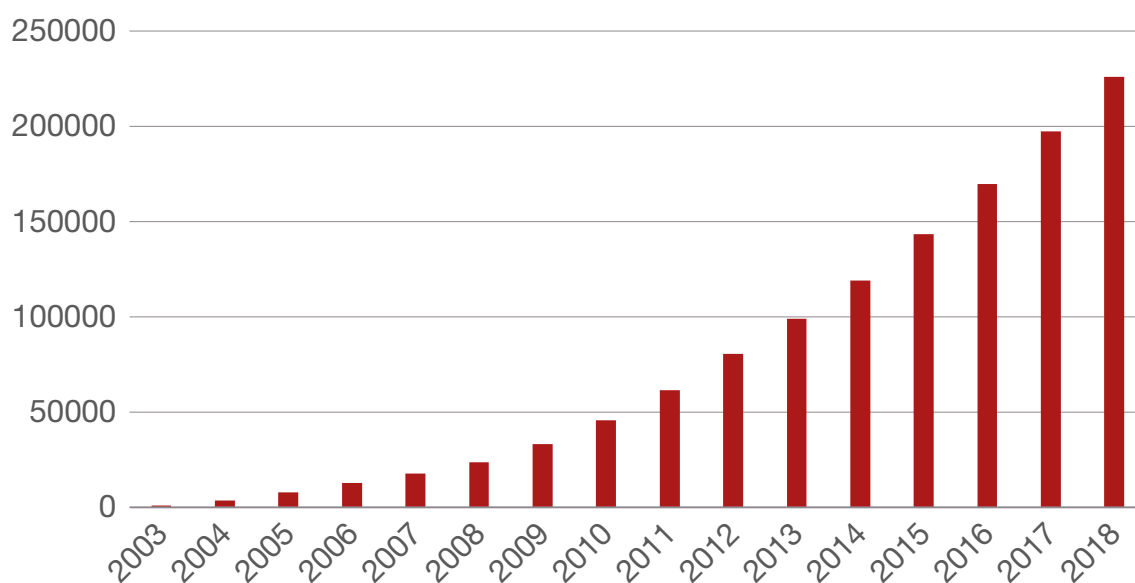
Country			
Albania	Estonia	Libya	Russian Federation
Algeria	Finland	Lithuania	Saudi Arabia
Argentina	France	Rep of Macedonia	Serbia*
Australia	Germany	Malta*	Singapore
Austria	Georgia*	Mexico	Slovakia
Belarus*	Greece	Rep of Moldova	Slovenia
Belgium	Guatemala	Morocco	Spain
Bolivia	Honduras	Netherlands	Sri Lanka
Bosnia and Herzegovina	Hong Kong	New Zealand	Sweden
Brazil	Hungary	Nicaragua	Switzerland
Bulgaria	Iceland	Nigeria*	Thailand
Chile	India	Norway	Tunisia
China	Iran	Oman	Turkey
Colombia	Ireland	Pakistan*	Ukraine
Costa Rica	Israel	Panama	United Arab Emirates
Croatia	Italy	Paraguay	United Kingdom
Czech Republic	Japan	Peru	Uruguay
Denmark	Kazakhstan	Philippines	Venezuela
Dominican Rep	Rep of Korea	Poland	Vietnam
Ecuador	Kuwait*	Portugal	
Egypt	Kyrgyzstan	Qatar	
El Salvador	Lebanon	Romania	

* Not yet recruiting patients

General SITS data overview

Data presented in this general overview is based on all patient files entered in the SITS registries between December 25, 2002 and December 31, 2018. Patient recruitment is calculated using files with both confirmed and unconfirmed data.

Figure 1. Cumulative patient recruitment in SITS



**See the Appendix for patient recruitment per country*

Table 1. Top 20 recruiting countries

Country	Patients	Country	Patients
Italy	47453	Spain	4636
Czech Republic	31601	Finland	4085
United Kingdom	25680	Australia	4050
Sweden	10249	Russian Federation	3901
Germany	7233	Estonia	3782
Poland	6901	Egypt	3517
India	6451	Iran	3401
Belgium	6060	Tunisia	3189
Slovakia	5789	Lithuania	3071
Portugal	5139	Bulgaria	3036

Table 2. Number of patients registered using SITS data entry forms / protocols

Data entry forms	Number of patients
IVT standard	159889
IVT minimal	6066
APP minimal	41773
APP standard	6307
Thrombectomy + IVT	4355
Thrombectomy	7634

SITS Thrombolysis Registry

Data based on all patient files entered between December 25, 2002 and December 31, 2018 using the standard and minimal SITS IV Thrombolysis protocols. Patient recruitment is calculated using files with both confirmed and unconfirmed data.

Figure 2. Cumulative and annual registration of patients using IV thrombolysis protocols

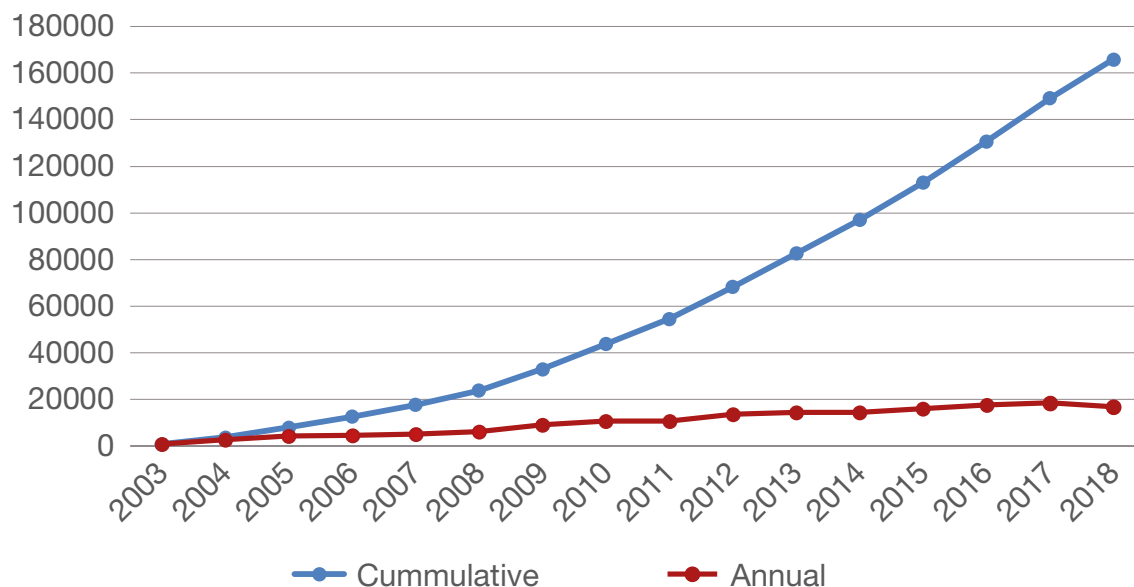


Figure 3. Change in median age per year during the last 12 years in patients with acute ischaemic stroke treated with IV thrombolysis

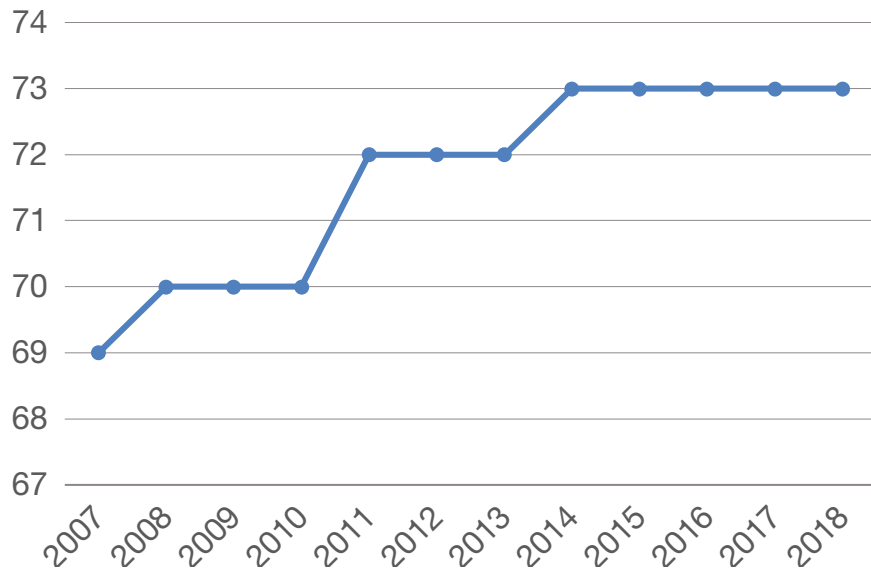


Figure 4. Change in median NIHSS score per year during the last 12 years in patients with acute ischaemic stroke treated with IV thrombolysis

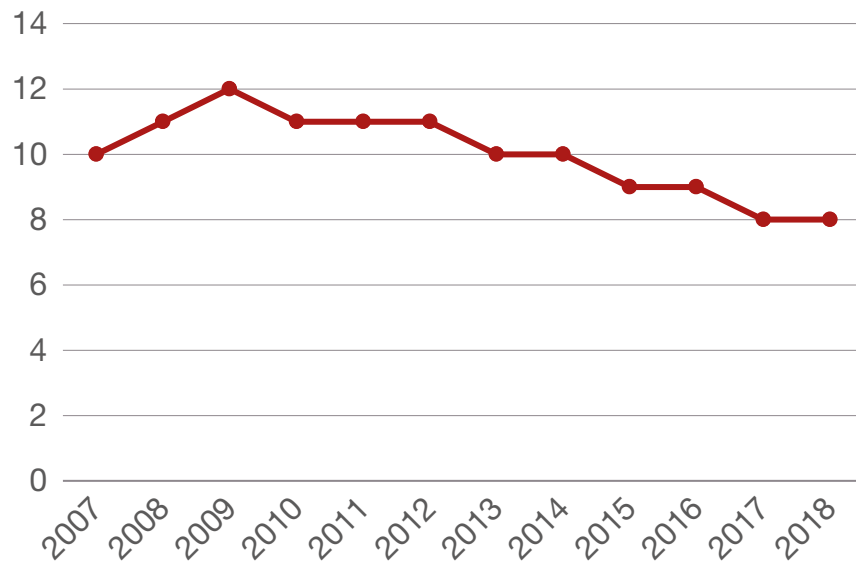
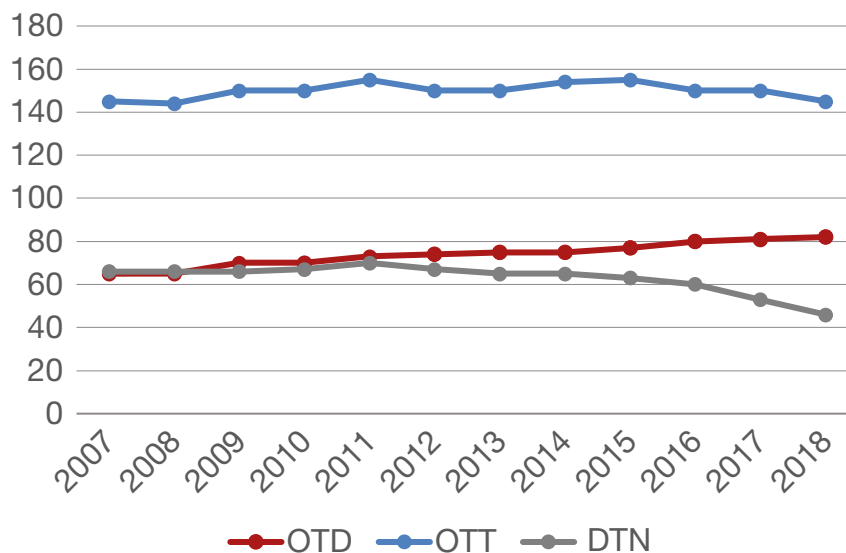


Figure 5. Change in median time logistics in minutes in IV thrombolysis treated patients – Onset to Door (OTD), Onset to Treatment (OTT) and Door to Needle (DTN)



Outcome data

Intracerebral hemorrhage in patients treated with IV thrombolysis

Table 3. Proportions of patients with intracerebral hemorrhage

ICH	Proportion	SICH	Proportion
HI1	4,5%	SITS-MOST	1,7%
HI2	3,1%	ECASS II	4,5%
PH1	2,6%	NINDS	6,3%
PH2	2,7%		
PHr1	1,9%		
PHr2	1,0%		

In this table, we present the frequency of intracerebral haemorrhage (ICH) of various types, and of symptomatic intracerebral haemorrhage (SICH) by three definitions, in patients treated with IV thrombolysis.

ICH Definitions

Haemorrhagic infarction type 1 (HI1): small petechiae along the margins of the infarct.

Haemorrhagic infarction type 2 (HI2): confluent petechiae within the infarcted area without space-occupying effect.

Parenchymal haemorrhage type 1 (PH1): local, or intra-ischemic confluent hematoma in $\leq 30\%$ of the infarcted area with at the most some slight space-occupying effect.

Parenchymal haemorrhage type 2 (PH2): local, or intra-ischemic confluent hematoma $>30\%$ of the infarcted area with a substantial space-occupying effect.

Remote parenchymal haemorrhage type 1 (PHr1): small to medium sized hematoma located remote from the infarct(s), with mild space occupying effect.

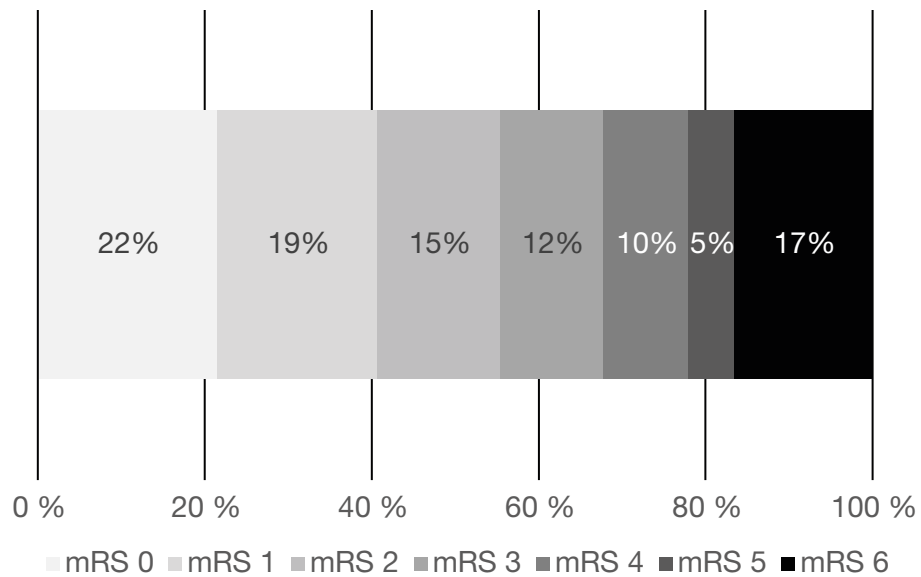
Remote parenchymal haemorrhage type 2 (PHr2): large confluent hematoma in an area remote from the actual infarct(s), with substantial space occupying effect.

SICH Definitions

SICH per SITS-MOST: Local or remote parenchymal haemorrhage type 2 on the 22-36 h post-treatment imaging scan, combined with a neurologic deterioration of 4 points or more compared to baseline NIHSS or the lowest NIHSS value between baseline and 24 h or death within 24 h. Type 2 indicates a hematoma exceeding 30% of the infarct, with substantial space-occupying effect.

SICH per ECASS II: Any haemorrhage with neurologic deterioration as indicated by an increase in NIHSS ≥ 4 compared to baseline or the lowest value within 7 days, or any haemorrhage leading to death.

SICH per NINDS: Any intracerebral haemorrhage on any post-treatment imaging scans combined with any decline in neurologic status as measured by NIHSS between baseline and 7d.

Figure 6. Outcome at 3 months in IV thrombolysis treated patients

Data show the distribution of patients on the modified Rankin Scale (mRS) as assessed at three months after the acute stroke.

Table 4. Outcome at 3 months in IV thrombolysis treated patients

Outcome within 3 months	Proportion
Excellent outcome (mRS 0-1)	41%
Functional independence (mRS 0-2)	56%
Death	17%

SITS Thrombectomy Registry

Data based on all patient files entered between December 25, 2002 and December 31, 2018 using the SITS protocols for thrombectomy and bridging of thrombectomy with IV thrombolysis. Patient recruitment is calculated using files with both confirmed and unconfirmed data. Data collection using the thrombectomy protocols is ongoing and will be used in upcoming studies.

Figure 7. Annual registration of patients using thrombectomy protocols

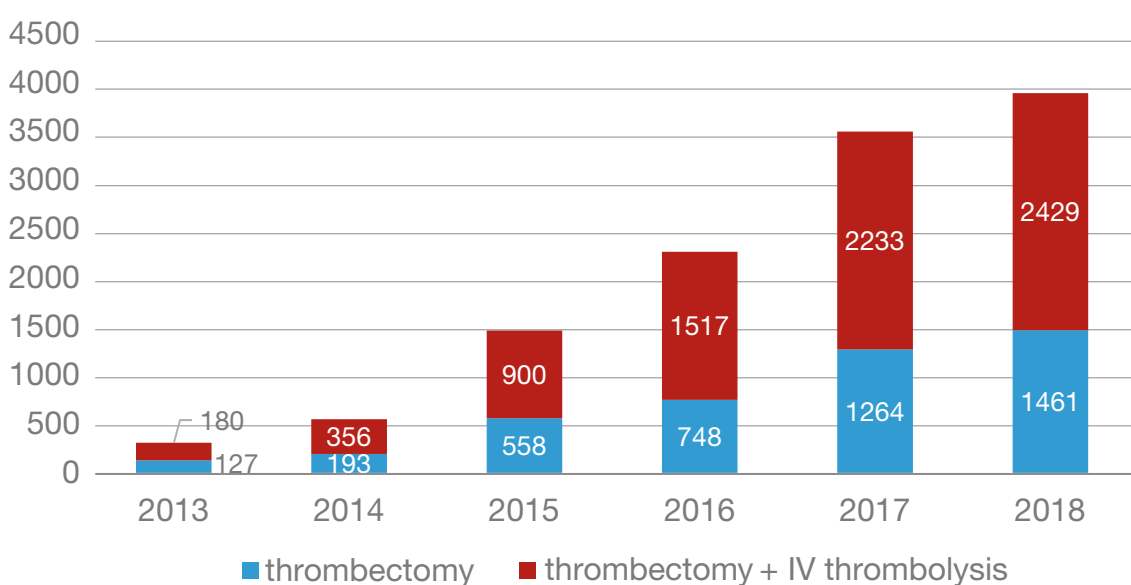


Table 5. Patient recruitment by country, thrombectomy protocols

Country	Patients	Country	Patients
Czech Republic	3045	Germany	87
Italy	2300	Greece	47
Portugal	1000	United Arab Emirates	47
Slovakia	812	Norway	36
Finland	746	Thailand	28
Sweden	719	Hungary	21
Lithuania	650	Egypt	21
Spain	554	Slovenia	21
Belgium	501	Japan	18
United Kingdom	462	Brazil	4
Estonia	414	Croatia	3
Poland	202	Morocco	2
Turkey	160	Australia	1
India	88		

SITS General Stroke Registry

The SITS general registry is aimed at registering all stroke and TIA patients. Recruitment numbers presented are based on patient files with confirmed and unconfirmed data entered until December 31, 2018.

Figure 8. Cumulative and annual recruitment

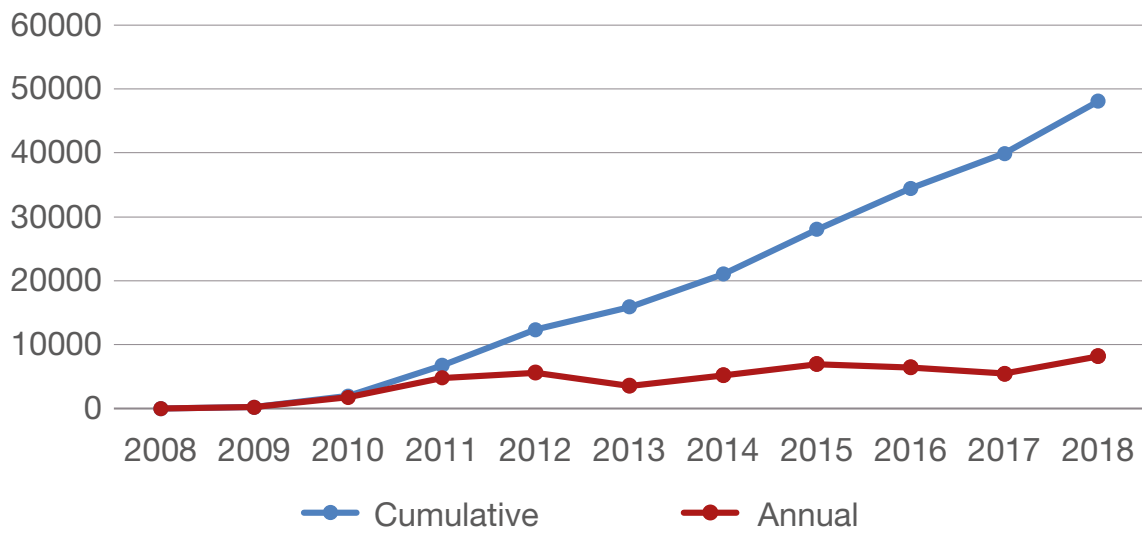


Table 6. Top 30 recruiting countries, General stroke protocols

Country	Patients	Country	Patients
India	5659	Argentina	1130
Tunisia	3187	Qatar	1128
Egypt	3074	Turkey	1079
Russian Federation	2966	Australia	1012
Italy	2537	Mexico	988
Bulgaria	2428	Morocco	917
Peru	2283	Moldova, Republic of	759
Venezuela	2059	Sri Lanka	742
Iran	1884	Poland	708
Belgium	1644	Thailand	668
United Arab Emirates	1504	Slovakia	498
Brazil	1459	Czech Republic	497
Chile	1419	Dominican Republic	449
Sweden	1244	Ecuador	418
Kyrgyzstan	1241	Germany	393

SITS-EAST

SITS–EAST is a regional network in Central and Eastern Europe. It started as a study of implementation of evidence-based stroke therapy supported by the SITS International Registry. The registry was initiated in autumn 2007 with the support of a European Union grant. It is now an ongoing registry for the documentation and statistical evaluation of stroke management in Eastern Europe. During 2018, the SITS EAST Coordination Committee initiated the project of data completeness and high quality data entry. The Committee consists of Janika Kõrv - Estonia, Adam Kobayashi – Polen, Geogios Tsvigoulis – Greece and Zuzana Gdovinova – Slovakia.

Participating countries*:

Albania, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Kazakhstan, Kyrgyzstan, Lithuania, Macedonia, Moldova, Poland, Romania, Russian Federation, Slovakia, Slovenia, Turkey, Ukraine.

*See the Appendix for participating centres.

Figure 9. Annual recruitment, SITS-EAST – all protocols

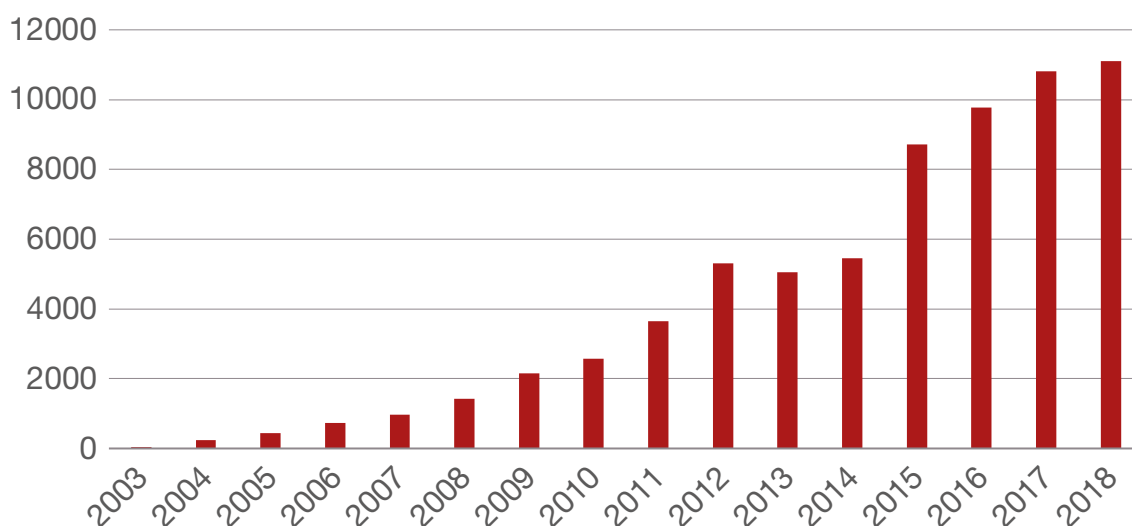


Table 7. Number of patients registered using SITS protocols in SITS-EAST

Data entry forms	Number of patients
IVT Protocols	52198
APP Protocols	10858
Thrombectomy Protocols	5375
Total	68431

SIECV-SITS

The SIECV-SITS registry was initiated through a joint venture by Sociedad Iberoamericana de Enfermedades Cerebrovasculares (SIECV) and SITS. The SIECV-SITS Stroke Registry is a database for documentation and statistical evaluation of stroke management in Central and Latin America. Recruitment numbers presented are based on patient files with confirmed and unconfirmed data, entered until December 31, 2018. Since 2018, Sheila Martins is appointed International Regional Coordinator for SIECV-SITS.

Participating countries*:

Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela.

**See the Appendix for participating centres.*

Table 8. Number of patients registered using SITS protocols in SIECV-SITS

Data entry forms	Number of patients
APP Protocols	10594
IVT Protocols	1118
Total	11712

SITS-MENA

The SITS-MENA Registry was initiated in 2013 as part of the SITS Regional Network in the Middle East and North Africa. Several countries and centres in the Regional Network are also participating in a prospective observational study of ischemic stroke in the region. Recruitment numbers presented are based on patient files with confirmed and unconfirmed data, entered until December 31, 2018. Since 2018, Suhail Alrukn functions as the International Regional Coordinator for the SITS MENA region and Foad Abd-Allah as the International Regional Coordinator for SITS Sub-Saharan Africa.

Participating countries*:

Algeria, Egypt, Iran, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, United Arab Emirates.

*See the Appendix for participating centres.

Figure 10. Cumulative and annual recruitment, SITS-MENA – all protocols

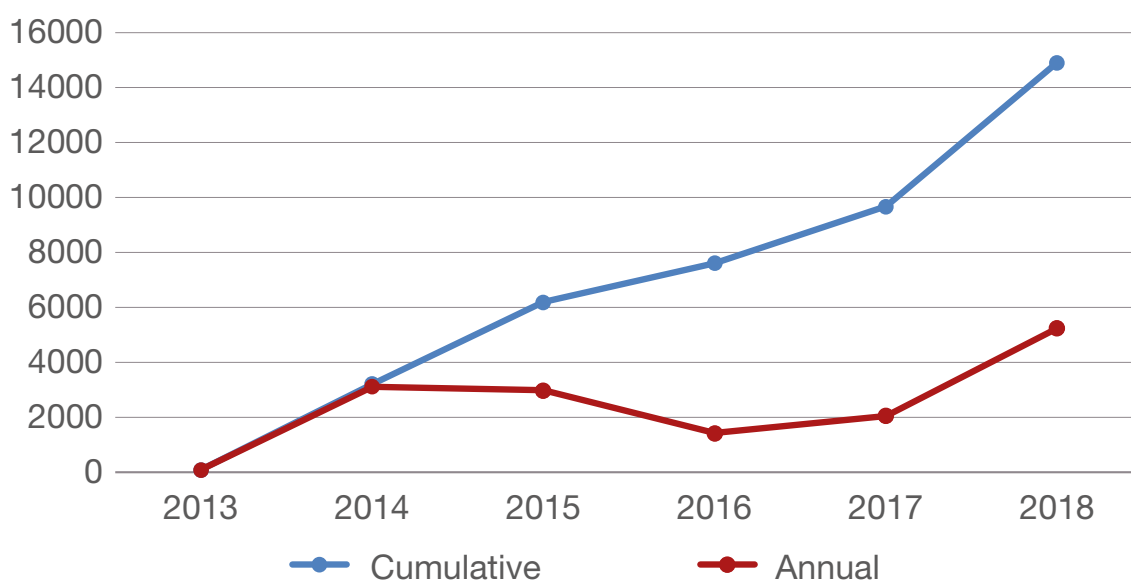


Table 9. Number of patients registered using SITS data entry forms in SITS-MENA

Data entry forms	Number of patients
APP Protocols	11965
IVT Protocols	2921
Thrombectomy Protocols	70
Total	14956

SITS Award 2018

For the first time, SITS has awarded the top 20 centres fulfilling the highest standards of data collection into the SITS Registry over the last two years. The award is in keeping with our mission - to assure excellence in acute treatment and secondary prevention of stroke, as well as to facilitate clinical research. We invited the top centers in each category to receive their SITS 2018 award and diploma at the ESO-Karolinska Stroke Update Conference in Stockholm, November 11-13.



From the left: Niaz Ahmed (current SITS chair) and Nils Wahlgren (past SITS chair) handing out the SITS award to winners of the TBY protocol: Ana Paiva Nunes from Sao Jose Hospital in Portugal, Longest Time in the Registry: Jonathan Leempoel representing Andre Peeters from CHU St. Luc, Belgium (1st place, could not attend), IVT protocol (2 awards): Angela Welch from South Glasgow University Hospital, UK and Janika Kõrv, Tartu University Hospital, Estonia. Award winners for the APP protocol could not attend the meeting.

The following centres received a diploma as the 2018 top centre in SITS using the IVT/TBY/APP protocol / the SITS Registry for the longest time period:

IVT protocol Award Winners

1. South Glasgow University Hospital – UNITED KINGDOM
LC: Azmil Abdul-Rahim & Angela Welch
2. Tartu University Hospital – ESTONIA
LC: Janika Kõrv
3. Republican Vilnius University Hospital – LITHUANIA
LC: Aleksandras Vilionskis

4. University Hospital of Heidelberg – GERMANY
LC: Peter Ringleb
5. Krajska Nemocnice Liberec – CZECH REPUBLIC
LC: Lubomir Jurak
6. Azienda Ospedaliera Universitaria di Modena – ITALY
LC: Andrea Zini
7. FN u sv Anny v Brne – CZECH REPUBLIC
LC: Lenka Kourilová
8. Hamad General Hospital – QATAR
LC: Naveed Akhtar

TBY protocol Award Winners

1. Hospital Sao Jose – PORTUGAL
LC: Ana Paiva Nunes
2. FN Ostrava – CZECH REPUBLIC
LC: Eva Hurtikova
3. Azienda Ospedaliera Universitaria di Modena – ITALY
LC: Andrea Zini
4. North Estonia Medical Centre – ESTONIA
LC: Viiu-Marika Rand
5. CHU St. Luc – Woluwe – BELGIUM
LC: Andre Peeters

APP protocol Award Winners

1. Naberezhnye Chelny BSMP Tatarstan – RUSSLAND
LC: Shamil Musin
2. Hamad General Hospital – QATAR
LC: Naveed Akhtar
3. Bishkek City Civil Clinic 1 – KYRGYSTAN
LC: Inna Lutsenko

Longest Time Period in SITS Registry

1. University Hospital of Heidelberg – GERMANY
LC: Peter Ringleb
2. CHU St. Luc – Woluwe – BELGIUM
LC: Andre Peeters
3. AZ Klina – Brasschaat – BELGIUM
LC: Fran Couvreur
4. Aberdeen Royal Infirmary – UNITED KINGDOM
LC: Mary Joan Macleod

What is new in SITS – current and future

The number of centres and countries participating in SITS has increased since 2018. Patient input to the registry has continued to reach all time high levels. We believe this is a strong indicator that SITS remains highly relevant for centres treating acute stroke patients worldwide.

SITS is increasingly focusing on data quality and completeness. In collaboration with SITS National Coordinators, we have started a pilot project with SITS-EAST countries and this work will continue in the future on a global level.

Since 2018, SITS has also started to award centres with top recruitment and a high level of data completeness. In November, at the ESO-KSU meeting in Stockholm, SITS presented the SITS award for the first time to top centers in several categories. We will continue to publish lists online every 6 months with top 50 SITS centers in each category. With this, we aim to stimulate recruitment and data quality in the SITS registry.

SITS implemented a thrombectomy registry in 2013 and a strong increase in patient recruitment was seen in both 2017 and 2018. The primary and main secondary results of the SITS thrombectomy registry are being analysed and will be submitted for publication during 2019. We encourage SITS centres to submit project proposals for further analysis of the thrombectomy dataset.

Additional new data entry options related to IV thrombolysis treatment appeared in April 2018. The option to record tenecteplase treatment in SITS thrombolysis data entry forms has been added. This does not constitute a recommendation of off-label use, but rather an emphasis on the importance of monitoring safety and outcomes if SITS centres choose to use tenecteplase for stroke treatment. Collection of sufficient amount of data will enable scientific comparison of tenecteplase with alteplase in a future study.

Recruitment from the SITS-MENA (Middle East and North Africa) network has seen strong progress. Selected centres from the SITS-MENA countries have participated in a two-year prospective observational study of demographics, risk factors and treatments in stroke patients. The results of the study have been accepted for publication in the International Journal of Stroke. A manuscript of a prospective observational study of IV thrombolysis treatment in the region is currently in late stages of preparation.

A renewal of the SITS regional network in Latin America has recently been started, and we look forward to increased participation by new and old SITS centers. A manuscript describing the results of the first SIECV-SITS observatio-

nal study has recently been submitted for peer-review and we hope for increased activity in the region following the publication.

In 2014, we developed a new online reporting tool for descriptive patient statistics. With this tool, SITS users can select and obtain pre-designed reports, where standard variables are already chosen, or create custom-made reports. The output can be downloaded either as raw data presented in an excel file structured on an individual patient level, or as a summary with calculated descriptive statistics.

SITS is currently working on reducing the amount of data entry in the SITS registry. A working group is set up for this purpose. Prof. Danilo Toni, the National Coordinator for Italy, is engaged in this project together with colleagues from Italy, to suggest removal of variables currently considered as low priority. The reduction of entry options in the case report forms will be implemented during 2019.

The SITS ICH-IVH Registry, a new data entry form with a new layout is planned to launch in May. We invite all SITS Local Coordinators to activate and try the ICH data entry form at their center.

Our intention with this report is to give the reader an update on SITS patient and centre recruitment status, as well as ongoing and planned activities since the publication of the first SITS International Report in 2014. We plan to publish the next report in spring 2020. We would be delighted to receive feedback on the current issue, as well as suggestions for future report contents. Any views and ideas on all matters concerning SITS are warmly welcomed by the International Coordinating Office.

SITS Publications

- 75.** Charith Cooray, Michael Mazya, Robert Mikulik, Jurak Lubomir, Miroslav Brozman, Peter Ringleb, Anand Dixit, Danilo Toni, Niaz Ahmed. **Safety and outcome of intravenous thrombolysis in acute ischaemic stroke patients on prophylactic doses of low-molecular-weight heparins at stroke onset.** *Stroke*. Accepted for publication 7 March 2019
- 74.** Keselman B, Cooray C, Vanhooren G, Bassi P, Consoli D, Nichelli P, Peeters A, Sanak D, Zini A, Wahlgren N, Ahmed N, Mazya MV. **IV thrombolysis in stroke mimics - Results from the SITS International Stroke Thrombolysis Register (SITS-ISTR).** *European Journal of Neurology*. Accepted for publication, 2019-02-19.
- 73.** Marius Matusевичius, Maurizio Paciaroni, Valeria Caso, Matteo Bottai, Dheeraj Khurana, Mario de Bastos, Sheila Cristina Ouriques Martins, Yakup Krespi, Charith Cooray, Danilo Toni, Niaz Ahmed. **Outcome after intravenous thrombolysis in patients with acute lacunar stroke, an observational study based on SITS international registry** (Accepted for publication in *International Journal of Stroke*, January 2019)
- 72.** Al-Rukn S, Mazya MV, Akhtar N, Hashim H, Mansouri B, Faouzi B, Aref H, Abdulrahman H, Kesraoui S, Hentati F, Gebelly S, Ahmed N, Wahlgren N, Abd-Allah F, Almekhlafi M, Moreira T. **Stroke in the Middle-East and North Africa: A 2-year prospective observational study of stroke characteristics in the region.** Results from the SITS-MENA Registry. *International Journal of Stroke*. Accepted for publication.
- 71.** **Are you suffering from a large arterial occlusion? Please raise your arm!** Cooray C, Mazya MV, Bottai M, Scheitz JF, Abdul-Rahim AH, Moreira TP, Mikulik R, Krajina A, Nevsimalova M, Toni D, Wahlgren N, Ahmed N. *Stroke Vasc Neurol*. 2018 Sep 3;3(4):215-221. doi: 10.1136/svn-2018-000165. eCollection 2018 Dec.
- 70.** Tsivgoulis G, Katsanos AH, Mavridis D, Gdovinova Z, Karliński M, Macleod MJ, Strbian D, Ahmed N. **Intravenous Thrombolysis for Ischemic Stroke Patients on Dual Antiplatelets.** *Ann Neurol*. 2018 Jul;84(1):89-97. doi: 10.1002/ana.25269. Epub 2018 Jul 30. PubMed PMID: 30048012.
- 69.** Tsivgoulis G, Geisler F, Katsanos AH, Körv J, Kunz A, Mikulik R, Rozanski M, Wendt M, Audebert HJ. **Ultraearly Intravenous Thrombolysis for Acute Ischemic Stroke in Mobile Stroke Unit and Hospital Settings: A Comparative Analysis.** *Stroke*. 2018 Jul 9. pii: STROKEAHA.118.021536. doi: 10.1161/STROKEAHA.118.021536. [Epub ahead of print] PubMed PMID: 29986934
- 68.** Tsivgoulis G, Kargiotis O, Rudolf J, Komnos A, Tavernarakis A, Karapanayiotides T, Ellul J, Katsanos AH, Giannopoulos S, Gryllia M, Safouris A, Papamichalis P, Vadikolias K, Mitsias P, Hadjigeorgiou G. **Intravenous thrombolysis for acute ischemic stroke in Greece: the Safe Implementation of Thrombolysis in Stroke registry 15-year experience.** *Ther Adv Neurol Disord*. 2018 Jun 28;11:1756286418783578. doi: 10.1177/1756286418783578. eCollection 2018. PubMed PMID: 30034535; PubMed Central PMCID: PMC604860
- 67.** Mazya MV, Ahmed N, Azevedo E, Davalos A, Dorado L, Karlinski M, Lorenzano S, Neumann J, Toni D, Moreira TP; SITS Investigators. **Impact of Transcranial Doppler Ultrasound on Logistics and Outcomes in Stroke Thrombolysis: Results From the SITS-ISTR.** *Stroke*. 2018 Jul;49(7):1695-1700. doi: 10.1161/STROKEAHA.118.021485. Epub 2018 May 29. PMID: 29844031
- 66.** Vaclavik D, Vilionskis A, Jatuzis D, Karlinski MA, Gdovinova Z, Körv J, Tsivgoulis G, Mikulik R. **Clinical outcome of cardioembolic stroke treated by intravenous thrombolysis.** *Acta Neurol Scand*. 2018 Mar;137(3):347-355.

- 65.** Cappellari M, Turcato G, Forlivesi S, Zivelonghi C, Bovi P, Bonetti B, Toni D. **TARTING-SICH Nomogram to Predict Symptomatic Intracerebral Hemorrhage After Intravenous Thrombolysis for Stroke.** *Stroke.* 2018 Feb;49(2):397-404.
- 64.** Mundiyanapurath S, Hees K, Ahmed N, Wahlgren N, Uhlmann L, Kieser M, Ringleb PA, Hacke W, Nagel S. **Predictors of symptomatic intracranial haemorrhage in off-label thrombolysis: an analysis of the Safe Implementation of Treatments in Stroke registry.** *Eur J Neurol.* 2018 Feb;25(2):340-e11.
- 63.** Volny O, Krajina A, Belaskova S, Bar M, Cimflova P, Herzig R, Sanak D, Tomek A, Köcher M, Rocek M, Padr R, Cihlar F, Nevsimalova M, Jurak L, Havlicek R, Kovar M, Sevcik P, Rohan V, Fiksa J, Menon BK, Mikulik R. **Mechanical thrombectomy performs similarly in real world practice: a 2016 nationwide study from the Czech Republic.** *J Neurointerv Surg.* 2018 Aug;10(8):741-745.
- 62.** Ahmed N, Lees KR, Ringleb PA, Bladin C, Collas D, Toni D, Ford GA; The SITS Investigators. **Outcome after stroke thrombolysis in patients >80 years treated within 3 hours vs >3-4.5 hours.** *Neurology.* 2017 Oct 10;89(15):1561-1568.
- 61.** Thorén M, Azevedo E, Dawson J, Egido JA, Falcou A, Ford GA, Holmin S, Mikulik R, Ollikainen J, Wahlgren N, Ahmed N. **Predictors for Cerebral Edema in Acute Ischemic Stroke Treated With Intravenous Thrombolysis.** *Stroke.* 2017 Sep;48(9):2464-2471.
- 60.** Kellert L, Hametner C, Ahmed N, Rauch G, MacLeod MJ, Perini F, Lees KR, Ringleb PA; SITS Investigators. **Reciprocal Interaction of 24-Hour Blood Pressure Variability and Systolic Blood Pressure on Outcome in Stroke Thrombolysis.** *Stroke.* 2017 Jul;48(7):1827-1834.
- 59.** Tsvigoulis G, Katsanos AH, Kadlecová P, Czlonkowska A, Kobayashi A, Brozman M, Švigelj V, Csiba L, Fekete K, Kórv J, Demarin V, Vilionskis A, Jatuzis D, Krespi Y, Liantinioti C, Giannopoulos S, Mikulik R. **Intravenous thrombolysis for ischemic stroke in the golden hour: propensity-matched analysis from the SITS-EAST registry.** *J Neurol.* 2017 May;264(5):912-920.
- 58.** Dorado L, Ahmed N, Thomalla G, Lozano M, Malojcic B, Wani M, Millán M, Tomek A, Dávalos A. **Intravenous Thrombolysis in Unknown-Onset Stroke: Results From the Safe Implementation of Treatment in Stroke-International Stroke Thrombolysis Registry.** *Stroke.* 2017 Mar;48(3):720-725.
- 57.** Anani N, Mazya MV, Chen R, Prazeres Moreira T, Bill O, Ahmed N, Wahlgren N, Koch S. **Applying open EHR's Guideline Definition Language to the SITS international stroke treatment registry: a European retrospective observational study.** *BMC Med Inform Decis Mak.* 2017 Jan 10;17(1):7.
- 56.** Scheitz JF, Abdul-Rahim AH, MacIsaac RL, Cooray C, Sucharew H, Kleindorfer D, Khatri, P, Broderick JP, Audebert HJ, Ahmed N, Wahlgren N, Endres M, Nolte CH, Lees KR. **Clinical selection strategies to identify stroke patients with large anterior vessel occlusion-Results from SITS-ISTR.** (*Stroke*, In press December 2016)
- 55.** Cooray C, Mazya M, Bottai M, Dorado L, Skoda O, Toni D, Ford GA, Wahlgren N, Ahmed N. **External Validation of the ASTRAL and DRAGON Scores for Prediction of Functional Outcome in Stroke.** *Stroke.* 2016 Jun;47(6):1493-9.
- 54.** Ahmed N, Hermansson K, Bluhmki E, Danays T, Nunes AP, Kenton A, Lakshmanan S, Toni D, Mikulik R, Ford GA, Lees KR and Wahlgren N. **The SITS-UTMOST: A registry-based prospective study in Europe investigating the impact of regulatory approval of intravenous Actilyse in the extended time window (3–4.5 h) in acute ischaemic stroke.** *European Stroke Journal*, first published on July 29, 2016 doi:10.1177/2396987316661890

- 53.** Lundström E, Zini A, Wahlgren N, Ahmed N. **How common is isolated dysphasia among patients with stroke treated with intravenous thrombolysis, and what is their outcome? Results from the SITS-ISTR.** *BMJ Open.* 2015 Nov 25;5(11):e009109. doi: 10.1136/bmjopen-2015-009109. PMID: 26608637
- 52.** Anani N, Mazya MV, Bill O, Chen R, Koch S, Ahmed N, Wahlgren N, Prazeres Moreira T. **Changes in European Label and Guideline Adherence After Updated Recommendations for Stroke Thrombolysis: Results From the Safe Implementation of Treatments in Stroke Registry.** *Circ Cardiovasc Qual Outcomes.* 2015 Oct;8(6 Suppl 3):S155-62. doi: 10.1161/CIRCOUTCOMES.115.002097. PMID: 26515204
- 51.** Mazya MV, Lees KR, Collas D, Rand VM, Mikulik R, Toni D, Wahlgren N, Ahmed N. **IV thrombolysis in very severe and severe ischemic stroke: Results from the SITS-ISTR Registry.** *Neurology.* 2015 Nov 6. pii: 10.1212/WNL.0000000000002199.
- 50.** Karlinski M, Kobayashi A, Czlonkowska A, Mikulik R, Vaclavik D, Brozman M, Gdovinova Z, Švigelj V, Csiba L, Fekete K, Körv J, Demarin V, Bašic-Kes V, Vilionskis A, Jatuzis D, Krespi Y, Shamalov N, Andonova S, Ahmed N, Wahlgren N; **Safe Implementation of Treatments in Stroke–East Registry (SITS-EAST) Investigators. Intravenous Thrombolysis for Stroke Recurring Within 3 Months From the Previous Event.** *Stroke.* 2015 Oct 8. pii: STROKEAHA.115.010420.
- 49.** Abdul-Rahim AH, Fulton RL, Sucharew H, Kleindorfer D, Khatri P, Broderick JP, Lees KR; SITS-MOST Steering Committee. **National Institutes of Health Stroke Scale Item Profiles as Predictor of Patient Outcome: External Validation on Safe Implementation of Thrombolysis in Stroke-Monitoring Study Data.** *Stroke.* 2015 Oct;46(10):2779-85. doi: 10.1161/STROKEAHA.115.010380.
- 48.** Tsivgoulis G, Kadlecová P, Kobayashi A, Czlonkowska A, Brozman M, Švigelj V, Csiba L, Körv J, Demarin V, Vilionskis A, Jatuzis D, Katsanos AH, Rudolf J, Krespi Y, Mikulik R. **Safety of Statin Pretreatment in Intravenous Thrombolysis for Acute Ischemic Stroke.** *Stroke.* 2015 Sep;46(9):2681-4. doi: 10.1161/STROKEAHA.115.010244.
- 47.** Flint AC, Rao VA, Chan SL, Cullen SP, Faigeles BS, Smith WS, Bath PM, Wahlgren N, Ahmed N, Donnan GA, Johnston SC; SITS International and VISTA-plus investigators. **Improved ischemic stroke outcome prediction using model estimation of outcome probability: the THRIVE-c calculation.** *Int J Stroke.* 2015 Aug;10(6):815-21. doi: 10.1111/ijis.12529.
- 46.** Cooray C, Fekete K, Mikulik R, Lees KR, Wahlgren N, Ahmed N. **Threshold for NIH stroke scale in predicting vessel occlusion and functional outcome after stroke thrombolysis.** *Int J Stroke.* 2015 Aug;10(6):822-9. doi: 10.1111/ijis.12451.
- 45.** Strbian D, Ahmed N, Wahlgren N, Lees KR, Toni D, Roffe C, Surakka IL, Tatlisumak T; SITS Investigators. **Trends in Door-to-Thrombolysis Time in the Safe Implementation of Stroke Thrombolysis Registry: Effect of Center Volume and Duration of Registry Membership.** *Stroke.* 2015 May;46(5):1275-80. doi: 10.1161/STROKEAHA.114.007170.
- 44.** Novotná J, Kadlecová P, Czlonkowska A, Brozman M, Švigelj V, Csiba L, Körv J, Demarin V, Vilionskis A, Mikulik R; SITS-EAST Investigators. **Hyperdense cerebral artery computed tomography sign is associated with stroke severity rather than stroke subtype.** *J Stroke Cerebrovasc Dis.* 2014 Nov-Dec;23(10):2533-9. doi:10.1016/j.jstrokecerebrovasdis.2014.04.034.
- 43.** Haršány M, Kadlecová P, Švigelj V, Körv J, Kes VB, Vilionskis A, Krespi Y, Mikulik R; SITS-EAST Investigators. **Factors influencing door-to-imaging time: analysis of the safe implementation of treatments in Stroke-EAST registry.** *J Stroke Cerebrovasc Dis.* 2014 Sep;23(8):2122-9. doi: 10.1016/j.jstrokecerebrovasdis.2014.03.019.

- 42.** Flint AC, Gupta R, Smith WS, Kamel H, Faigeles BS, Cullen SP, Rao VA, Bath PM, Wahlgren N, Ahmed N, Donnan GA; SITS International and VISTA-plus investigators. **The THRIVE score predicts symptomatic intracerebral hemorrhage after intravenous tPA administration in SITS-MOST.** *Int J Stroke.* 2014 Aug;9(6):705-10. doi: 10.1111/ijis.12335.
- 41.** Mazya MV, Ahmed N, Ford GA, Hobohm C, Mikulík R, Nunes AP, Wahlgren N; **Remote or extraischemic intracerebral hemorrhage-an uncommon complication of stroke thrombolysis: results from the Safe Implementation of Treatments in Stroke-International stroke thrombolysis register.** *Stroke.* 2014 Jun;45(6):1657-63. doi: 10.1161/STROKEAHA.114.004923.
- 40.** Karlinski M, Kobayashi A, Czlonkowska A, Mikulík R, Vaclavik D, Brozman M, Svigelj V, Csiba L, Fekete K, Kőrv J, Demarin V, Vilionskis A, Jatuzis D, Krespi Y, Ahmed N, Wahlgren N; **Safe Implementation of Treatments in Stroke–Eastern Europe (SITS-EAST) Investigators. Role of preexisting disability in patients treated with intravenous thrombolysis for ischemic stroke.** *Stroke.* 2014 Feb 4.
- 39.** Lorenzano S, Ahmed N, Tatlisumak T, Gomis M, Dávalos A, Mikulík R, Sevcik P, Ollikainen J, Wahlgren N, Toni D; **SITS Investigators Within-day and weekly variations of thrombolysis in acute Ischemic stroke: results from Safe Implementation of Treatments in Stroke-International stroke thrombolysis register.** *Stroke.* 2014 Jan;45(1):176-84. doi: 10.1161/STROKEAHA.113.002133.
- 38.** Lorenzano S, Ahmed N, Falcou A, Mikulík R, Tatlisumak T, Roffe C, Wahlgren N, Toni D; SITS Investigators. **Does sex influence the response to Intravenous Thrombolysis in ischemic stroke?: Answers from Safe Implementation of Treatments in Stroke-International Stroke Thrombolysis Register.** *Stroke.* 2013 Dec;44(12):3401-6. doi: 10.1161/STROKEAHA.113.002908.
- 37.** Kőrv J, Vibo R, Kadlecová P, Kobayashi A, Czlonkowska A, Brozman M, Svigelj V, Csiba L, Fekete K, Demarin V, Vilionskis A, Jatuzis D, Krespi Y, Ahmed N, Mikulík R; for the Safe Implementation of Treatments in Stroke – East (SITS-EAST) Registry Investigators. **Benefit of thrombolysis for stroke is maintained around the clock: results from the SITS-EAST Registry** *Eur J Neurol.* 2013 Sep 16. doi: 10.1111/ene.12257.
- 36.** Kharitonova TV, Castillo J, Wahlgren N; SITS investigators. **Importance of cerebral artery recanalization in patients with stroke with and without neurological improvement after Intravenous Thrombolysis Stroke.** 2013 Sep;44(9):2513-8. doi: 10.1161/STROKEAHA.111.000048.
- 35.** Mazya MV, Lees KR, Markus R, Roine RO, Seet RC, Wahlgren N, Ahmed N; for the SITS investigators. **Safety of IV thrombolysis for ischemic stroke in patients treated with Warfarin.** *Ann Neurol.* 2013 Jun 6. doi: 10.1002/ana.23924.
- 34.** Ahmed N, Kellert L, Lees KR, Mikulík R, Tatlisumak T, Toni D; for the SITS Investigators. **Results of Intravenous Thrombolysis Within 4.5 to 6 Hours and Updated Results Within 3 to 4.5 Hours of Onset of Acute Ischemic Stroke Recorded in the Safe Implementation of Treatment in Stroke International Stroke Thrombolysis Register (SITS-ISTR): An Observational Study.** *JAMA Neurol.* 2013 May 20:1-8. doi: 10.1001/jamaneurol.2013.406.
- 33.** Mazya MV, Bovi P, Castillo J, Jatuzis D, Kobayashi A, Wahlgren N, Ahmed N; **External Validation of the SEDAN Score for Prediction of Intracerebral Hemorrhage in Stroke Thrombolysis.** *Stroke.* 2013 Jun;44(6):1595-600. doi: 10.1161/STROKEAHA.113.000794. Epub 2013 Apr 30. PMID: 23632975

- 32.** Cappellari M, Bovi P, Moretto G, Zini A, Nencini P, Sessa M, Furlan M, Pezzini A, Orlandi G, Paciaroni M, Tassinari T, Procaccianti G, Di Lazzaro V, Bettoni L, Gandolfo C, Silvestrelli G, Rasura M, Martini G, Melis M, Calloni MV, Chiodo-Grandi F, Beretta S, Guarino M, Altavista MC, Marcheselli S, Galletti G, Adobbati L, Del Sette M, Mancini A, Orrico D, Monaco S, Cavallini A, Sciolla R, Federico F, Scoditti U, Brusaferrri F, Grassa C, Specchio L, Bongioanni MR, Sparaco M, Zampolini M, Greco G, Colombo R, Passarella B, Adami A, Consoli D, Toni D. **The THRombolysis and STatins (THRaST) study.** *Neurology*. 2013 Feb 12;80(7):655-61.
- 31.** Rha JH, Shrivastava VP, Wang Y, Lee KE, Ahmed N, Bluhmki E, Hermansson K, Wahlgren N; for the SITS investigators. **Thrombolysis for acute ischemic stroke with alteplase in an Asian population: results of the multicenter, multinational, Safe Implementation of Thrombolysis in Stroke-Non European Union World (SITS-NEW).** In *J Stroke* 2012, Epub 2012 Sep 18
- 30.** Strbian D, Ahmed N, Wahlgren N, Kaste M, Tatlisumak T; for SITS investigators. **Intravenous thrombolysis in ischemic stroke patients with isolated homonymous hemianopia: analysis of Safe Implementation of Thrombolysis in Stroke - International Stroke Thrombolysis Register (SITS-ISTR).** *Stroke* 2012; 43: 2695-2698, Epub 2012 Jul 17
- 29.** Mazya M, Egido J, Ford G, Lees K, Mikulík R, Toni D, Wahlgren N, Ahmed N; For the SITS investigators. **Predicting the Risk of Symptomatic Intracerebral Hemorrhage in Ischemic Stroke Treated With Intravenous Alteplase: Safe Implementation of Treatments in Stroke (SITS) Symptomatic Intracerebral Hemorrhage Risk Score.** *Stroke* 2012; 43:1524-1531, Epub 2012 March 22
- 28.** Mikulík R, Kadlecová P, Czlonkowska A, Kobayashi A, Brozman M, Svigelj V, Csiba L, Fekete K, Kőrv J, Demarin V, Vilionskis A, Jatuzis D, Krespi Y, Ahmed N; for the Safe Implementation of Treatments in Stroke-East Registry (SITS-EAST) Investigators. **Factors Influencing In-Hospital Delay in Treatment With Intravenous Thrombolysis.** *Stroke*. 2012 Mar 15 [Epub ahead of print]
- 27.** Karlinski M, Kobayashi A, Mikulík R, Sanak D, Wahlgren N, Czlonkowska A. **Intravenous alteplase in ischemic stroke patients not fully adhering to the current drug license in Central and Eastern Europe.** *Int J Stroke*. 2012 Feb 7.
- 26.** Toni D, Ahmed N, Anzini A, Lorenzano S, Brozman M, Kaste M, Mikulík R, Putaala J, Wahlgren N; **For the SITS investigators. Intravenous thrombolysis in young stroke patients: Results from the SITS-ISTR.** *Neurology*. 2012 Mar 7.
- 25.** Mishra NK, Ahmed N, Davalos A, Iversen HK, Melo T, Soinnie L, Wahlgren N, Lees KR; SITS and VISTA collaborators. **Thrombolysis outcomes in acute ischemic stroke patients with prior stroke and diabetes mellitus.** *Neurology*. 2011 Nov 22;77(21):1866-72. Epub 2011 Nov 16. PMID: 22094479
- 24.** Zinkstok SM, Vergouwen MD, Engelter ST, Lyrer PA, Bonati LH, Arnold M, Mattle HP, Fischer U, Sarikaya H, Baumgartner RW, Georgiadis D, Odier C, Michel P, Putaala J, Griebbe M, Wahlgren N, Ahmed N, van Geloven N, de Haan RJ, Nederkoorn PJ. **Safety and functional outcome of thrombolysis in dissection-related ischemic stroke: a meta-analysis of individual patient data.** *Stroke*. 2011 Sep;42(9):2515-20. Epub 2011 Jul 28. Review.
- 23.** Kharitonova T, Mikulík R, Roine RO, Soinnie L, Ahmed N, Wahlgren N; for the Safe Implementation of Thrombolysis in Stroke (SITS) Investigators. **Association of Early National Institutes of Health Stroke Scale Improvement With Vessel Recanalization and Functional Outcome After Intravenous Thrombolysis in Ischemic Stroke.** *Stroke*. 2011 Jun;42(6):1638-43. Epub 2011 Apr 21

- 22.** Diedler J, Ahmed N, Glahn J, Grond M, Lorenzano S, Brozman M, Sykora M, Ringleb P; **Is the Maximum Dose of 90 mg Alteplase Sufficient for Patients With Ischemic Stroke Weighing > 100 kg?** *Stroke*. 2011 Jun;42(6):1615-20. Epub 2011 Apr
- 21.** Topakian R, Brainin M, Eckhardt R, Kiechl S, Ahmed N, Ferrari J, Iglseeder B, Wahlgren NG, Lang W, Fazekas F, Willeit J, Aichner FT; for the SITS-Austria group. **Thrombolytic therapy for acute stroke in Austria: data from the Safe Implementation of Thrombolysis in Stroke (SITS) register.** *Eur J Neurol*. 2011 Feb;18(2):306-11.
- 20.** Mishra, NK, Ahmed N, Andersen G, Egido J, Lindsberg P, Ringleb PA, Wahlgren N, Lees KR; for the VISTA and SITS collaborators. **Thrombolysis in the very elderly: controlled comparison of SITS International Stroke Thrombolysis Registry and Virtual International Stroke Trials Archive.** *BMJ*. 2010 Nov 23;341:c6046.
- 19.** Ford GA, Ahmed N, Azevedo E, Grond M, Larrue V, Lindsberg P, Toni D, Wahlgren N. **Intravenous alteplase for stroke in those older than 80 years old.** *Stroke*. 2010 Nov;41(11):2568-74. Epub 2010 Oct 7
- 18.** Ahmed N, Wahlgren N, Grond M, Hennerici M, Lees KR, Mikulík R, Parsons M, Roine RO, Toni D, Ringleb P; for the SITS Investigators. **Implementation and outcome of thrombolysis with alteplase 3-4.5 h after an acute stroke: an updated analysis from SITS-ISTR.** *Lancet Neurol* 2010; 9; 866-74
- 17.** Ahmed N, Dávalos A, Eriksson N, Ford GA, Glahn J, Hennerici M, Mikulík R, Kaste M, Lees KR, Lindsberg P, Toni D; for the SITS Investigators. **Association of admission blood glucose and outcome in patients treated with intravenous thrombolysis** *Arch Neurol* 2011; 67(9): 1123-1130.
- 16.** Diedler J, Ahmed N, Sykora M, Uyttenboogaart M, Overgaard K, Luijckx G-J, Soennek L, Ford GA, Lees KR, Wahlgren N, Ringleb P; **Safety of intravenous thrombolysis for acute ischemic stroke in patients receiving antiplatelet therapy at stroke onset.** *Stroke*. 2010 Feb;41(2):288-94. Epub 2010 Jan 7.
- 15.** Simpson MA, Dewey HM, Churilov L, Ahmed N, Bladin CF, Schultz D, Mrkus R, Stur JW, Levi CR, Blacker DJ, Jannes J, Lindley RI, Parsons MW; **Thrombolysis for acute stroke in Australia: outcomes from the Safe Implementation of Thrombolysis in Stroke registry (2002-2008).** *Med J Aust* 2010 Oct 18;193(8):439-43.
- 14.** Vanacker P, Thijs V, Peeters A, Bruneel B, Laloux P, Druwé P, De Deyn P, Ahmed N, Wahlgren N, Vanhooren G; Belgian SITS-collaboration group. **The Belgian experience with intravenous thrombolysis for acute ischemic stroke.** *Acta Neurol Belg*. 2010 Jun;110(2):157-62.
- 13.** Wahlgren N; **Systemic thrombolysis in clinical practice: what have we learned after the Safe Implementation of Thrombolysis in Stroke Monitoring Study?** *Cerebrovasc Dis*. 2009;27 Suppl 1:168-76. Epub 2009 Apr 3. Review.
- 12.** Kharitonova T, Ahmed N, Thoren M, et al. **Hyperdense middle cerebral artery sign on admission CT scan - prognostic significance for ischaemic stroke patients treated with intravenous thrombolysis in the safe implementation of thrombolysis in Stroke.** *International Stroke Thrombolysis Register*. *Cerebrovasc Dis*. 2009;27(1):51-9.
- 11.** Mikulík R, Václavík D, Sanák D, Bar M, Sevcík P, Kalita Z, Wahlgren N; **A nationwide study on topography and efficacy of the stroke treatment network in the Czech republic.** *J Neurol*. 2010 Jan;257(1):31-7. Epub 2009 Jul 23.

10. Kharitonova T, Thorén M, Ahmed N, Wardlaw JM, von Kummer R, Thomassen L, Wahlgren N; for the SITS investigators. **Disappearing Hyperdense Middle Cerebral Artery Sign in ischemic stroke patients treated.** J Neurol Neurosurg Psychiatry. 2009 Mar;80(3):248. Epub 2008 Oct 17.
09. Kobayashi A, Czlonkowska A, Ahmed N, Romanowicz S, Glonek M, Nyka WM, Opala G, Wahlgren N; for the SITS Poland Collaborative Group. **Intravenous recombinant tissue plasminogen activator for acute stroke in Poland: an analysis based on the Safe Implementation of Thrombolysis in Stroke (SITS) Registry.** Acta Neurol Scand. 2010 Oct;122(4):229-36.
08. Roje-Bedeković M, Vargek-Solter V, Corić L, Sabolek K, Breitenfeld T, Supanc V, Demarin V; **Thrombolysis for acute ischemic stroke-our experiences as part of SITS-MOST.** Acta Clin Croat. 2009 Sep;48(3):287-93.
07. Ahmed N, Wahlgren N, Brainin M, et al. **Relationship of blood pressure, antihypertensive therapy, and outcome in ischemic stroke treated with intravenous thrombolysis: retrospective analysis from Safe Implementation of Thrombolysis in Stroke – International Stroke Thrombolysis Register (SITS-ISTR).** 2009 Jul;40(7):2442-9. Epub 2009 May 21.
06. Rodríguez-Yáñez M, Alvarez-Sabín J, Dávalos A, Díez-Tejedor E, Castillo J; **Thrombolytic therapy for acute ischemic stroke. Experience of SITS (Safe Implementation of Thrombolysis in Stroke) register.** Neurologia. 2009 Jun;24(5):288-91. Spanish.*
05. Lorenzano S, Ahmed N, Rosselli A, Marcello N, Inzitari D, Sterzi R, Wahlgren N, Prencipe M, Toni D; **Safe implementation of thrombolysis in stroke-monitoring study in Italy.** Eur J Neurol. 2010 Jan;17(1):163-7. Jun 15.
04. Wahlgren N, Ahmed N, Dávalos A, Hacke W, Millán M, Muir K, Roine RO, Toni D, Lees KR; **Thrombolysis with alteplase 3-4.5 h after acute ischaemic stroke (SITS-ISTR): an observational study.** Lancet 2008; 372: 1303-1309.
03. Lees KR, Ford GA, Muir KW, Ahmed N, Dyker AG, Atula S, Kalra L, Warburton EA, Baron JC, Jenkinson DF, Wahlgren NG, Walters MR; SITS-UK Group. **Thrombolytic therapy for acute stroke in the United Kingdom: experience from the safe implementation of thrombolysis in stroke (SITS) register.** QJM. 2008 Nov;101(11):863-9. Epub 2008 Aug 11
02. Wahlgren N, Ahmed A, Eriksson N, Aichner F, Bluhmki E, Dávalos A, Erilä T, Ford GA, Grond M, Hacke W, Hennerici M, Kaste M, Köhrmann M, Larrue V, Lees KR, Machnig T, Roine RO, Toni D, Vanhooren G; for the SITS-MOST investigators. **Multivariable analysis of outcome predictors and adjustment of main outcome results to baseline data profile in randomized controlled trials; Safe Implementation of Thrombolysis in Stroke Monitoring Study (SITS-MOST).** Stroke 2008; 39: 3316-3322.
01. Wahlgren N, Ahmed N, Dávalos A, Ford GA, Grond M, Hacke W, Hennerici MG, Kaste M, Küllkens S, Larrue V, Lees KR, Roine RO, Soenne L, Toni D, Vanhooren G; **Thrombolysis with alteplase for acute ischaemic stroke in the Safe Implementation of Thrombolysis in Stroke-Monitoring Study (SITS-MOST): an observational study.** Lancet 2007;369:275-282.

List with centres contributing with data to the SITS Registry between December 25, 2002 and December 31, 2018.

Country and hospital	Patients	Local Coordinator
Albania	9	
National Coordinator: To be appointed		
Mother Teresa University Hospital Center		Olsi Taka
Algeria	124	
National Coordinator: Selma Kesraoui		
Centres Hospitalo-Universitaires Ben Badis Hopital Frantz Fanon		Fekraoui Boubekeur Saddik
Argentina	1 172	
National Coordinator: To be appointed		
CEMIC		Marina Romano
Centro Gallego de Buenos Aires		Claudia Gandolfo
FLENI		
Hospital Cordoba		Maria Elena Masih
Hospital Privado Santa Clara de Asís		Facundo Enrique Tomas Gustavo Herrera
Instituto Cardiovascular de Rosario		Hernan Gomez
Policlinico Neuquen		Elsa Pérez
Ramos Mejia		Raul Rey
Sanatorio Nuestra Senora del Rosario		Pablo Clementti
Sanatorio Parque		Lorena Jure
Australia	4 050	
National Coordinators: Romesh Markus		
Austin Health		Helen Dewey
Bankstown-Lidcombe		Fintan O'Rourke
Bendigo Health		Peter Disler
Box Hill Hospital		Christopher Bladin
Concord Hospital		
Flinders Medical Centre		Andrew Lee
Frankston Hospital		
Fremantle Hospital		
Gold Coast University Hospital		Peter Bailey
Gosford Hospital		Jonathon Sturm

Country and hospital	Patients	Local Coordinator
John Hunter Hospital New South Wales		
Liverpool Hospital		
Lyell McEwin Hospital		Jordie Caulfield
Monash Medical Centre		Thanh Phan
Nambour General Hospital		Rohan Grimley
Northern Health		Douglas Crompton
Royal Adelaide Hospital		
Sir Charles Gardiner Hospital		
South West Healthcare		
St Vincent's Hospital		Romesh Markus
Tamworth Hospital		James Hughes
The Queen Elizabeth Hospital		Jim Jannes
The Townsville Hospital		Richard White
Wagga Wagga Base Hospital		
Westmead Hospital		Andrew Evans Peter Landau
Austria	1146	
National Coordinator: To be appointed		
Christian-Doppler-Klinik Salzburg		Johannes Sebastian Mutzenbach
II. Neurolog. Abteilung Rosenhügel Wien		
Kepler University Hospital, Med Campus III		Milan Vosko
KH der Barmherzigen Schwestern Linz		
KH Vöcklabruck		
Krankenanstalt Rudolfstiftung		
Krankenhaus der Barmherzigen Brüder Linz		Christof Bocksrucker
Krankenhaus der Barmherzigen Brüder Wien		
Landeskrankenhaus Tulln		Peter Bosak
Landesnervenklinik Sigmund Freud Graz		
LKH Steyr		
Mostviertelklinikum Amstetten		
Neurologisches Zentrum Rosenhügel		
Neuromed Campus, Kepler Universitätsklinikum		
Otto-Wagner-Spital Wien		
Univ.-Klinikum Graz		
University Hospital Innsbruck		Elke Gizewski
Waldviertelklinikum Horn		
Weinviertelklinikum Mistelbach		
Wilhelminenspital		
Wr Neustadt		
Zentralklinikum St. Pölten		

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Belgium	6 060				
National Coordinators: Geert Vanhooren & Patrice Laloux					
ACZA Stuivenberg - Antwerpen			Cliniques de l'Europe		
AZ Geraardsbergen		Michiel Marchau	Cliniques Saint-Joseph Arlon		Sabina Boangher
AZ Algemeen Ziekenhuis - Aalst		Wim Wissaert	Coordination Belgium		
AZ Alma - Eeklo/Sijsele		Danny Decoo	GZA hospital		William Van Landegem
AZ Damiaan - Oostende		Valerie De Smet	Heilig Hartziekenhuis Mol		Charlotte Swinnen
AZ Delta		Marie-Christine Hasenbroekx	Hôpital Civil Charleroi		
AZ Groeninge		Bart Bruneel	Hôpital de Jolimont		
AZ Heilige Familie - Reet			Imeldaziekenhuis - Bonheiden		Patrick Vermeylen
AZ Jan Palfijn - Gent			Jessa Hospital		Nina De Klippel
AZ Jan Portaels		Laurence Peeters	Mariaziekenhuis - Overpelt		Cosmin Cojocar
AZ Jan Ypermanziekenhuis - Leper		Johan Van Cauwenbergh	Mont-Godinne University Hospital		Patrice Laloux
AZ Klina - Brasschaat		Fran Couvreur	Regionaal ziekenhuis H. Hart - Leuven		
AZ Maria Middelaere - Gent			RZ Tienen		Elke Peeters
AZ Monica		Yannick Van Ael	Sint-Andriesziekenhuis		Philippe Tack
AZ Nikolaas		Bart Siau	Sint-Trudo		Wouter De Vooght
AZ Onze-Lieve-Vrouw - Aalst		Miriam Bouckaert	UZ Antwerpen		Laetitia Yperzeele
AZ Sint Blasius - Dendermonde		Sabine Magerman	UZ Brussel		Raf Brouns
AZ Sint Jan Brugge-Oostende		Geert Vanhooren	UZ Gasthuisberg - Leuven		
AZ Sint Jozef - Malle		Patrick De Wit			
AZ Sint Lucas - Brugge		Peter Vanacker	Bolivia	14	
AZ Sint Maarten - Duffel			National Coordinator: To be appointed		
AZ Sint Rembert - Torhout		Jen Maes	Hospital Materno Infantil		Omar Victor Ramos Valencia
AZ Sint Vincentius - Antwerpen			Bosnia And Herzegovina	8	
AZ Sint-Lucas - Gent		Robert De Potter	National Coordinator: Sinisa Miljkovic		
AZ Sint-Maria Halle		Elke Haest	University Hospital Mostar		Sandra Lakicevic
AZ Turnhout		Sylvie Antoine			
AZ Vezaal - Tongeren		Katreine Dierckx	Brazil	2 201	
AZ Virga jesse Ziekenhuis - Hasselt			National Coordinators: Sheila Martins, Octávio Pontes Neto & Jamary Oliveira-Filho		
AZ Waasland - Sint Niklaas			Centro Hospitalar Unimed		Norberto Cabral
AZ West		Penka Kirilova	Hospital Aliança		Jamary Oliveira-Filho
Centre Hospitalier Peltzer Verviers			Hospital das Clinicas de Ribeirao Preto		Octávio Pontes Neto
CH du Bois de l'Abbaye			Hospital de Clinicas da UFPR		Viviane Flumignan Zetola
CH Reine Fabiola, Montignies			Hospital de Clínicas de Porto Alegre		Sheila Martins
CHA Libramont			Hospital Espanhol		
CHR Tournai			Hospital Estadual Central		Rubia Rasseli Sfalini
CHU Brugmann		Raphael Hourez	Hospital Governador Celso Ramos		Gladys Lentz Martins
CHU Hopital Erasme - Bruxelles			Hospital Lucio Rebelo		Luiz Antonio Freitas De Oliveira
CHU St. Luc - Woluwe		Andre Peeters			Marco Túlio Araujo Pedatella
CHU Tivoli		Patricia Redondo	Hospital Mãe de Deus		Maurício Andre Gheller Friedrich
Clinique Saint-Jean, Bruxelles			Hospital Meridional (IVT)		Jose Antonio Fiorot
Clinique St. Joseph - St. Vith		Peter Heinen	Hospital Moinhos de Vento		Alexandre Maulaz
Clinique St. Pierre, Ottignies		Jean-Marc Raymackers			

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Hospital Municipal do Campo Limpo		Vinicius Garcia De Vitro	1st Municipal Peoples Hospital Guangzhou		
Hospital Municipal Dr Arthur de Riberiro Saboya		José Ferrero	An Zhen Hospital		
Hospital Municipal São José		Carla Moro	Anhui Provincial Hospital		
Hospital Municipal Souza Aguiar		Simone Lindemayer Fernandes	Beijing Military General Hospital		
Hospital Odilon Behrens		Leonardo Cunha	Beijing Tiantan Hospital		
Hospital Paulistano		Luciano Magalhaes Melo	Beijing Tsinghua Changgung Hospital		Jian Wu Ye Wang
Hospital Sao Lucas PUCRS		Valter Furlan	Haidian Hospital Beijing City		
Hospital Universitário de Santa Maria		Fábio Pascotto De Oliveira	Hua Shan Hospital		
Hospital Vita		Hudson Fameli	No. 411 Hospital		
Instituto Cardiopulmonar		Murilo Souza	Shanghai Sixth Peoples Hospital		
São Lucas Hospital		Andrea Garcia De Almeida	The Branch of Shanghai First Hospital		
			Third Hospital of Sun Yat-sen University		
			Xinhua Hospital Affiliated to Shanghai Jiaotong University School of Medicine		Jiafu Liu
Bulgaria	3 036		Colombia	71	
National Coordinator: Silva Andonova			National Coordinator: Mario Munoz		
MBAL "St. Anna"		Gabriela Antonova	Clinica de Marly		Mario Munoz
MHAT Medika		Iskra Ivanova-Ezhova	Clinica Misael Pastrana		
MHAT-Dobrich		Boryana Ilcheva	Clinica Shaio		
MHAT-Plovdiv		Alexandar Geritliev	Clinica Universitaria Universidad Nacional de Colombia		
MHAT-Shumen		Nikolai Nikolov	Fundacion Santa Fe de Bogota		
MHAT-Silistra		Rusanka Slavova	Hospital El Tunal		Juan Camilo Vargas
Multi-profile Hospital for Active Treatment		Tania Miteva	Hospital Universitario San Ignacio		Juliana Coral
Sveta Marina Varna		Evgenyia Kalevska Silva Andonova			
University Multiprofile Hospital for Active Treatment "St. Anna" Sofia		Rosen Kalpachki			
Chile	1 595		Costa Rica	38	
National Coordinators: Arnold Hoppe			National Coordinator: Miguel Barboza		
Clinica Alemana de Santiago		Arnold Hoppe	Hospital San Juan de Dios		
Clinica Alemana de Temuco		Rodrigo Rivas			
Clinica Renaca		Ludwig Codjambassis			
Hernan Henriquez Aravena		Alvaro Soto Venegas			
Hospital Carlos Van Buren		Juan P. Gigoux			
Hospital Fach		Carlos Aguilera			
Hospital Naval Almirante Nef		Pablo Araya			
Hospital San Pablo de Coquimbo		Fernando Molt			
China	107		Croatia	1 548	
National Coordinator: To be appointed			National Coordinator: Vanja Bašić Kes		
1st Affiliated Guangzhou Medical College			County Hospital Varazdin		Marinko Dikanovic
1st Affiliated Hospital JiNan University			General Hospital Dr. Josip Benčević		Maro Vodopić
			General Hospital Dubrovnik		Sanja Svalina
			General Hospital Vukovar		Sinisa Dunatov
			KBC Rijeka		Jasna Bozic
			Opća Bolnica Karlovac		Anka Aleksić Shihabi
			Opća Bolnica Šibenik		Mihael Mišir
			Osijek Clinical Hospital Centre		Vesna Vargek Solter Vanja Bašić Kes
			Sestre Milosrdnice University Hospital		Ivo Lusic
			University Hospital Center Split		Branko Malojcic
			University Hospital Center Zagreb		Vladimira Vuletic
			University Hospital Dubrava		Hrvoje Budincevic
			University Hospital Sveti Duh		

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Virovitica General Hospital		Boris Bencina	Nemocnice Nový Jičín		Petr Kuba
Czech Republic	31 601		Nemocnice Opava		Martin Krobot
National Coordinator: Robert Mikulik			Nemocnice Ostrava		Lukas Klecka
Cheb Nemocnice			Nemocnice Pardubice		Petr Geier
Chrudim Nemocnice			Nemocnice Pisek		Robert Rezek
Fakultni Thomayerova nemocnice		David Hlinovsky	Nemocnice Pribram		Jan Kábrt
FN Brno		Stanislav Peska	Nemocnice Prostejov		Vojtěch Mrňka
FN Bulovka		Peter Vasko	Nemocnice Rychnov nad Kneznou		Jan Fajstauer
FN Hradec Králové		Eva Vitkova	Nemocnice Sokolov		Aleš Novák
FN Královské Vinohrady		Tomas Peisker	Nemocnice Strakonice		Pavel Houška
FN Motol		Ivana Šarbochová	Nemocnice Teplice		Martin Vančura
FN Olomouc		Daniel Sanak	Nemocnice Trinec Sosna		Mateusz Mrózek
FN Ostrava		Eva Hurtikova	Nemocnice Trutnov		Michal Bednar
FN Plzeň		Petr Sevcik	Nemocnice Uherske Hradiste		Emanuela Habrovanská
FN u sv Anny v Brně		Lenka Kouřilová Robert Mikulik	Nemocnice Usti nad Labem		Alena Lapáčková
Frydek-Mistek nem			Nemocnice Usti nad Orlici		Květa Chotěnovská
Havírov			Nemocnice Vítkovice		Katerina Blejcharova
Jicin nemocnice			Nemocnice Vyskov		Jana Kadlcikova
Karvinska Hornicka Nemocnice		Henryk Brzeżański	Nemocnice Zlin		Petr Procházka
Krajska nemocnice Liberec		Lubomir Jurak	Nemocnice Znojmo		Vladislav Kopecky
Kyjov nemocnice		Pavel Zichacek	Okresni nemocnice Tabor		
Nemocnice Benesov		Zdenek Waller	Praha - Nemocnice na Frantisku		
Nemocnice Blansko		Jana Jankovych	Prerov nemocnice		
Nemocnice Breclav		Zdena Bajková	SZZ Krnov		Vladimir Sigut
Nemocnice Ceske Budejovic		Miroslava Nevšimalová	Ustredni vojenska nemocnice		Roman Havlíček
Nemocnice Ceska Lipa		Alan Treuchel Ondrej Koci	VFN Neurol.kl.1.LF a UK		Ctirad Lakomy Jan Fiksa
Nemocnice Chomutov		Jiri Neumann	Vojenska nemocnice Brno		Jiri Stehlik
Nemocnice Decin		Jan Novák	Denmark	2 375	
Nemocnice Havlickuv Brod		Jaroslav Říman	National Coordinator:		
Nemocnice Jihlava		Marek Pernicka	Hanne Christensen & Grete Andersen		
Nemocnice Jindrichuv Hradec		Jiri Loucka	Aalborg Hospital		Karsten Vestergaard
Nemocnice Karlovy Vary		Igor Karpowicz	Bornholms Central sygehus		
Nemocnice Kladno		Petra Kešnerová Richard Brzezny	Holstebro		Karin Geisler
Nemocnice Kolin		Barbora Čečáková Ludmila Bláhová	Odense University Hospital		Elzbieta Bjerager
Nemocnice Litomerice			Roskilde Sygehus		Troels Wienecke
Nemocnice Litomyšl		Zdenek Novotny	Sydvestjysk Hospital Esbjerg		
Nemocnice Melnik		Barbora Křiváková	University Hospital of Copenhagen at Bispebjerg		
Nemocnice Mlada Boleslav		Martin Koutny	University Hospital of Copenhagen at Gentofte		
Nemocnice Most		Stanislav Slavík	University Hospital of Copenhagen at Glostrup		Helle Klingenberg Iversen
Nemocnice Na Homolce		Martin Kovar	Århus University Hospital		
Nemocnice Nachod		Petr Stepan			
Nemocnice Nove Mesto na Morave		Květoslava Večeřová			

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Dominican Rep	449		Finland	4 085	
National Coordinator: To be appointed			National Coordinator: Daniel Strbian		
Hospital Juan Pablo Pina		Margarita Cerda	Regional Coordinator: Minna Hälinen		
Ecuador	424		Central Hospital of Kainuu		
National Coordinator: To be appointed			Central Hospital of Lapland		
Carlos Andrade Marín Hospital		Braulio Martínez Burbano	Etelä-Karjalan Keskussairaala		
Eugenio Espejo Hospital		Jorge Moncayo Gaete	Helsinki University Central Hospital		Lauri Soinne Daniel Strbian
Hospital Metropolitano		Patricio Abad	Kanta-Häme Central Hospital		
Hospital Teodoro Maldonado Carbo		Tomas Alarcon G	Kuopio University Hospital		Pekka Jäkälä
Egypt	3 517		Kuusankoski District Hospital		
National Coordinator: Hany Aref			Kymenlaakso Central Hospital		
Ain Shams Specialized Hospital		Ramez Moustafa	Länsi-Pohja Central Hospital		
Ain Shams Universities		Hany Aref	Mikkeli Central Hospital		
		Ramez Reda	Oulu University Hospital		Vesa Karttunen
Al-azhar University Hospitals		Ahmed Essmat	Pohjois-Karjalan Keskussairaala		
Alexandria University (Stroke Center)		Ossama Mansour	Päijät-Häme Hospital District		
Assiut University Hospital		Mohamed Ahmed	Satakunta Central Hospital		
Aswan University Hospitals		Ahmed Abdelwarith	Savonlinna Central Hospital		
Beni Suef University Hospital		Mohammed Oraby	Seinäjoki Central Hospital		Jyrki Ollikainen
Cairo University Hospitals		Husam Mourad	Tampere University Hospital		Susanna Roine
		Mohammad Farrag	Turku University Central Hospital		
Mansoura University Hospital		Hossam Egila	Ålands Centralsjukhus		
Menofia University Hospital		Khaled Afifi	France	354	
Nasser Institute Hospital		Tarik Ibrahim Menecie	National Coordinator: To be appointed		
Sohag University		Mohamed Khodery	Angouleme		
Tanta University Hospital		Azza Ghali	Bordeaux		
Zagazig University		Tamer Elserafy	Bourg en Bresse		
El Salvador	39		Centre Hospitalier Belfort		
National Coordinator: To be appointed			Montbeliard		
HMQ ISSS		Hector Orrego Castellanos	Dijon		
Hospital Diagnostico Escalon		William Arias Sifontes	Hopital Emile Muller		
Hospital Nacional Rosales		Ericka Lopez	Lille		Didier Leys
Estonia	3 782		Montpellier		
National Coordinator: Janika Kõrv			Nancy		
East-Tallinn Central Hospital		Viktor Jefremov	Nice		
LTKH		Katrin Gross-Paju	Perpignan		
North Estonia Medical Centre		Viiu-Marika Rand	Purpan Hospital		
Tartu University Hospital		Janika Kõrv	Rangueil		
			Sainte Anne Paris		
			Tenon		
			Tours		

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Germany	7 233		Greece	924	
National Coordinator: Peter Ringleb			National Coordinators: Georgios Tsivgoulis, Jobst Rudolf, Panayiotis Mitsias & Kostas Vemmos (not active)		
Carl-Thiem-Klinikum		Antje Herwig	251 Hellenic Air Force General Staff Hospital		Antonios Kodounis
Charité - Campus Benjamin Franklin			AHEPA University Hospital		Theodoros Karapanayiotides
Diakonissenkrankenhaus Flensburg		Stefan Müller-Hülsbeck	Athens Medical Center		Klimentini Karageorgiou
Herz-Jesu-Krankenhaus		Michael Ohms	Athens Naval Hospital		Triantafyllos Doskas
JWK Minden		Joerg Glahn	Attikon University Hospital		Konstantinos Voumvourakis
Katholisches Klinikum Koblenz			Evangelismos General Hospital		Georgios Tsivgoulis
Brüderhaus		Andreas Hartmann	G.Papanikolaou Hospital		Antonios Tavernarakis
Klinikum Bremen Mitte		Axel Hamann	General Hospital of Athens		Oourania Argyropoulou-Raka
Klinikum Dortmund gGmbH		Frauke Schnieder	General Hospital of Rethymnon		Maria Gryllia
Klinikum Frankfurt / Oder		Georg Pawlik	General Hospital of Rhodes, Andreas Papandreou		Athanasia Patousi
Klinikum Ludwigsburg			Korgialenio-Benakio Greek Red Cross General Hospital of Athens		George Karlis
Klinikum Ludwigshafen		Lars Krause	Laris Regional General Hospital		Thomas Thomaidis
Klinikum Mittelbaden			Mediterraneo Hospital		Nikolaos Tsamopoulos
Klinikum Osnabrueck			Metropolitan		Eleftherios Staboulis
Klinikum Villingen-Schwenningen			Metropolitan General		Vaso Zisimopoulou
Krankenhaus Nordwest			Papageorgiou General Hospital		Jobst Rudolf
Krankenhaus Schwabing			St. Panteleimon General State Hospital of Piraeus		Ioannis Markakis
Kreisklinik Mindelheim			Thriassio Hospital		Teresa Acquaviva
Kreisklinikum Siegen			Tzaneio General Hospital of Piraeus		Andromachi Roussopoulou
LandeskliniK Teupitz			University Hospital of Alexandroupolis		Panayiotis Mitsias
Neurologische Universitätsklinik Koeln		Christian Weimar	University Hospital of Heraklion		Sotirios Giannopoulos
Ruppiner Klinken GmbH		Bastian Kraus	University Hospital of Ioannina		Efthimios Dardiotis
St. Bonifatius Hospital		Dorothea Reichelt	University Hospital of Larissa		Yiannis Ellul
Städt.Krankenhaus München-Harlaching		Albrecht Guenther	University Hospital of Patras		
TU Munich					
University Clinic Essen		Peter Ringleb			
University Hospital Düsseldorf		Soenke Langner			
University Hospital Jena		Dominik Michalski			
University Hospital Mannheim		Sven Poli			
University Hospital of Heidelberg		Till-Karsten Hauser			
University Medicine Greifswald		Jens Eyding			
University of Leipzig					
University Tübingen					
Universitätsklinik Knappschaftskrankenhaus		Gabor Petzold			
Universitätsklinik Münster					
Universitätsklinikum Bonn		Olav Jansen			
Universitätsklinikum Gießen					
Universitätsklinikum Schleswig-Holstein Campus Kiel					
Westfal-Klinikum GmbH		Martin Morgenthaler			
Zentralklinikum Augsburg					
			Guatemala	89	
			National Coordinator: To be appointed		
			Hospital General San Juan de Dios		Arla Stokes
			Hospital Herrera Llerandi		Edgar Avalos Herrera
			Hospital Roosevelt		Otoniel Gramajo
					Luis Salguero
					Ligia Rodas

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Nemazee Hospital		Afshin Borhani-Haghighi	Azienda Ospedaliera Universitaria Integrata Verona		Giuseppe Moretto Paolo Bovi
Valiasr Hospital		Abdoreza Ghoreishi	Azienda Ospedaliera Universitaria Policlinico Paolo Giaccone di Palermo		Paolo Aridon
Ireland	57		Azienda Ospedaliera Universitaria Senese		Tassi Rossana
National Coordinators: To be appointed			Azienda Ospedaliera Valtellina e Valchiavenna		Salvatore Creta
Mater Misericordiae University Hospital			Azienda Ospedaliero - Universitaria di Parma		Umberto Scoditti
St Vincent's University Hospital		Tim Cassidy	Azienda Ospedaliero-Universitaria "Ospedali Riuniti" di Foggia		Giuseppe Rinaldi
St James Hospital			B. Ramazzini		Mario Baratti
Israel	297		Belcolle		Nicola Falcone
National Coordinator: Roni Eichel			Buccheri La Ferla		Armando Bilello
Barzilay Hospital			Cà Foncello		Bruno Giometto
Bnai-Zion Medical Centre			Careggi		
Hadassah Ein-Kerem			Casa Di Cura Dott. Pederzoli S.P.A.		Domenico Idone
Hadassah University Hospital		Roni Eichel	Cattinara		
Hillel Yaffe Medical Center		Sergiu Sabetay	Cazzavillan		Michele Morra
Makassed Islamic Charitable Hospital		Anis Naser	Ceppo		Stefano Bartolini
Sheba Medical Center			Civil Hospital, Macerata		Katiuscia Nardi
Tel-Aviv Sourasky Medical Center			Crema		Tommaso Riccardi
Italy	47 453		E.O. Ospedali Galliera		Daria Bianchini
National Coordinator: Danilo Toni			Fabrizio Spaziani		Antonia Nucera
Regional Coordinators: Maurizio Melis, Francesco Federico, Rosa Musolino, Andrea Zini, Marcello Naccarato, Donata Guidetti, Domenico Inzitari, Domenico Consoli, Carlo Gandolfo, Antonio Carolei & Paolo Cerrato			Felice Lotti . P.O. Pontedera (Pisa)-AUSLToscana Nordovest		Gianna Gambaccini
A.O. G. Rummo		Michele Feleppa	Fond Poliambulanza Brescia		Paolo Invernizzi
A.O. Spedali Civili di Brescia		Mauro Magoni	Fondazione Ca' Granda Maggiore Milano		Giuseppe Torgano
A.O.U. San Giovanni di Dio e Ruggi d'Aragona		Rosa Napoletano	G B Morgagni L Pierantoni Forli		Giampiero Galletti
A.S.O. S. Croce e carle		Piero Meineri	General Hospital		Manrico Gentile
Antonio Perrino		Cecilia Nozzoli	Giuseppe Mazzini Teramo		Maurizio Assetta
AO di Lodi		Maurizio Riva	Gradenigo Hospital		Pietro Pignatta
AOR San Carlo Potenza		Antonio Matera	Hospital ASST West Milanese		Maria Vittoria Calloni
Arcispedale Santa Maria Nuova		Giovanni Malferrari Norina Marcello	Hospital Villa Sofia		Antonio Gasparro
ARNAS Garibaldi		Antonino Pavone	Hospital Riccardo Guzzardi Victory		Francesco Iemolo
ASST Mantova, Carlo Poma		Giorgio Silvestrelli	INRCA		Giuseppe Pelliccioni Maurizio Del Gobbo Osvaldo Scarpino
Az.Ospedaliera Bianchi-Melacrino-Morelli		Luciano Arcudi	IRCCS Centro Neurolesi Bonino Pulejo Ospedale Piemonte		Paola Santalucia
Azienda Ospedaliera Cannizzaro		Pennisi Maria Giovanna	IRCCS Policlinico San Matteo-Casimiro Mondino		Anna Cavallini
Azienda Ospedaliera di Cosenza		Alfredo Petrone	Istituto Clinico Città Studi		Carlo Sebastiano Tadeo
Azienda Ospedaliera G.Salvini		Marco Mattioli	Istituto Clinico Humanitas		Simona Marcheselli
Azienda Ospedaliera Pugliese-Ciaccio		Umberto Cannistrà	Istituto Scientifico Ospedale San Luca (Istituto Auxologico Italiano)		Laura Adobbati
Azienda Ospedaliera s. Maria Degli Angeli Pordenone		Paolo Passadore	Jazzolino		
Azienda Ospedaliera S. Maria Terni		Franco Costantini			

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Livorno		Alessio Bertini Mauro Pratesi Paolo Pennati	Ospedale di Saronno		Mirco Volpini
Luigi Sacco Hospital		Leonardo Pantoni Pierluigi Bertora	Ospedale di Stato		Edgard Matta
Madonna del Soccorso Hospital		Roberto Gobbato	Ospedale di Treviglio		Vittorio Crespi
Maggiore della Carità Novara		Lorenzo Coppo	Ospedale di Vimercate		Carmela Palmieri
Mater Salutis Hospital		Michelangelo Turazzini	Ospedale Edoardo Agnelli		Giovanni Pauletti
Maurizio Bufalini		Anna Maria Mauro Simonetta Morresi	Ospedale G.B. Grassi - ASL Roma 3		Mauro Furlan
Morelli Sondalo		Giacomo Giuseppe Bezzi	Ospedale Imperia		Marco Galletti
Neuromed		Antonio Sparano	Ospedale Infermi		Rinaldo Colombo
O.C. Renzetti		Antonio Giusti	Ospedale Lavagna		Gaetano Procaccianti
Osedali Riuniti Ancona		Leandro Provinciali	Ospedale Maggiore		Carlo Buffa Fabio Melis
Osp Circolo Busto Arsizio		Luigia Irene Neromante	Ospedale Maria Vittoria Torino		Maria Roberta Bongioanni
Ospedale A Manzoni Lecco		Elio Agostoni	Ospedale Martini Torino		Carmelo Labate
Ospedale Antonio Cardarelli		Vincenzo Andreone	Ospedale Mauriziano Torino		Ignazio Santilli
Ospedale Cardinal Massaia		Alessandra Lentini Marco Aguggia	Ospedale Niguarda Ca' Granda		Eugenia Rota
Ospedale Ciriè		Diego Maria Papurello	Ospedale Novi Ligure		Bruno Corsari
Ospedale Civico di Chivasso			Ospedale Papa Giovanni XXIII		Roberto Currò Dossi
Ospedale Civico Palermo		Serena Monaco	Ospedale Provinciale di Bolzano		Guido Giardini
Ospedale Civile Cittadella		Giulio Bozzato	Ospedale Regionale della valle d'Aosta		Giovanni Manobianca
Ospedale Civile di Conegliano (Treviso)		Sandro Bruno	Ospedale Regionale Miulli		Giovanni Iannelli
Ospedale Civile di Ivrea			Ospedale S. Donato Arezzo		
Ospedale Civile Mirano		Carlo Fattorello Salimbeni	Ospedale S. Elia Caltanissetta		Letizia Maria Cupini
Ospedale Civile S. Agostino-Estense - Azienda Ospedaliera Universitaria di Modena		Luigi Bartolomei	Ospedale S. Eugenio		Giorgio Caneve
Ospedale Civile Spirito Santo Pescara		Paolo Nichelli	Ospedale S. Maria del Prato		Maria Chiara Cantarini
Ospedale Civile Venezia, U.O.C. Neurologia		Francesco Di Blasio	Ospedale S. Maria della Scaletta		Gabriele Ciucci
Ospedale del Mugello		Francesco Paladin	Ospedale S. Maria delle Croci		Simone Lorenzuti
Ospedale dell'Angelo		Maria Ciliberti	Ospedale S. Maria Misericordia Udine		Emanuele Turinese
Ospedale della Misericordia		Adriana Critelli	Ospedale San Bassano		Francesco Perini
Ospedale della Murgia F. Perinei		Roberto Marconi	Ospedale San Bortolo		Simone Beretta
Ospedale della Versilia		Bonaventura Ardito	Ospedale San Gerardo		Pierluigi Brustenghi
Ospedale delle Apuane		Paolo Del Dotto	Ospedale San Giovanni Battista		Marco Giraudò
Ospedale Desio		Giovanni Orlandi	Ospedale San Lazzaro - Alba		Alessandro Napolitano
Ospedale di Circolo e Fondazione Macchi Varese		Ignazio Michele Santilli	Ospedale San Luca		Stefano Viola
Ospedale di Città di Castello		Maria Luisa Delodovici	Ospedale San Pio da Pietrelcina		Carmine Marini
Ospedale di Fidenza (Parma)		Silvia Cenciarelli	Ospedale San Salvatore-L'Aquila		Tiziana Tassinari
		Claudio Grassa Letizia Concari	Ospedale Santa Corona		Germana Ruggiano Maddalena Bruscoli
			Ospedale Santa Maria Annunziata Firenze		Monia Russo
			Ospedale Santa Maria della Misericordia di Rovigo		
			Ospedale Santo Spirito - Rome		Monica Carfora
			Ospedale Santo Spirito Casale Monferrato		Eugenia Rota
			Ospedale SS Filippo e Nicola		
			Ospedale Umberto I Siracusa		Enzo Sanzaro
			Ospedale Valduce Como		

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Ospedaliero Santa Croce di Fano		Giancarlo Francolini	Sant'Andrea		Maurizia Rasura
OspSacro Cuore Negrar VR		Alessandro Adami	Sant'Anna		Lucia Tancredi
P.O Gravina e Santo Pietro di Caltagirone		Franz La Greca	Sant'Anna e San Sebastiano Caserta		Gioacchino Martusciello
P.O. R.GUZZARDI		Francesco Iemolo	Sant'Antonio Hospital		Anna Maria Basile
P.O. San Francesco		Maria Valeria Saggi	Santa Chiara Hospital		Laura Cucurachi
P.O.M Villa Scassi ASL3 Genova		Paola Perfumo			Michelangelo Mancuso
Policlinico Bari		Marco Petruzzellis	Santa Croce Moncalieri Maggiore di Chier		Marco De Mattei
Policlinico Gemelli		Vincenzo Di Lazzaro	Santa Maria alla Gruccia		Alberto Cuccuini
Policlinico San Marco		Massimo Camerlingo	Santa Maria Nuova Hospital		Mauro Pratesi
Policlinico San Matteo		Alessandra Martignoni	Santi Antonio e Biagio		Luigi Ruiz
Policlinico tor Vergata		Fabrizio Sallustio Paolo Stanzione	Santissima Annunziata		Mara Rosso
		Danilo Toni	Santo Stefano Prato		Alba Caruso
Policlinico Umberto I - University La Sapienza+624:833			SanTommaso dei Battuti		Federica Orlando
Policlinico Universitario Padova			Santorso Alto Vicentino		Flavio Sanson
Policlinico Universitario Padova Neurol		Claudio Baracchini	Scientific Institute San Raffaele Hospital		Luisa Roveri
Presidio Ospedaliero Sant'Andrea La Spezia		Antonio Mannironi	SS. Annunziata		Antonio Manca
Presidio Ospedaliero Cremona		Maria Sessa	SS. Annunziata - Taranto		Angelica Tinelli
R. Dimiccoli		Vincenzo Lucivero	SS. Annunziata		Maria De Angelis
Regina Elena		Elvio Giaccagnini Emanuele Medici	SSCosma e Damiano		Grazia Panigada
Rivoli Hospital		Emilio Luda Salvatore Amaru	ULSS17 - Monselice Hospital		Sandro Guzzon
S. Anna Hospital		Alessandro De Vito Maria Rosaria Tola	Universita degli Studi di Perugia		Giancarlo Agnelli Maurizio Paciaroni
S. Elia		Maria Giovanna Randisi	University of Genova		Maurizio Balestrino
S. Orsola-Malpighi		Maria Guarino	Vito Fazzi		Leonardo Barbarini
Saint Antonio Abate Sicily		Luigi Sicurella			
San Biagio		Angelo Villani			
San Camillo-Forlanini		Claudio Pozzessere			
San Carlo Borromeo		Patrizia Lattuada			
San Filippo Neri		Maria Concetta Altavista			
San Giacomo Apostolo		Marzia Ottina			
San Giovanni Addolorata		Antonio Salerno			
San Giovanni Bosco		Roberto Cavallo			
San Giovanni di Dio		Gabriele Nenci Alberto Fortini			
San Giovanni di Dio Hospital. ASP Crotone		Demetrio Messina			
San Giuseppe		Pietro Bassi			
San Leopoldo Mandic		Manuela Vaccaro			
San Luigi Gonzaga		Rossella Sciolla			
San Martino Genova		Laura Malfatto			
San Paolo		Fabio Bandini			
Sandro Pertini Hospital		Anna Maria Cipriani			
			Japan	75	
			National Coordinator: To be appointed		
			Shonan Kamakura General Hospital		Takahisa Mori
			Kazakhstan		
			National Coordinator: Sholpan Nurmanova		
			Kenya	*	
			National Coordinator: Dilray Sokhi		
			Korea, Republic of	665	
			National Coordinator: Joung-Ho Rha		
			Ajou University Hospital		
			Asan Medical Center		
			Bundang Seoul National Uni Hospital		
			Cheju National University Hospital		
			Chonbuk National University Hospital		
			Chonnam National University Hospital		
			Chungnam National University Hospital		

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Dong-A University Hospital			Republican Vilnius University Hospital		Aleksandras Vilionskis
Dongguk Uni International Hospital			Telsiu Hospital		Saulius Taroza
Dongsan Medical Center Keiymung Uni			Vilnius Uni Hospital Santariskiu Clinics		Dalius Jatuzis
Eulji General Hospital					
Eulji University Hospital					
Gil Medical Center Gachon University					
Hallym University Sacred Heart Hospital					
Ilsan Paik Hospital					
Inha University Hospital		Joung-Ho Rha			
Kangbuk Samsung Hospital					
Konkuk University Hospital					
Nat Health Insurance Corp Ilsan Hospital					
Paik Hospital Pusan					
Samsung Medical Center					
Seoul National Uni Boramae Hospital					
Seoul National University Hospital					
Soonchunhyang University Hospital					
Ulsan University Hospital					
Wonju Christian Hospital					
Yeungnam University Medical Center					
Yonsei University College of Medicine					
Kyrgyzstan	1 241				
National Coordinators: Inna Lutsenko					
Bishkek City Civil Clinic 1		Inna Lutsenko			
Chui Regional Clinic		Aishoola Sultanova			
Lebanon	142				
National Coordinator: Souheil Gebeily					
Bellevue Medical Center		Ghassan Kiwan			
The Lebanese Hospital					
Libya	6				
National Coordinator: Husen Abdulrahman					
Benghazi Medical Centre		Husen Abdulrahman			
Lithuania	3 071				
National Coordinators: Aleksandras Vilionskis & Dalius Jatuzis					
Hospital of Lithuanian University of Health Sciences Kaunas Clinics		Antanas Vaitkus Ramune Kavaliauskiene			
Klaipeda Seamen's Hospital		Egle Martinkute Olga Knoknerienė			
Klaipeda University Hospital		Henrikas Kazlauskas			
Regional Hospital of Panevezys		Linas Masiliūnas			
Republican Siauliai Hospital		Sigla Scepnaviciute			
			Macedonia, Republic Of	173	
			National Coordinator: Anita Arsovska		
			Clinical Hospital Tetovo		Danijela Vojtikiv Samoilovska
			University Clinic of Neurology		Anita Arsovska
			Malta	*	
			National Coordinator: Maria Mallia		
			Mexico	1 046	
			National Coordinators: Antonio Arauz Gongora & Fernando Gongora-Rivera		
			Hospital Angeles de Queretaro		Fernando Barinagarrementeria
			Hospital Civil de Guadalajara		Jose Luis Ruiz-Sandoval
			Hospital General de Culiacan		Jorge Villarreal
			Hospital General de Mexico O.D.		Rosalia Vazquez
			Hospital Regional ISSSTE Monterrey		Francisco Flores
			Hospital Universitario UANL		Fernando Gongora-Rivera
			Instituto Nacional de Neurologia y Neurocirugia		Antonio Arauz Gongora
			Instituto Panvascular de Occidente Médica Sur		Luis Murillo-Bonilla
			Regioal de ISSSTE "Dr. Valentín Gómez Farías"		Carlos Pla Juan Alberto Nader Kawachi
			San José/Zambrano Helion		Carolina León Jiménez Luis Espinosa Primo Delgado
			Moldova, Republic of	794	
			National Coordinators: Stanislav Groppa		
			Institute of Emergency Medicine		Igor Crivorucica Stanislav Groppa
			Institute of Neurology and Neurosurgery		Elena Manole
			Morocco	1 132	
			National Coordinator: Belahsen Faouzi		
			HASSAN II university hospital		Belahsen Faouzi
			Ibn Rochd University Hospital		

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Netherlands	217		Telemark Hospital Skien		
National Coordinator: To be appointed			Trondheim University Hospital		
Atrium Medical Center			Ullevål University Hospital Neurology		Antje Reichenbach Kristin Gran Olsen
Groningen University Medical Centre			University Hospital North Norway		
Sint Anna					
University Hospital Maastricht					
New Zealand	175		Oman	4	
National Coordinator: To be appointed			National Coordinator: Amal Al-Hashmi		
Christchurch Hospital		John Fink	Royal Hospital Muscat		Amal Al-Hashmi
Palmerston North Hospital		Annemarei Ranta			
Wellington Regional Hospital		Jeremiah Lanford			
Nicaragua	25		Panama	79	
National Coordinator: Jorge Martinez Cerrato			National Coordinator: Nelson Navarro		
Hospital Metropolitano			Centro Medico Paitilla		Fernando Gracia Arón Benzadón
			Complejo Hospitalario Metropolitano Dr. Arnulfo Arias/ Caja de Seguro Social		
			Hospital Dr Luis Chicho Fabrega		Jose Escartin
			Hospital Dr. Gustavo Nelson Collado		Jose Escartin
			Hospital Nacional		David Dondis
			San Fernando		
Norway	2 143		Paraguay	172	
National Coordinators: Arnstein Tveiten & Anne Hege Aamodt			National Coordinator: Gloria Meza Rojas		
Aker University Hospital			Hospital Central de Policia "Rigoberto Caballero"		Donoband Melgarejo Fariña
Akershus University Hospital		Ole Morten Ronning	Hospital Central del Instituto de Prevision Social		Aurora Olmedo Gloria Meza Rojas
Buskerud Hospital		Karl-Friedrich Amthor	Hospital de Clinicas, Facultad de Ciencias Medicas Universidad Nacional de Asuncion		Alan Flores
Flekkefjord Sykehus					
Forde Sentralsjukehus					
Haraldsplass Diakonale Sykehus					
Haugesund Sjukehus		Piotr Burzynski			
Haukeland University Hospital		Titto Idicula			
Helgelandssykehuset Mo i Rana					
Helgelandssykehuset Mosjøen					
Hospital of Asker and Bærum		Gro Vik Knutsen			
Laerdal sjukehus Helse Forde HF					
Molde Hospital		Åse Hagen Morsund			
Nordlandssykehuset					
Rikshospitalet, Oslo University Hospital		Anne Hege Aamodt			
Ringerike Sykehus					
Sandnessjøen Hospital					
Sentralsjukehuset i Rogaland		Stein Roalsø			
St. Olavs Hospital Medicine					
Stord sjukehus					
Sykehuset i Vestfold		Reidar Kloster			
Sykehuset Innlandet HF Kongsvinger					
Sykehuset Innlandet Lillehammer					
Sykehuset Namsos		Stephan Schuler			
Sykehuset Østfold		Trine Almås			
Sørlandet Sykehus Arendal					
Sørlandet Sykehus Kristiansand		Arnstein Tveiten			
			Hospital Alberto Sabogal Sologuren		Luis Alberto Huaroto Casquillas
			Hospital Belen de Trujillo		Isolina Villanueva Pomacóndor
			Hospital II Angamos Essalud		Luis Miguel Uchuya Cornejo
			Hospital Jorge Reategui Delgado		Jose Cruz
			Hospital Nacional Almanzor Aguinaga Asenjo		Luis Sandoval
			Hospital Nacional Arzobispo Loayza		Juan Barreto- Montalvo
			Hospital Nacional Carlos Alberto Seguin Escobedo		Antero Peralta
			Hospital Nacional Edgardo Rebagliati Martins		Jorge Martín Gavidia Chucán
			Instituto Nacional de Ciencias Neurológicas		Carlos Abanto

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Philippines	87				
National Coordinator: To be appointed					
Community General Hospital of San Pablo City, Inc.		Allan Belen	Szpital Powiatowy w Sedziszowie Malopolskim		Marcin Zieba
Davao Regional Medical Center		Dorotheo Jr. Floresca	Szpital Powiatowy Zespół Opieki Zdrowotnej w Przeworsku		Anna Kozak-Sykała
Poland	6 901		Szpital Specjalistyczny im. H. Klimontowicza w Gorlicach		Jarosław Borowicz
National Coordinators: Michal Karlinski, Adam Kobayashi & Anna Czlonkowska			Szpital Specjalistyczny w Końskich		Małgorzata Fudala
107th Military Hospital with Polyclinic		Marcin Rogoziewicz	Szpital Wolski		Arleta Kuczyńska-Zardzewiały
Biziel's Hospital		Violetta Palacz-Duda	Szpital Zachodni im. Św Jana Pawła II Uniwersytecki Szpital Kliniczny		Marta Bilik
Central University Hospital		Piotr Luchowski	Uppersilesian Medical Centre		Alina Kułakowska
Clinical Hospital Nr 4 w Lublinie		Bożena Adamkiewicz	Wojewodzki Specjalistyczny Zespo Opieki		
Copernicus Hospital		Małgorzata Dorobek	Wojewodzki Specjalistyczny Zespól Neuropsychiatryczny		Sławomir Romanowicz
CSK, MSWiA		Daniel Bzowski	Wojewodzki Szpital Specjalistyczny Siedlce		Paweł Kwiatkowski
Hospital in Radzyń Podlaski		Agnieszka Wysocka	Wojewodzki Szpital Specjalistyczny Lublin		Monika Pędracka
Hospital of Florian Ceynowy in Wejherowo		Michal Karlinski Adam Kobayashi Anna Czlonkowska	Wojewódzki Szpital Specjalistyczny Olsztyn		Grzegorz Dalek
Institute of Psychiatry and Neurology			Wojewodzki Szpital Zespolony w Koninie		Adrian Filipczak
Kosciierzyna Hospital					
Marciniak Memorial Hospital					
Mazowiecki Szpital Wojewódzki		Agata Wlodek	Portugal	5 139	
Medical University of Gdansk			National Coordinators: Teresa Pinho e Melo		
Medical University of Warsaw			Centro Hospitalar de Gaia		Luis Miguel Galo Veloso
Military Medical Institute		Jacek Staszewski	Centro Hospitalar de Setubal		Rui Guerreiro
Pomorskie Centrum Traumatologii im.M.Kopernika		Waldemar Fryze	Centro Hospitalar de Tras-os-montes e Alto Douro		Andreia Veiga
Powiat Hospital		Artur Węsek	Centro Hospitalar Lisboa Ocidental		Miguel Viana Baptista
Poznan - Province Hospital			Dr. Nélio Mendonça Funchal		Rafael Freitas
Radomsko Szpital Powiatowy		Jacek Hubner	Hospitais da Universidade de Coimbra		Cristina Machado Maria Antónia Ferro
Specialist Hospital		Małgorzata Wiszniewska	Hospital de Braga		Carla Ferreira
Specialist Hospital in Jaslo		Stanislaw Kosiek	Hospital de Egas Moniz		
Specialized Hospital		Anna Smółka	Hospital de Faro		Sílvia Castro
SPSK im. Orłowskiego		Witold Palasik	Hospital de São Sebastião		José Roriz José Mário Roriz
SPZOZ Działdowo		Marek Zalisz			Miguel Rodrigues
SPZOZ Lubartów		Mirosław Miazga	Hospital Garcia de Orta		José Grilo Gonçalves
SPZZOZ Sandomierz		Piotr Sobolewski	Hospital Geral do Centro Hospitalar e Universitário de Coimbra		
St. Queen Jadwiga Clinical Regional Hospital no. 2 in Rzeszow		Edward Filip	Hospital Pedro Hispano, Unidade Local de Saúde de Matosinhos		Vitor Tedim Cruz
Szpital Kolejowy SP ZOZ		Jaroslaw Pniewski	Hospital S Bernardo		
Szpital Kolejowy w Pruszkowie Sp. z o.o.		Aleksandra Nabialek	Hospital Santo António		Rui Felgueiras
Szpital Krosno		Rafał Jucha	Hospital São João		Elsa Azevedo
Szpital Powiatowy Skarzynsko-Kamienna		Jan Stoiński	Hospital Sao Jose - CHLC		Ana Paiva Nunes
Szpital Powiatowy w Kraśniku		Hanna Basista	HPP Hospital de Cascais - Dr. José de Almeida		Cátia Carmona

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Santa Maria		Teresa Pinho e Melo	National University Hospital		
			Singapore General Hospital		Deidre De Silva
Qatar	1 639		Slovakia	5 789	
National Coordinator: To be appointed			National Coordinator: Zuzana Gdovinova		
Hamad General Hospital		Naveed Akhtar	CINRE		Jana Thurzova
Romania			Faculty Hospital F.D. Roosevelt, Banska Bystrica		Dusan Kanat
National Coordinator: Dafin Fior Muresanu			Faculty Hospital J.A.Reimana		Adrian Rynik
Russian Federation	3 901		Faculty Hospital Nitra		Miroslav Brozman
National Coordinator: To be appointed			Faculty Hospital Trnava		Georgi Krastev
Alexandrovskaya Hospital		Vitaliy Novikov	Fakultna Nemocnica Trencin		Marek Bojda
Buz ur "1 RCB MZ UR"		Nataliya Komissarova	FNSP Nove Zamky		Adriana Horvathova
City Clinical Hospital № 67 named L.A.Vorohobova Moscow Health Department		Mark Loskutnikov	FNSP Skalica a.s.		Patricia Palenčárová
City Clinical Hospital No.20 DM		Artem Tolmachev	Forlife n.o.		Eva Hanáčková
Interregional Clinical and Diagnostic Center (ICDC)		Timur Demin	Hospital and policlinics Spisska Nova Ves a.s.		Katarina Pasztoova
Mariinsky Hospital		Tatiana Kharitonova	Hospital Svidnik		Miloslav Dvorak
Medical Military Academy		Alexey Polushin Igor Voznjouk	Liptovská nemocnica s poliklinikou MUDr.Ivana Stodolu		Anna Kravecova
Murmansk Regional Clinical Hospital P.A.Bajadin		Artem Timofeev	Ľubovnianska nemocnica n.o.		Anna Jarošová
Naberezhnye Chelny BSMP Tatarstan		Shamil Musin	National Institute of Cardiovascular Diseases		Stanislava Ščensná
National Pirogov Centre		Oleg Vinogradov	Nemocnica Košice-Šaca a.s		Martin Kucharik
Research Center of Neurology of Russian Academy of Medical Sciences		Maxim Domashenko	Nemocnica A. Lena, Humenné		Eva Rozpravkova
Russian State Medical University		Nikolay Shamalov	Nemocnica Poprad a.s.		Danica Gossanyiova
SPb GBUZ «Gorodskaya bolnitsa № 26»		Aleksei Shmonin	Nemocnica s poliklinikou Dunajská Streda		Ľubica Snopeková
State Healthcare Institution of Kaluga Region «City Clinical Hospital #2» "Sosnovaya roscha"		Maksim Holopov	Nemocnica s poliklinikou Povazska Bystrica		Marta Feketeová
Sverdlovsk Clinical Regional Hospital #1		Elena Prazdnichkova	Nemocnica s poliklinikou Svateho Lukasa Galanta		Igor Pruzinec
Vladivostok Hospital №1		Evgeny Shestopalov	NsP Brezno n.o.		Oto Petrik
Saudi Arabia	49		NsP Stefana Kukuru v Michalovciach n o		Ivan Droppa
National Coordinator: Mohammed Almekhlafi			NsP Sv. Jakuba, Bardejov		Martina Kolibášová
King Abdulaziz Hospital		Abdulrahman Almalki	NsP sv.Barbory Rožňava		Pavol Kantor
King Abdulaziz University Hospital		Omar Ayoub Mohammed Almekhlafi	Svet Zdravia, a.s., Vseobecna nemocnica Rimavska Sobota		Igor Balušik
King Fahad Hospital of the University		Aishah Albakr	University Hospital in Martin		Martin Bachnak
King Fahad Medical City		Nof Mansour	University Hospital of Bratislava		Vladimir Nosal
Singapore	325		University Hospital of L. Pasteur		Gabriela Timarova Matej Nový
National Coordinator: To be appointed			UVN SNP Ružomberok		Norbert Leško Zuzana Gdovinova
National Neuroscience Institute-TTSH campus		Rajinder Singh	VNsP Levoča		Peter Lopeň
			Vranovska nemocnica, n.o.		Ladislav Gurčík
					Lenka Dudasova Lidikova

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Slovenia	1 634		Hospital Univ Central de Asturias		
National Coordinator: Viktor Svirgelj			Hospital Universitari Germans Trias i Pujol		Laura Dorado
General Hospital Celje		Marija Sostaric Podlesnik	Hospital Universitari Girona		
Murska Sobota General Hospital			Hospital Universitario de Canarias		
Splošna bolnišnica Jesenice		Tomaž Šavli	Hospital Universitario de la Princesa		
Splošna bolnišnica Nova Gorica			Hospital Universitario La Fe		Lago Aida
Splošna bolnišnica Novo mesto		Matej Kolenc	Hospital Universitario La Paz		Exuperio Díez-Tejedor
University Clinic		Marija Menih	Hospital Universitario Principe de Astur		
University Medical Center Ljubljana		Senta Frol Viktor Svirgelj	Hospital Universitario Vall d Hebron		
			Hospital Universitario Virgen del Rocio		Francisco Moniche
Spain	4 636		Hospital Universitario Virgen Macarena		Miguel Angel Gamero
National Coordinators: Jose Egido			Hospital Valme		
Basurto		M. Mar Freijo	Hospital Virgen de la Salud		
Clinica Universitaria de Navarra			Nuestra Señora de la Candelaria		
Hospital General de Castellón			University Hospital Doce de Octubre		
Hospital Clínico Universitario		Miguel Blanco González	Virgen de las Nieves		Jose F. Maestre-Moreno
Hospital Clinico Universitario Dr Lozano Blesa		Carlos Tejero-Juste			
Hospital de Bellvitge					
Hospital de Cruces					
Hospital de Donostia					
Hospital de la Santa Cruz y San Pablo					
Hospital de Leon					
Hospital de Navarra					
Hospital de Torrecárdenas					
Hospital del Mar					
Hospital Galdakano					
Hospital General de Albacete		Tomás Segura			
Hospital General Doctor Negrín					
Hospital General La Mancha Centro		Enrique Botia Paniagua			
Hospital General Universitario de Alicante		Ana Pampliega			
Hospital General Universitario-Valencia					
Hospital General Yagüe					
Hospital Insular de Gran Canaria					
Hospital Meixoeiro (Vigo)					
Hospital Miguel Servet					
Hospital Nuestra Señora del Rosario		Francisco Gilo			
Hospital Parc Taulí					
Hospital Ramón y Cajal					
Hospital Sagrat Cor					
Hospital San Carlos		Jose Egido			
Hospital Son Dureta					
Hospital Txagorritxu					
			Sri Lanka	742	
			National Coordinator: Udaya Ranawaka		
			Colombo North Teaching Hospital, Ragama		Udaya Ranawaka
			Sweden	10 249	
			National Coordinator: Michael Mazya		
			Blekingesjukhuset		
			Capio St Görans sjukhus		Gabriella Strandberg
			Gällivare sjukhus		
			Gävle-Sandvikenssjukhus		
			Helsingborgs Lasarett		
			Karlskoga Hospital		
			Karolinska University Hospital, Solna		Michael Mazya Linda Ekström Tiago Moreira
			Karolinska University Sjukhuset – Huddinge		
			Kiruna sjukhus		
			Kullbergska sjukhuset		Yeasmin Tahera
			Kärnsjukhuset Skövde		
			Köping Hospital		Jan Saaf
			Lasarettet i Enköping		Mikael Wiklund
			Lasarettet i Motala		
			Lasarettet i Ystad		
			Lindesbergs lasarett		
			Lund - Skånes Universitetssjukhus		Per Undrén
			Länssjukhuset Kalmar		

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Malmö - Skånes Universitetssjukhus		Gunnar Andsberg	Florence Nightingale		Fethiye Dilek Orken
Malmö allmänna sjukhus					Özlem Tuncer
Mora Lasarett		Jörg Teichert			Yakup Krespi
Mälarsjukhuset		Bo Danielsson	GOP Medical Park Hospital		Aysenur Onalan
Norrköping lasarett			Hacettepe University Hospital		Mehmet Akif Topcuoglu
Norrtälje sjukhus			Inonu University, Turgut Ozal Medical Center		Yuksel Kablan
Nyköpings lasarett		Jonas Lindeberg	Istanbul		Nilufer Yesilot
Oskarshamns Sjukhus		Elmar Keppel	Istanbul Aydin University Florya Medicalpark Hospital		Arsida Bajrami
Sahlgrenska Universitetssjukhus		Jan-Erik Karlsson	Istanbul University Cerrahpasa School of Medicine		Derya Uğurlu Uludüz
Sjukhuset i Hässleholm			İstinye University Liv Hospital		Pelin Nar Senol
Skellefteå Lasarett			Memorial Hizmet Hospital		Bahar Koyuncu
Skene Hospital			Trakya University Faculty of Medicine		Yakup Krespi
Sollefteå sjukhus			VM Medicalpark Pendik Hospital		Ahmet Yabalak
Södersjukhuset		Sara Garcia-Ptacek	Yeditepe University Hospital		
Trelleborgs sjukhus			Özel Ege Saglik Hastanesi		
Uddevalla sjukhus					
Västerviks sjukhus					
Ängelholms Sjukhus					
Örebro sjukhus					
Switzerland	57		Ukraine	27	
National Coordinator: To be appointed			National Coordinator: Sergey Moskovko		
GHOL		Olivier Bill	Municipal City Clinical Hospital of the Emergency Medical Care		Ivanna Melnichek
Thailand	915		Odessa City Hospital		Serhii Fernandez De Rives
National Coordinator: To be appointed			United Arab Emirates	1 753	
King Chulalongkorn Memorial Hospital		Aurauma Chutinet	National Coordinator: Maria Khan		
Phyathai 1 Hospital		Surat Boonyakarnkul	Mafraq Hospital		Udugama Goonetilleke
Tunisa	3 189		Rashid Hospital		Maria Khan
National Coordinator: Faycal Hentati			Shiekh Khalifa Medical City		Isam Salih
Institut National Mongi ben Hamida de Neurologie		Faycal Hentati	United Kingdom	25 680	
Turkey	1 911		National Coordinators:		
National Coordinator: Mehmet Akif Topcuoglu			Mary Joan Macleod & Christine Roffe		
Members of National Steering Committee: Yakup Krespi, Atilla Özcan Özdemir & Serefnur Ozturk			Associate National Coordinator: Azmil Abdul-Rahim		
Antalya Education and Research Hospital		Elif Sariönder Gencer	Regional Coordinators: Sally Baird, Angela Welch, Matthew Walters, Keith Muir, Tracey Baird & Belinda Manak		
Avrupa Hastanesi Neurology Department		Bahar Aksay Koyuncu	Aberdeen Royal Infirmary		Mary Joan Macleod
Bezmialem Vakif University Medicine Faculty Hospital		Talip Asil	Addenbrookes Hospital		Liz Warburton
Dokuz Eylul Medical Faculty			Aintree University Hospital		Andrew Catto
Erciyes University Medical Faculty Hosp			Airedale General Hospital		Matthew Smith
			Altnagelvin Area Hospital		John Charles
			Antrim area Hospital		Djamil Vahidassr
			Arrove Park Hospital		
			Ayr Hospital		

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Barnsley Hospital NHS Foundation Trust		Mohammad Albazzaz	Ipswich Hospital NHS Trust		Peter Phillips
Basildon Hospital		Udayaraj Umasankar	James Cook University Hospital		Gavin Young
Bedford Hospital		Abdul Elmarimi	John Radcliffe Hospital		Alastair Buchan
Belfast HSC Trust			Kent and Canterbury Hospital		Ilse Burger
Birmingham Heartlands Hospital			King s College Hospital NHS Trust		
Blackpool Victoria Hospital		Jim Mcilmoye	Leeds General Infirmary		Peter Wanklyn
Bradford Royal Infirmary		Chris Patterson	Lincoln County Hospital		Ibrahim Wahishi
Bristol Royal Infirmary		Peter Murphy	Luton & Dunstable NHSFT Hospital		Lakshmanan Sekaran
Bronglais		Claire West Philip Jones	Macclesfield Districe General Hospital		Moe Sein
Broomfield Hospital		George Zachariah	Manchester Royal Infirmary		
Buckinghamshire Hospitals NHS Trust			Mater Hospital		Mark Magorrian
Calderdale and Huddersfield NHS Foundation Trust		Anand Nair	Mayday University Hospital		
Causeway Hospital		Fergal Tracey	Medical specialist Group		Steve Evans
Charing Cross Hospital			Medway Maritime Hospital		Maam Mamun
City Hospital Campus NUH NHS Trust			Mid Yorkshire Hospitals NHS Trust		Michael Carpenter
City Hospital, Birmingham		Shahid Kausar	Morrison		Manju Krishnan
Colchester Hospital University NHS Foundation Trust		Rajesh Saksena	Musgrove Park Hospital		Robert Whiting
Conquest Hospital		MJH Rahmani	National Hospital for Neurology		
Countess of Chester		Kausik Chatterjee	Nevill Hall Hospital		Bella Richard
Coventry & Warwickshire University Hosp			Newcastle upon Tyne Hospitals NHS Foundation Trust		Anand Dixit
Craigavon Area Hospital		Patricia Mccaffrey	Ninewells Hospital Dundee		Ronald Macwalter
Cumberland Infirmary		David Paul Davies	Nobles Hospital		John Thomas
Daisy Hill Hospital		Michael Mccormick	Norfolk and Norwich University Hospital		Nisal Gange
Darent Valley Hospital		Senussi Hussein	North Cheshire Hospitals Trust		
Diana Princess of Wales Hospital		Asem Ali	North Hampshire Hospital		Elio Giallombardo
Doncaster Royal Infirmary		Dinesh Chadha	North Tyneside General Hospital		Richard Curless
Dorset County Hospital		Harald Proschel	Northampton General Hospital		Angela Kannan
East and north hertfordshire nhs trust Lister		Aparna Pusalkar	Northwick Park Hospital		David Cohen
East Surrey Hospital		Youssif Abousleiman	Peterborough City Hospital		Peter Owusu-Agyei
Edinburgh Western General			Pilgrim Hospital		David Mangion
Epsom General Hospital		Brendan Affley	Poole Hospital		Suzanne Ragab
Erne Hospital/SWAH		James Kelly	Prince Philip Hospital		Granville Morris
Fairfield General Hospital		Khalil Kawafi	Princess of Wales Hospital		Harish Bhat
Forth Valley Royal Hospital		Anthony Byrne Malcolm Macleod	Princess Royal Hospital Haywards Heath		Khalid Ali
Glangwili General Hospital		Surendra Gupta	QEQM Hospital		George Thomas
Glasgow Royal Infirmary		Peter Langhorne	Queen Alexandra Hospital		David Jarrett
Gloucestershire Royal Hospital		Dipankar Dutta	Queen Elizabeth Hospital Birmingham		Don Sims
Harrogate District Hospital		Sean Brotheridge	Queen Elizabeth Hospital, Gateshead		
Hope Hospital, Manchester			Queen s Medical Centre		
Hull Royal Infirmary		Ahmed Abdul-Hamid	Queens Hospital Burton Foundation Nhs Tr		
Imperial College Healthcare NHS Trust		Arindam Kar Kyriakos Lobotisis	Rotherham General Hospital		James Okwera Jeanette Harris
			Royal Blackburn Hospital		Nicholas Roberts

Country and hospital	Patients	Local Coordinator	Country and hospital	Patients	Local Coordinator
Royal bournemouth and Christchurch Hospital		Damian Jenkinson	The Queen Elizabeth Hospital Kings Lynn NHS TRUST		Raj Shekhar
Royal Cornwall Hospital		Katja Adie	The Royal Wolverhampton Hospital Trust		Kenneth Fotherby
Royal Derby Hospital		Peter Gorman	Torbay		Biju Bhaskaran
Royal Devon & Exeter Hospital			Tunbridge Wells Hospital in Pembury		Mahendra Pattanshetti
Royal Free Hampstead NHS Trust			Ulster Hospital Belfast		Kevin Dynan
Royal Glamorgan Hospital		Richard Dewar	University Hospital Coventry		Anthony Kenton
Royal Gwent Hospital		Catrin Blank	University Hospital North Staffordshire		
Royal Hallamshire Hospital		Nigel Smyth	University Hospital of North Durham		
Royal Hampshire County Hospital		Shankar Loharuka	University Hospital of Wales		Thomas Hughes Yogish Joshi
Royal Liverpool & Broadgreen University Hospital (NHS) Trust		Patrick Gompertz	University Hospital Southampton		Nicolas Weir
Royal London Hospital		Hedley Emsley	University Hospitals Leicester NHS Trust		David Eveson Debra Magorian
Royal Preston Hospital		Kath Pasco	University Hospitals of North Tees & Hartlepool		Helen Skinner
Royal Surrey County Hospital		Nicola Gainsborough	University Hospitals Plymouth NHS Trust		Azlisham Mohd Nor
Royal Sussex County Hospital		Louise Shaw	Victoria Hospital Kirkcaldy		Vera Cvoro
Royal United Hospital Bath			Walsall Manor Hospital		
Russells Hall Hospital		Jane Wainwright	Walton Centre NHS Foundation Trust		Alakendu Sekhar
Salford Royal Foundation Trust		David Walters	Warrington and Halton Hospitals		Olayiwola Otaiku
Salisbury District Hospital			Watford General Hospital		David Collas
Scarborough General Hospital		Amit Banerjee Anwer Qureshi	West Cumberland Hospital		Enoch Orugun
Scunthorpe General Hospital		Robert Campbell	Western Infirmary		Kennedy Lees
Shrewsbury and Telford Hospital Trust			William Harvey Hospital		David Hargroves
South Glasgow University Hospital – QEUH		Jon Scott	Wishaw General Hospital		
South Tyneside NHS Foundation Trust			Worcestershire Acute Hospital		Ana Garcia
Southampton General Hospital		Paul Christopher Gyler	Worthing		
Southend Hospital			Wrexham maelor Hospital		Emad Abood
Southern General Hospital		Philip Clatworthy	Yeovil District Hospital		Khalid Rashed
Southmead Hospital		Patrick Mcdonald	York Hospital		John Coyle
Southport and Ormskirk NHS Trust					
St Helens and Knowsley Teaching Hospital					
St John's Hospital		Scott Ramsay	Uruguay	43	
St Thomas Hospital			National Coordinator: Claudia Camejo		
St. George's Hospital		Anthony Pereira Liquan Zhang	Hospital de Clínicas		Andrés Gaye Saavedra Claudia Camejo
St. Richard's Hospital		Simone Ivatts	Medica Uguaya		Roberto Crosa
Stockport NHS Foundation trust		Shivakumar Krishnamoorthy			
Sunderland Royal Hospital		Min Myint Richard O'Brien	Venezuela	2 060	
The Great Western Hospital NHS Foundation Trust		Shivaprasad Arekallu- doddi Siddegowda	National Coordinator: Mario De Bastos		
The Maidstone Hospital		Christine Wright	Clinica La Piramide		Negman Alvarado
The Princess Alexandra Hospital		Syed Mansoor	Hospital Univ de Maracaibo		Digna Parra
			Hospital Universitario de Caracas		Mario De Bastos
			Instituto Autonomo Hospital Universitario de Los Andes		Gabriela Molina

Country and hospital	Patients	Local Coordinator
Vietnam	2	
National Coordinator: Luc Tran Viet		
Cho Ray Hospital		Tai Nguyen Anh
Nhan Dan Gia Dinh		Van Tan Vo

** Not yet recruiting
Some of these names are user admitted*

SITS International Coordination Team

Karolinska University Hospital
Department of Neurology, R2:03
SE-17176 Stockholm, Sweden

Phone: +46 8 517 756 06

E-mail: info@sitsinternational.org
www.sitsinternational.org

